

EASD 2018

54th

ANNUAL MEETING

1 - 5 October

BERLIN / GERMANY



EASD
2018
BERLIN



54TH ANNUAL MEETING OF THE EUROPEAN ASSOCIATION FOR THE STUDY OF DIABETES

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DEAR FRIENDS AND COLLEAGUES,

It is my great pleasure to welcome you to the 54th Annual Meeting of the European Association for the Study of Diabetes e. V. in Berlin.

The EASD Annual Meeting offers a unique opportunity for interdisciplinary scientific exchange, dialogue and debate. You can look forward to an exceptional scientific programme that not only looks to the future, but also deals extensively with current treatments, technologies and care as well as outstanding scientific research. In addition to the numerous oral and poster presentation sessions, there will be a wide range of invited lectures presented by distinguished scientists and our Prize Lectures, which are always a highlight of our Annual Meeting.



Under the chairmanship of EASD Honorary Secretary, Professor Francesco Beguinot, the Scientific Programme Committee this year selected 1218 abstracts for presentation from a total of 2038 submitted.

During your time in Berlin, I also invite you to enjoy the city's cultural and recreational offerings. Germany's exceptionally vibrant capital is sure to be a memorable backdrop to our Annual Meeting.

My warmest greetings to you all. I wish you a successful and inspiring EASD Annual Meeting in Berlin.

A handwritten signature in blue ink, appearing to read 'J. Zierath', with a long horizontal flourish extending to the right.

Juleen R. Zierath
President EASD/EFSD

WELCOME ADDRESS

It is my great pleasure and honour to invite you to join the 54th EASD Annual Meeting 2018 in Berlin, Germany. With its University Hospital Charité, Berlin has a long-standing tradition of more than 300-years in medical research. Rudolf Virchow, the founder of modern pathology, was the prototype of a researcher accomplishing a close interaction between social politics and molecular research which is nowadays still critical for establishing a successful treatment and prevention of complex disorders such as diabetes mellitus. The EASD Annual Meeting promises to offer exciting insights into the most recent research findings in all aspects of diabetology.



Berlin mirrors the most important recent political developments in the western world which have transformed it into a truly international city with extraordinary architecture, uniting historical buildings with contemporary design. Berlin's vivid, young and experimental spirit has attracted an active art scene.

The Annual Meeting will take place at the Messe Berlin Exhibition Halls in Berlin-Charlottenburg which are easily accessible by public transport. It will commence with the Opening Ceremony on the morning of Tuesday, 2 October. The meeting will end on Friday, 5 October with the Closing Ceremony followed by the Farewell Reception. I look forward to welcoming you to Berlin where you will have the opportunity to enjoy an exciting scientific conference in a rich cultural and historical setting.

A handwritten signature in black ink, consisting of a stylized 'S' followed by a series of connected loops and a final horizontal stroke.

Joachim Spranger
Chairman

European Association for the Study of Diabetes

EXECUTIVE COMMITTEE

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P. Zimmet, AU		

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LOCAL ORGANISING CHAIRMAN:

Joachim Spranger, Berlin



European Association for the Study of Diabetes

The mission of EASD is to promote excellence in diabetes care through research and education

Since its foundation in 1965, EASD has been organising an Annual Meeting, which has become the largest international annual conference on diabetes research worldwide. Although the meetings have grown so dramatically, they are still driven by the academic traditions of the founding members.

The EASD Meeting is a meeting of members where guests are welcome. Chairpersons of oral presentations and poster sessions are chosen exclusively from the EASD membership. The abstracts are evaluated on a strictly anonymous basis and the selection is based exclusively on the quality of the science, regardless of the place of work. The EASD Honorary Secretary is solely responsible for inviting speakers and chairpersons for symposia and lectures. Comments, advice and proposals from the membership and the Programme Committee are welcome. None of the speakers or chairpersons at the EASD Annual Meeting receives an honorarium; reimbursement of their travel costs is exclusively provided by the Association.

EASD and its Foundation EFSD are academic charities dedicated to diabetes research. As an academic society, EASD encourages cooperation with industry and other institutions conducting and funding diabetes research. EASD is committed to transparency. In 2005, its Annual Meeting endorsed the following policy with respect to duality of interest: prior to the Meeting speakers invited to symposia or lectures declare to EASD the existence of any relationship or arrangement that could be reasonably considered to affect the content of the presentation. Invited speakers who declare a duality of interest are asked by EASD to disclose this on a slide of their presentation.

Any occasional, positive balance resulting from the Annual Meeting is used to encourage further diabetes research in Europe. Increasingly, major end-point related trials are carried out to evaluate diabetes treatments. EASD encourages these trials and provides an outstanding forum to announce their results to the scientific community.

European Association for the Study of Diabetes

The EASD regulations on the presentation of major clinical trials state that all data of the trial must be openly available, and clear information should be provided on the role of the funding source/sponsor on study design, data collection, analysis and interpretation of the data. Moreover, a commentator, nominated by the EASD Honorary Secretary, must have prior access to the data in order to prepare an unbiased review. EASD Meetings are organised in such a way as to ensure the academic independence of physicians and scientists as the patients' advocates.

Article 1, Section 2

Statutes of the European Association for the Study of Diabetes,
Diabetologia 1, 256-260 (1965):

The aims of the Association are to encourage and support research in the field of diabetes, to rapidly spread acquired knowledge and to facilitate its application.

EASD

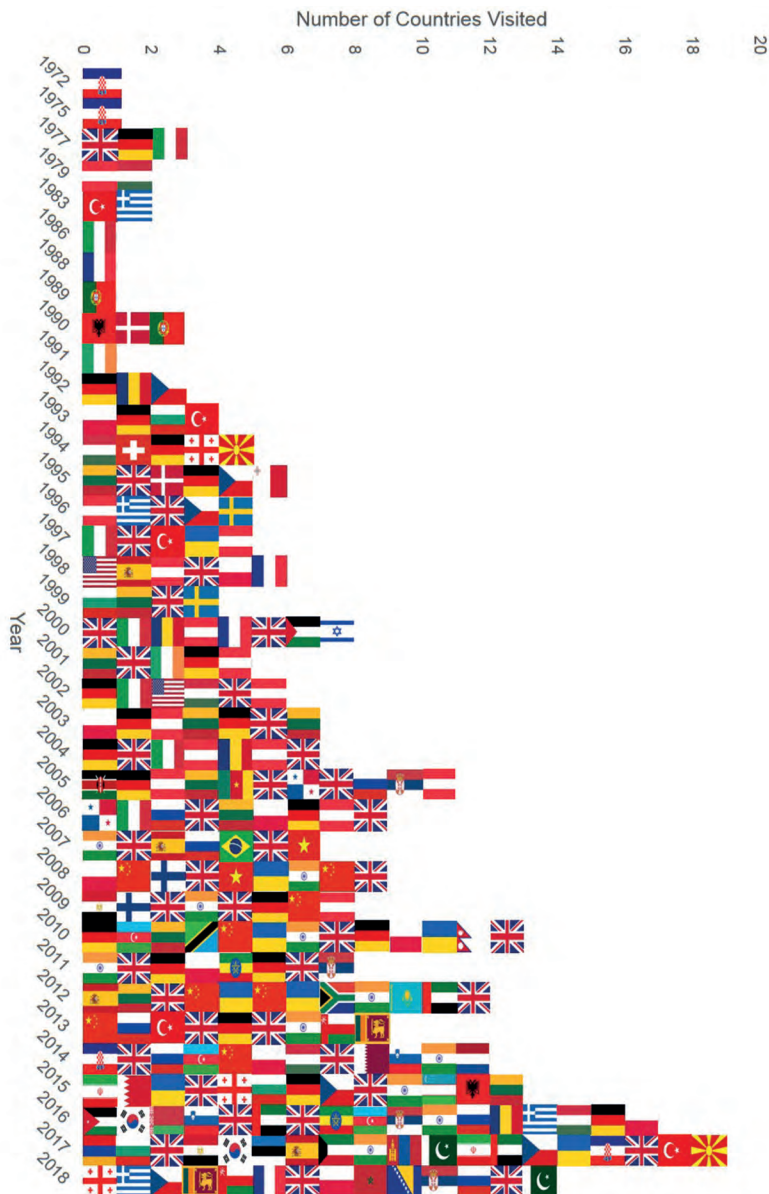
The European Association for the Study of Diabetes



EASD is committed not only to strengthening diabetes research, but also to facilitating the application of patient care. EASD has a long history of organising innovative clinical postgraduate courses all over the world.

European Association for the Study of Diabetes

EASD POSTGRADUATE COURSES



Copyright Eleanor Kennedy

European Association for the Study of Diabetes

EASD HAS THE FOLLOWING STUDY GROUPS

Artificial Insulin Delivery, Pancreas and Islet Transplantation Study Group (AIDPIT)

Diabetes and Cancer Study Group (DCSG)

Diabetes and Cardiovascular Disease Study Group (DCVD)

Diabetes and Nutrition Study Group (DNSG)

Diabetes Education Study Group (DESG)

Diabetes Neuropathy Study Group (NEURODIAB)

Diabetes Pregnancy Study Group (DPSG)

Diabetic Foot Study Group (DFSG)

European Diabetes Epidemiology Group (EDEG)

European Diabetic Nephropathy Study Group (EDNSG)

Exercise and Physical Activity Study Group (ExPAS)

Eye Complication Study Group (EASDec)

Incretin Study Group (INCSG)

Islet Study Group (ISG)

Non-alcoholic fatty liver disease (NAFLD)

Psychosocial Aspects of Diabetes Study Group (PSAD)

Reactive Metabolites (RMSG)

Study Group on Genetics of Diabetes (SGGD)

Study Group on Metabolic Imaging (DIAMAP)

Study Group on Primary Care Research in Diabetology (PCDE)

GENERAL INFORMATION

Meeting venue:

Messe Berlin, Messedamm 22
Entrance: Messe Süd, 14055 Berlin
www.messe-berlin.de/en/



First Aid:

The First Aid rooms are located in the foyer of Exhibition Hall 4.2.
In case of emergency: Contact the nearest staff member.

Registration:

Sunday	10:00 - 18:30
Monday	08:00 - 18:30
Tuesday, Wednesday and Thursday	07:00 - 19:00
Friday	07:00 - 15:00

Children under the age of 18 are not permitted to enter.

Press Registration:

Press delegates can register at a special press registration desk.
The Press Centre and Press Conference Hall are located behind the Entrance Hall. The schedule of press conferences is available in the Press Centre.

Delegates receive:

- Admission to Scientific Programme
- Final Programme
- Admission to the Industry Exhibition
- Free public transportation
- Coffee breaks and Lunch snacks from Tuesday to Friday

Certificate of Attendance: can be downloaded from EASD's homepage from Tuesday, 2 October onwards

EACCME Certificate: can be downloaded from EASD's homepage from Monday, 8 October onwards or printed at the CME counters in the Entrance Hall, starting Thursday, 4 October at 15:00

German CME / Fortbildungspunkte: available for daily printing at the counters "Fortbildungspunkte" in the Entrance Hall from Tuesday, 2 October onwards

Internet Access:

Unrestricted Internet access is available throughout the conference venue.

EASD Booth / Member Lounge:

The EASD Booth and the Member Lounge are located in the EASD Community Plaza in Poster Hall 2.2.

Opening Hours EASD Booth / Member Lounge:

Monday, Tuesday, Wednesday and Thursday	08:00 - 18:30
Friday	08:00 - 14:00

Speakers' Lounge:

The Speakers' Lounge is located on the ground floor behind the Entrance Hall. Please check your presentation at the Speakers' Lounge at least two hours before your scheduled presentation time. If your presentation is scheduled in the morning, you are kindly asked to check your presentation at the Speakers' Lounge the day before.

Opening Hours Speakers' Lounge:

Sunday	10:00 - 18:30
Monday	08:00 - 18:30
Tuesday, Wednesday and Thursday	07:00 - 19:00
Friday	07:00 - 15:00

Posters:

Posters can be mounted on Monday 13:00 - 17:30 and Tuesday 07:30 - 10:00. Posters must not be removed before 12:00 on Friday. Posters that have not been taken down by 14:30 on Friday will be removed by the organisation. The authors are required to be present to discuss their work with a Poster Chairperson during the Poster Events. The Poster Chairperson is a scientist with knowledge of the respective field of work. He/she will elaborate on the findings together with the author.

Poster Event A	Tuesday	12:00 - 13:00
Poster Event B	Tuesday	13:15 - 14:15
Poster Event C	Wednesday	12:00 - 13:00
Poster Event D	Wednesday	13:15 - 14:15
Poster Event E	Thursday	12:00 - 13:00
Poster Event F	Thursday	13:15 - 14:15

Exhibition Opening Hours:

Tuesday	09:00 - 16:30
Wednesday and Thursday	09:30 - 16:30

Silence Room:

Outside Koch Hall (6.2), room number 102 on the ground floor.

Food and Beverages:

Food and beverages are not allowed in the lecture halls.

Lunch Snacks:

Lunch snacks are served in the Community Plaza (Poster Hall 2.2), in the Associations' Village (Virchow Hall 5.2), in the Foyer of the Koch Hall (6.2) and in the Exhibition Halls (3.2 and 4.2) as follows:

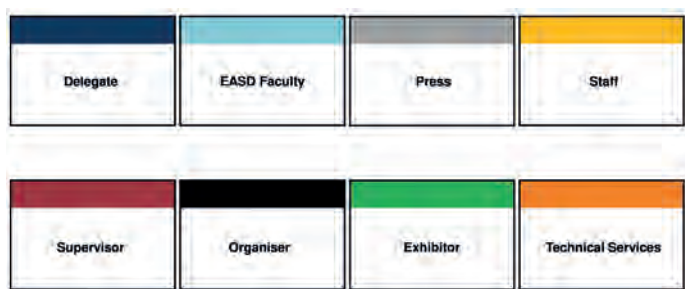
Tuesday to Thursday 2 - 4 October 11:30 - 14:30

Friday 5 October 11:30 - 14:00 (except Exhibition)

Badges:

The delegates' name badges serve as an admission pass to all scientific sessions and the exhibition. Name badges have to be displayed at all times. Lost badges can be replaced and will be charged for.

Please be aware that when presenting the barcode on the name badge for scanning at an exhibition stand the following data can be retrieved: first name(s), last name(s), country and area of interest.



Cloakroom / Lost and Found Counter:

Cloakrooms as well as the lost and found counter are located in the Entrance Hall.

Security:

Any suspicious or unidentified items are to be reported immediately to the nearest staff member. Security staff are on duty to ensure that all persons entering the venue are wearing a badge. For your safety, it is strongly advised to leave all your valuables in a safe at your hotel.

Insurance:

The registration fees do not include the insurance of participants against accidents, sickness, cancellation, theft, property loss or damage. Participants are advised to take out adequate personal travel insurance.

Disclaimer:

All efforts will be made to adhere to the programme as printed. However, EASD and its agents reserve the right to alter or cancel, without prior notice, any of the arrangements, timetables, plans or other items relating directly or indirectly to the Meeting, for any case beyond their reasonable control. EASD and the local conference organisers are not liable for any other loss or inconvenience caused as a result of such changes.

Hotels:

INTERPLAN

www.hotels2018.easd-industry.com

TRANSPORTATION

Use your badge to obtain free public transportation from Monday, 1 October to Friday, 5 October.

Direct access from the venue to the public transport system (www.bvg.de/en/): exit "Messe Süd".

By taxi:

Please use the official taxi companies:

www.taxi-berlin.de, Tel: +49 30 202021 220

www.taxi-in-berlin.de

By car:

Signage directs you via the city motorway system to the intersection at "Autobahn Dreieck Funkturm". At this junction, take the "Messedamm" exit.

Navigation system:

Exhibition grounds Berlin ExpoCenter City:

Messedamm 22

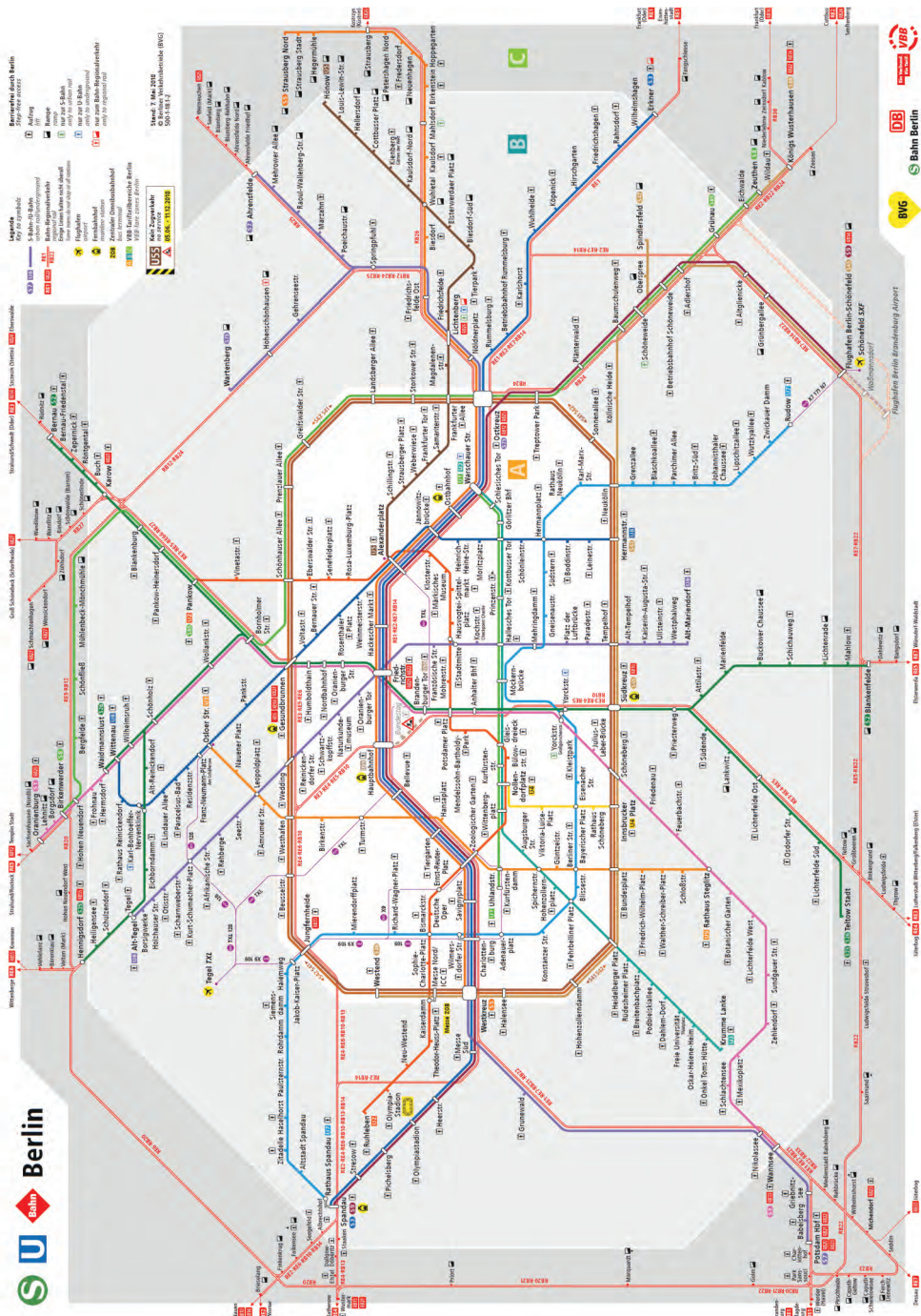
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CityCube Berlin:

Messedamm 26

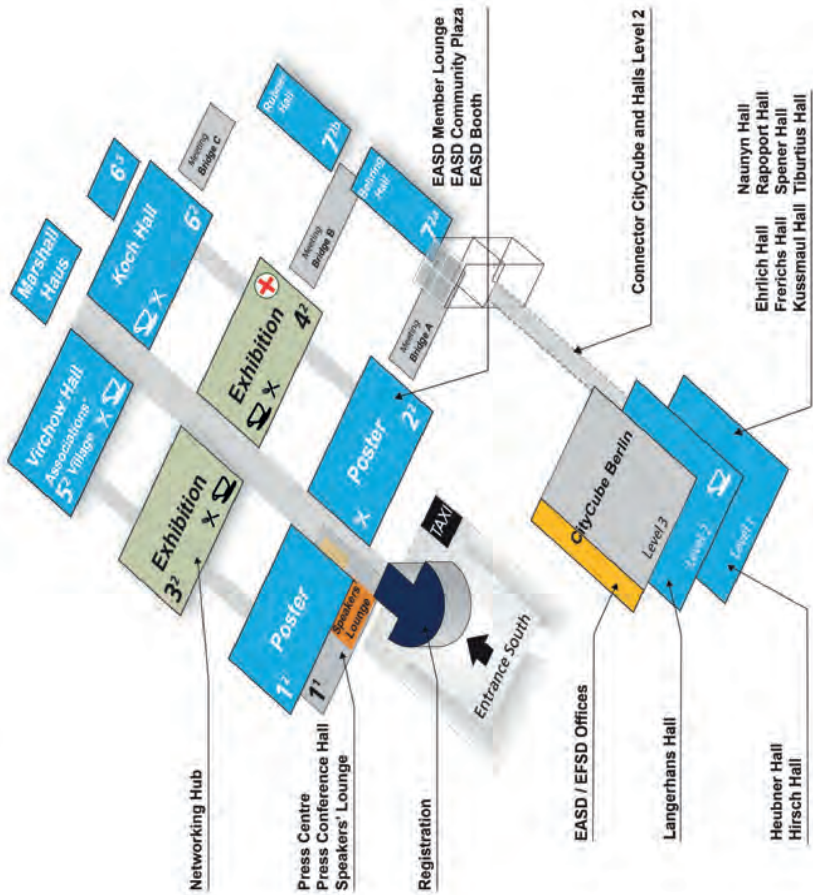
14055 Berlin

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EASD 54th Annual Meeting 2018, Berlin, Germany

01.10.2018 - 05.10.2018



ABSTRACT SELECTION

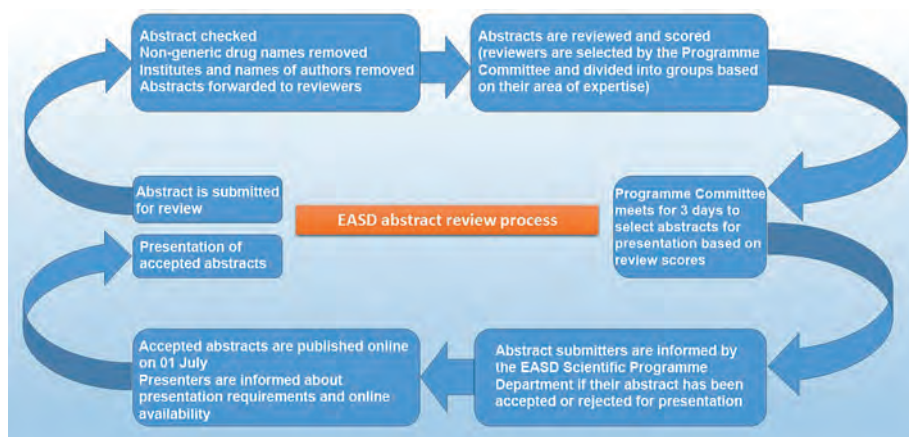
2038 abstracts were received by the Association. 1218 abstracts were accepted for inclusion. All abstracts were considered anonymously and were scored by 40 Abstract Review Committee Members. 16 Programme Committee Members designed the programme and created Oral and Poster Sessions based upon the anonymous abstracts.

Publication of Abstracts

Accepted abstracts are published in the Volume of Abstracts which is part of *Diabetologia*, the official journal of the Association. Abstracts are available online in the EASD Virtual Meeting. Participants can print abstracts at Print Stations during the Annual Meeting.

Embargo Policies

Information contained in abstracts may not be released until 1 July when the abstracts are published online. Oral Presentations are under embargo until one (1) minute following the commencement of the speakers' presentation. Poster Presentations are under embargo until 11:59 CET on Tuesday 02 October.



Abstract Review Committee

Hadi Al-Hasani, DE	Elisabeth R Mathiesen, DK
Romain R Barrès, DK	Claudia Miele, IT
Francesco Beguinot, IT	Peter P Nawroth, DE
Fatima Bosch, ES	Donal O'Gorman, IE
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Anna Krook, SE	Emmanuel Van Obberghen, FR
Hiddo J Lambers Heerspink, NL	Mark Walker, UK

PROGRAMME COMMITTEE



Romain R. Barrès,
DK



Francesco Beguinot,
IT (Chair)



Fátima Bosch,
ES



Gian Paolo Fadini,
IT



Francesco Giorgino,
IT



Anna Krook,
SE



Hiddo Lambers
Heerspink, NL



Elisabeth Mathiesen,
DK



Peter Nawroth,
D



Anne Peters,
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Massimo Porta,
IT



Michael Roden,
D



Raphael
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Anders Tengholm, SE



Emmanuel
Van Obberghen, F



Mark Walker,
UK

Tuesday, 2 October							
Time	Langerhans Hall	Virchow Hall	Koch Hall	Heubner Hall	Rubner Hall	Hirsch Hall	
08:30 - 08:45	Opening Ceremony						
08:45 - 09:15	Presidential Address						
09:15 - 10:00	Claude Bernard Lecture						
Break							
10:15	OP 1	OP 2	OP 3	OP 4	OP 5	OP 6	
Break							
12:00	HARMONY- Outcomes	Poster Event A					
		Break					
13:15	Poster Event B						
Break							
14:30	OP 7	OP 8	OP 9	OP 10	OP 11	OP 12	
Break							
16:15 - 17:15	Camillo Golgi Lecture	Albert Renold Lecture	Rising Star Symposium				
17:15 - 17:55							
Break							
18:10 - 19:10						General Assembly	

Wednesday, 3 October						
Time	Langerhans Hall	Virchow Hall	Koch Hall	Heubner Hall	Rubner Hall	Hirsch Hall
08:30 - 10:00	Update and new findings from the Restoring Insulin Secretion (RISE) Study	Insulin and cancer revisited	EASD/JDRF Symposium: Looking into the future: developing new interventions for type 1 diabetes	Focus on studies using routinely accumulated clinical data	Exercise is medicine: new targets for diabetes treatment	Metabolic flexibility and dysfunctioning in disease
Break						
10:15	OP 13	OP 14	OP 15	OP 16	OP 17	OP 18
Break						
12:00	UKPDS	Poster Event C				
Break						
13:15	SGLT2 and DPP4 inhibitors	Poster Event D				
Break						
14:30	OP 19	OP 20	OP 21	OP 22	OP 23	OP 24
Break						
16:15 - 17:15	Diabetes Prize for Excellence Lecture					
Break						
17:30 - 18.30	PIONEER Trial	Hypoglycaemia: definition to prevention	EASD/ESC Symposium: Cardiorenal protection with SGLT2 inhibitors: A benefit for all and also outside diabetes?	Socioeconomical barriers to the prevention of diabetes-related blindness	Brown or beige adipose tissue: Does it matter?	Michael Berger debate: Improving glucose control in type 1 diabetes: sensors vs pumps

Thursday, 4 October						
Time	Langerhans Hall	Virchow Hall	Koch Hall	Heubner Hall	Rubner Hall	Hirsch Hall
08:30 - 10:00	Comparative effectiveness of cardiovascular outcomes in new users of SGLT2 inhibitors (CVD-REAL)	EASE Programme	EASD/EASL Symposium: Diabetes and NAFLD	Diabetic pneumopathy - the lung: a forgotten organ	Genome and environment: a two-side conspiracy in the evolution towards diabetes	Pregnancy outcome and nutrition
Break						
10:15	OP 25	OP 26	OP 27	OP 28	OP 29	OP 30
Break						
12:00	Diabetologia Symposium	Stimulation of GIP and GLP-1 receptors	Poster Event E	Self-eating: good or bad?		
Break						
13:15	CAMELLIA-TIMI 61 trial	Poster Event F				
Break						
14:30	OP 31	OP 32	OP 33	OP 34	OP 35	OP 36
Break						
16:15 - 17:00	Minkowski Lecture					
Break						
17:15 - 18.15	Cardiovascular and Renal Microvascular Outcome Study With Linagliptin in Patients With Type 2 Diabetes Mellitus (CARMELINA)	New approaches to diabetes risk in urban areas	Impact of metabolic abnormalities on diabetic kidney	Ageing, obesity and diabetes: molecular connections and clinical implications	Diabetic peripheral and somatic neuropathies: an update	Non coding RNAs in metabolic diseases

Friday, 5 October						
Time	Langerhans Hall	Virchow Hall	Koch Hall	Heubner Hall	Rubner Hall	Hirsch Hall
08:30 - 09:30	08:00 - 09:30 Management of hyperglycaemia in type 2 diabetes: ADA-EASD Consensus Report 2018	The Lancet Commission on Diabetes: practical strategies to conquer diabetes	Digital diabetes health: from now to the future	Deconvoluting big data: seeing the trees in the forest	Saturated fat and cardiometabolic risk	Rodent and human beta cell proliferation
Break						
09:45	OP 37	OP 38	OP 39	OP 40	OP 41	OP 42
Break						
11:00	OP 43	OP 44	OP 45	OP 46	OP 47	OP 48
Break						
12:15 - 13:45	Main results from the large EU-project PREVIEW: Prevention of diabetes through lifestyle Intervention and population studies in Europe and around the World	Combination therapy for type 2 diabetes: challenges and controversies	Diabetes and the mind: psychological aspects	EASD/AASD Symposium: Tackling diabetes at a whole system level	Diabetic destiny: pre-life exposure	Cures for diabetes?

PAUL LANGERHANS (1847 – 1888)

Paul Langerhans was born in Berlin on 25 July 1847. His father was a physician and politician. Together with his friend Rudolf Virchow, he fought at the barricades in Berlin during the revolution of 1848. The young Paul was an excellent student who began his medical studies in the University of Jena where he attended courses taught by Haeckel. Under the guidance of Rudolf Virchow as doctoral supervisor, he completed his studies in Berlin where, in February 1869, he presented his thesis, entitled "Contributions to the Microscopic Anatomy of the Pancreas". In his thesis he describes the anatomy of the islets, adding that he had no clue as to their function¹. He also gave the first description of the dendritic cells of the skin which were later baptised as Langerhans cells. He assumed wrongly that these cells were part of the nervous system. The Nobel Prize for medicine was awarded in 2010 for research into the importance of these cells for the immune system².



In 1871, Paul Langerhans moved to the University of Freiburg where he became a full Professor. In 1874, he was diagnosed with tuberculosis by his friend Notnagel. He travelled in search of a cure to Naples, Palermo, the island of Capri as well as to Switzerland but all in vain; he had to abandon his work in Freiburg and moved to the island of Madeira in 1875. He continued his research on marine worms and some of them were named after him. In 1885, he travelled to Berlin to get married, returning to Madeira with his wife to live in the beautiful villa Quinta Lambert in Funchal. But finally, progressive renal failure brought his life to an end on 20 July 1888, five days before his 41st birthday. He is buried in a British cemetery on Madeira.

1. P. Langerhans: Beiträge zur mikroskopischen Anatomie der Bauchspeicheldrüse. Med. Diss., Berlin, 18.2.1869, printed by G. Lang
2. P. Langerhans: Über die Nerven der menschlichen Haut. Arch. Path. Anat. 44, 325, 1868

<http://en.wikipedia.org/wiki/Langerhans>

RUDOLF VIRCHOW (1821 – 1902)

Rudolf Virchow was born on 13 October 1821 into a farming family in Pomerania. He studied medicine and chemistry at the Prussian Military Academy in Berlin and graduated in 1843. In the same year, he started to work as an assistant in the Charité Hospital and the campus where this hospital was located is now named after him. In 1847, he became a lecturer at the University of Berlin. In 1849, he moved to the University of Würzburg where he was required to declare to the administration of the kingdom of Bavaria that he, as a foreigner from Prussia, would abstain from political activities. In 1856, he returned to Berlin to become the Chair of Pathology. The Pathological Museum at the Charité, founded by Rudolf Virchow, can still be visited today.



In 1848, he fought at the barricades in Berlin against the Prussian Army. Virchow enjoyed a long and active political life. In 1858, he was elected to the Berlin municipal council. During his entire life, he was an elected politician starting in the municipal council of Berlin in 1858. He was co-founder of the Liberal Party (Deutsche Fortschrittspartei) and represented this party in the Reichstag from 1880 to 1893. He was one of the strongest political antagonists of Bismarck who challenged Virchow to a duel in 1865 which Virchow declined.

In the field of medicine, Virchow is recognised as the founder of cellular pathology; his cell theory continued the work of Theodor Schwann. He was the first to describe leukaemia cells and contributed to the understanding of thromboembolism, defining the factors contributing to venous thrombosis which have been named Virchow's Triad. He was also very interested in anthropology and archaeology. Between 1866 and 1869, Virchow acted as doctoral supervisor to Paul Langerhans.

Virchow is regarded as a pioneer of social medicine. He promoted a social health care system, founded the first city hospitals in Berlin and wrote that "medicine is a social science and politics is nothing but medicine on a larger scale".

http://en.wikipedia.org/wiki/Rudolf_Virchow

ROBERT KOCH (1843 - 1910)

Robert Koch was born on 11 December 1843, in Clausthal, Harz Mountains as the son of a miner and one of 13 children. He was one of the founders of microbiology and bacteriology and supported the germ theory. After completion of his studies in Göttingen in 1866, he became district physician in Wollstein, Posen, in 1872. He investigated anthrax of farm animals and was able to prove that the *Bacillus anthracis* was the cause. He discovered that it could be grown in a culture, allowing him to observe its multiplication and behaviour. In 1876, he noted that the bacillus could not survive for long, but did produce endospores which were more durable and able to cause spontaneous outbreaks. In 1880, he took up a position at the Imperial Health Office in Berlin where he developed the cultivation of bacteria and refined methods of staining. In 1882, he discovered the tubercle bacillus for which he was awarded the Nobel Prize in 1905.



In 1883, he travelled to Egypt and India, where he investigated an outbreak of cholera. In 1884, he identified *Vibrio cholerae*. He suggested improvements in hygiene and rules for the control of epidemics, establishing himself as one of the founders of public health. In 1885, he was appointed Professor of Hygiene and Director of the Institute of Hygiene at the University of Berlin. From cultures of tubercle bacilli he produced tuberculin, which was hailed at the 10th International Medical Congress in Berlin in 1890 as the cure for tuberculosis. As a cure, tuberculin did not live up to expectations, but it is now a valuable diagnostic tool. He was invited to set up the Royal Prussian Institute for Infectious Diseases in 1891 and was its director until 1904. From 1896 until 1907, he investigated tropical diseases in Africa, India, Java and New Guinea. He died on 27 May 1910. His ashes have been laid to rest in the west wing of the Institute for Infectious Diseases in Berlin, which has been renamed the Robert Koch Institute.

www.rki.de

www.nobelprize.org/nobel_prizes/medicine/laureates/1905/koch.html

From *Nobel Lectures, Physiology or Medicine 1901-1921*, Elsevier Publishing Company, Amsterdam, 1967

OTTO HEBNER (1843 - 1926)

Johann Otto Leonhard Heubner, born on 21 January 1843, is the father of German paediatrics. He studied medicine at the University of Leipzig. He began his career at the Jakobshospital in Leipzig in 1867 as assistant to the famous internist, Carl Wunderlich, becoming Associated Professor of Internal Medicine at the University of Leipzig in 1873. From 1876 to 1891, he held the position of Director of the Leipzig District Polyclinic. In 1887, he was appointed Honorary Professor of Paediatrics and in 1891 he founded his own paediatric clinic in Leipzig. In 1894, he was appointed to the first chaired professorship for paediatrics in Germany at the Charité, thus establishing paediatrics as an independent discipline. He was director of the Charité Paediatric Clinic from 1894 until 1913 where he devoted himself to the physiology and nourishment of children.



He worked with infectious diseases, defining and lending his name to a number of medical conditions such as the skin rash which occurs with chicken pox, now known as “Heubner’s starry sky”. He was one of the first to use the diphtheria serum developed by Emil von Behring. Working with Max Rubner, he investigated energy metabolism in infants. They developed a nutritional basis for the treatment of metabolic diseases and, in 1901, they established the concept of an “energy quotient” in infant nutrition, a calorimetric control of the amount of food an infant should ingest. He fought to improve child welfare, from a medical but also political standpoint. In 1897, as part of his battle to improve standards of hygiene, he introduced “aseptic” hospital conditions, which led to a remarkable improvement in infant mortality rates. Today, the Otto Heubner Center for Pediatric and Adolescent Medicine at the Charité Hospital, founded in 1999, provides specialist care for children and adolescents.

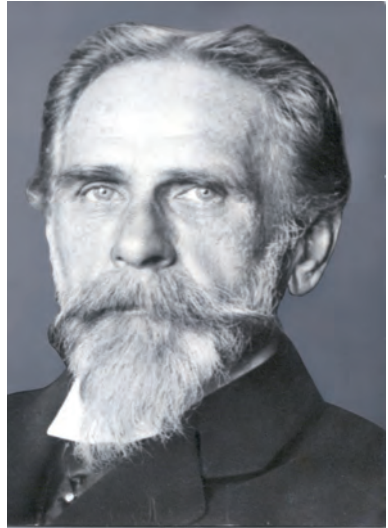
http://de.wikipedia.org/wiki/Otto_Heubner

<http://kik.uniklinikum-leipzig.de>

Persönlichkeiten aus drei Jahrhunderten Berliner Medizin. Berliner Medizinhistorisches Museum der Charité, 2010.

MAX RUBNER (1854 - 1932)

Max Rubner was born in Munich on 2 June, 1854. After completing his medical studies in Munich in 1878, he worked as an unpaid assistant to Carl von Voit. In 1885, he was appointed Associated Professor and in 1887, full Professor of Hygiene in Marburg. This was followed in 1891 by his appointment as Professor of Hygiene at the University in Berlin as successor to Robert Koch. In 1909 he assumed the professorship of Physiology and in 1913 he became director of the Kaiser Wilhelm Institute for Occupational Physiology which he had co-founded. He worked intensively on nutritional science. Food, its nutritional value, digestive phenomena and also the social consequences of nutrition on humans were his focus. He wrote works such as “On Several Changes in the Substance of Eggs”, 1896; “On the Analysis of So-Called Curds”, 1897; and “The Digestibility of the Cell Membrane of Spinach”, 1915. He developed calorie tables as a measure of energy content and may be regarded as the father of metabolic research and nutrition. Rubner was interested in how much food was required to protect people from malnutrition.



Today, the tests designed by Rubner are relevant to studies of obesity. In 1883, he introduced the “surface law of metabolism” which states that the heat value of metabolism of the resting individual is proportional to the surface area of his body. He worked closely with Otto Heubner, performing important studies on the energy metabolism in infants. Rubner’s aim was to make scientific knowledge and research widely available in order to be effective and to this end he wrote or collaborated on an enormous 361 publications during his lifetime; he constantly sought to spread the results of his nutritional research amongst the population via leaflets or lectures to enable the widest transfer of knowledge. In 2008, in recognition of his great scientific contribution, the Federal Research Centre of Nutrition and Food in Karlsruhe was renamed the Max Rubner Institute.

www.mri.bund.de/en/de/max-rubner-institut/max-rubner.html
http://de.wikipedia.org/wiki/Max_Rubner

RAHEL HIRSCH (1870 - 1953)

Rahel Hirsch, physiologist, physician, teacher and Prussia's first female professor was born in Frankfurt, on 15 September 1870. She studied medicine first in Zurich and then in Leipzig and Strasbourg, where she wrote her dissertation on the impact of glucose. She began work in 1903 on a voluntary basis as an assistant physician at the Berlin Charité Medical Clinic, thereby becoming its second female employee. In 1907, she experienced the negative stereotyping of male colleagues during a lecture on her research into the excretion of starch particles in urine where she was ridiculed and a colleague is said to have called out, that her powder puff must have fallen into the chamber pot. Her paper, published in a respected medical journal in 1906, had been largely ignored. In 1908, she was appointed director of the polyclinic at the Charité's 2nd Medical Clinic, a position for which she was not paid.



She was particularly interested in women's issues – especially hygiene, nutrition and physical fitness. She urged the overall strengthening of women's bodies from early childhood onwards and recommended education in "purposeful nutrition". In 1913, she was appointed to a professorship, the first Jewish woman, and the third woman only to receive this honour. In 1919, she left the Charité to set up her own medical practice, moving to the elegant Kurfürstendamm in 1926. In 1920, she published a book of therapeutic guidelines for radiotherapy treatment.

Forced to leave Berlin, she emigrated to London in 1938 where she remained until her death in 1953. It is thanks to Gerhard Volkheimer, an assistant at the Charité who, in 1957, came across her work on starch particles, that the "Hirsch Effect" is to be found today in all textbooks of internal medicine. A bronze bust stands in the old lecture hall for internal medicine at the Charité in commemoration of her work.

http://de.wikipedia.org/wiki/Rahel_Hirsch

<http://jwa.org/encyclopedia/article/hirsch-rahel>

Sonja Chevallier. Fräulein Professor: Lebensspuren der Ärztin Rahel Hirsch 1870–1953. Düsseldorf: Droste, 1998

EASD COMMUNITY PLAZA

The EASD Community Plaza is located in Poster Hall 2.2 and consists of the EASD / EFSD Booth and the EASD Member Lounge. Charging stations, abstract and business print stations can also be found in this area.

Opening Hours EASD / EFSD Booth / Member Lounge:

Monday, Tuesday, Wednesday and Thursday	08:00 - 18:30
Friday	08:00 - 14:00

EASD ASSOCIATIONS' VILLAGE

The EASD Associations' Village is located in Hall 5.2 (Virchow Hall) and is organised by EASD in collaboration with IDF Europe, which brings together international diabetes associations and societies as well as EASD Study Groups. Each represented association and Study Group has an exhibition stand displaying its current activities and highlighting its work and practices. The EASD Associations' Village is a multinational networking platform which aims to further increase and facilitate the exchange of knowledge and experiences among diabetes associations, and to provide information to physicians and researchers from all over the world on the existing associations and Study Groups.

Opening Hours Associations' Village:

Tuesday to Thursday	09:00 - 17:00
Friday	09:00 - 12:00



EASD YOUNG ACADEMY

After its successful introduction during the EASD Annual Meeting in Lisbon in 2017, the programme will be continued at this year's EASD Annual Meeting in Berlin by offering six Meet the Expert sessions. There will be six courses, three with a focus on the latest science and three with an emphasis on career development.

Session Times:

Tuesday, 2 October 2018

15:00 - 16:15: **R. Hovorka, UK:** Diabetes technology and the artificial pancreas

Wednesday, 3 October 2018

10:00 - 11:30: **S.M. Marshall, UK:** Scientific publications: Stories from the Editor's desk

15:00 - 16:15: **T. Vilsbøll, Denmark:** Clinical trials in diabetes

Thursday, 4 October 2018

10:00 - 11:30: **G. Munz, Germany:** Career development and funding in the diabetes sector

10:00 - 11:30: **T. van Staa, UK:** Multidatabase research and data evaluation

15:00 - 16:15: **F. Hu, USA:** Nutrition and epidemiology in diabetes

Please note that these sessions are only open to EASD members starting out on their academic career. The participants must comply with the following criteria to apply:

- At least 3rd year PhD candidate OR Postdoc <5 years OR MD <7 years
- Fellow without a faculty appointment
- In addition, paid-up registration to the EASD Annual Meeting 2018 in Berlin is mandatory for all applicants

To register, please visit www.easd.org (www.easd.org/annual-meeting/easd-2018#section-young-academy) or contact Kathrin Sommer on kathrin.sommer@easd.org

EASD E-LEARNING

Launch of EASD's new e-Learning programme: live demonstration of diabetes care e-Learning modules

Postgraduate education in clinical diabetes and its complications has been a core priority of EASD since its foundation and in recent decades the postgraduate education courses have grown in number and geographical range.

Now EASD is making a major step forward to further expand and develop its postgraduate education activities with the development of a new e-Learning programme.

EASD e-Learning is designed to afford participants to self-direct the way they learn. In consideration of the growing popularity of self-directed and active learning, participants create their own learning pathways within the modules, guided by opportunities for self-reflection, assessment and feedback.

The first three e-Learning modules will be launched at the EASD Annual Meeting 2018 in Berlin and each module will be presented during a live demonstration with the opportunity for the audience to trial and to provide feedback. Each session will be limited to a maximum of 150 participants.

Tuesday, 2 October 2018 (Spener Hall)

12:00 - 14:00: EASD e-Learning – Diabetes and Ramadan

Wednesday, 3 October 2018 (Spener Hall)

12:00 - 14:00: EASD e-Learning – SGLT-2 Inhibitors

Thursday, 4 October 2018 (Spener Hall)

12:00 - 14:00: EASD e-Learning – Diabetes and Pregnancy

EFSD MENTORSHIP PROGRAMME

EFSD Future Leaders Mentorship Programme for Clinical Diabetologists supported by an unrestricted educational grant from AstraZeneca

The major goal of the EFSD Mentorship Programme is to identify and promote the advancement of the next generation of leading clinical diabetologists in Europe by refining their skills, keeping them in the field of diabetes and facilitating their appointment to senior academic positions at major European institutions. This programme provides a unique opportunity for clinical diabetologists to take part in a broad range of educational and training opportunities centred around a clinical research project, with leading European clinical diabetologists serving as personal mentors.

After the introduction of the first cohort of Mentees during the EASD Annual Meeting in Lisbon in 2017, now the first results of this programme will be presented at this year's EASD Annual Meeting in Berlin.

Wednesday, 3 October 2018, 12:15 - 13:45 (Naunyn Hall)

The **Mentees of the 2017 cohort** will present their projects:

Giuseppe Daniele, Italy

Mentor: Hans-Ulrich Haering, Germany

Ernesto Maddaloni, Italy

Mentor: Rury Holman, UK

Teresa Mezza, Italy

Mentor: Jens Juul Holst, Denmark

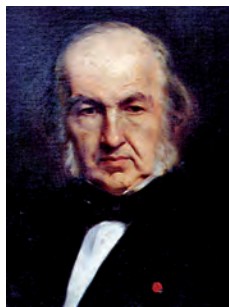
Shivani Misra, UK

Mentor: Chantal Mathieu, Belgium

Followed by the **inauguration of Mentees of the 2018 cohort**.

CLAUDE BERNARD LECTURE

The Claude Bernard Lectureship recognises contributions to the advancement of knowledge in the field of diabetes mellitus and related metabolic diseases. The Claude Bernard Award is presented to the lecturer by the President of the EASD at the Award Ceremony immediately preceding this lecture.



Claude Bernard

CLAUDE BERNARD LECTURERS

1969 Montpellier	C. DE DUVE, BE	1994 Düsseldorf	G. REAVEN, US
1970 Warsaw	E.W. SUTHERLAND, US	1995 Stockholm	M. BERGER, DE
1971 Southampton	M. DEROT, FR	1996 Vienna	J.D. WARD, UK
1972 Madrid	K. LUNDBAEK, DK	1997 Helsinki	C.E. MOGENSEN, DK
1973 Brussels	A.E. DONIACH, CH	1998 Barcelona	C. WOLLHEIM, CH
1974 Jerusalem	T.R. FRASER, UK	1999 Brussels	J.P. ASSAL, CH
1975 Munich	R.G. SPIRO, US	2000 Jerusalem	W. MALAISSE, BE
1976 Helsinki	H.G. HERS, BE	2001 Glasgow	P.E. CRYER, US
1977 Geneva	D.L. COLEMAN, US	2002 Budapest	M.R. TASKINEN, FI
1978 Zagreb	W. CREUTZFELDT, DE	2003 Paris	M. BROWNLEE, US
1979 Vienna	D.A. PYKE, UK	2004 Munich	C.R. KAHN, US
1980 Athens	R.H. UNGER, US	2005 Athens	J.J. HOLST, DK
1981 Amsterdam	G.R.E. MEYER-SCHWICKERATH, DE	2006 Copenhagen	L. GROOP, SE
1982 Budapest	J. MIROUZE, FR	2007 Amsterdam	E. VAN OBBERGHEN, FR
1983 Oslo	C. HELLERSTRÖM, SE	2008 Rome	R.A. DEFRONZO, US
1984 London	P.J. LEFEBVRE, BE	2009 Vienna	O. PEDERSEN, DK
1985 Madrid	E.F. PFEIFFER, DE	2010 Stockholm	M. KASUGA, JP
1986 Rome	W. K. WALDHÄUSL, AT	2011 Lisbon	E. FERRANNINI, IT
1987 Leipzig	H. KEEN, UK	2012 Berlin	D.J. DRUCKER, CA
1988 Paris	T. DECKERT, DK	2013 Barcelona	M. LAAKSO, FI
1989 Lisbon	G. TCHOUBROUTSKY, FR	2014 Vienna	D. ACCILI, USA
1990 Copenhagen	K.G.M.M. ALBERTI, UK	2015 Stockholm	H.-U. HÄRING, DE
1991 Dublin	E. SHAFRIR, IL	2016 Munich	M.E. COOPER, AU
1992 Prague	P.H. BENNETT, US	2017 Lisbon	B. THORENS, CH
1993 Istanbul	D. ANDREANI, IT		

8:30	OPENING CEREMONY	Langerhans Hall
	J.R. Zierath, President, EASD and EFSD	
	J. Spranger, Local Organising Committee	
8:45	PRESIDENTIAL ADDRESS	
	J.R. Zierath, President, EASD and EFSD	
	followed by	
9:15	50TH CLAUDE BERNARD LECTURE	
Chair:	J.R. Zierath, President, EASD and EFSD	
Speaker:	J. Tuomilehto, Kuwait	
Title:	Prevention of type 2 diabetes: a dream that came true	

Jaakko Tuomilehto is Professor Emeritus of Public Health of the University of Helsinki, and affiliated with the National Institute for Health and Welfare in Helsinki Finland. His past affiliations include World Health Organization, University of Kuopio, Finland, Danube-University Krems in Austria and Dasman Diabetes Institute, Kuwait. He qualified as MD in 1973, MA in Sociology in 1975 and PhD in Public Health in 1975.

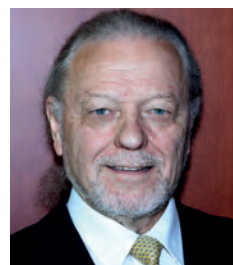
His research interests include epidemiology, aetiology and prevention of diabetes and other non-communicable diseases. He has been involved in several epidemiological studies in many regions of the world. He initiated the Finnish Diabetes Prevention Study (DPS) that demonstrated a 58% reduction in incidence type 2 diabetes with lifestyle intervention.

This finding was confirmed by similar trials elsewhere. He developed a simple, non-laboratory type 2 diabetes risk score FINDRISC (FINnish Diabetes Risk SCore) that has been validated and applied widely in other countries.

He has been involved in studies attempting to find out environmental and genetic risk factors with a primary focus on diabetes and cardiovascular risk factors. The most prominent study is the FUSION on type 2 diabetes genetics that has been carried out in Finland in collaboration with NIH and several US universities since the mid-1990s. He was the Principal Investigator of the WHO DIAMOND Project mapping the incidence of childhood type 1 diabetes worldwide including >100 countries. He also established the DECODE/DECODA studies that have assessed the importance of postprandial glucose for detection and prognosis of type 2 diabetes and other disturbances of glucose regulation.

He has been acting as a member of American Diabetes Association (ADA), International Diabetes Federation (IDF), European Society of Cardiology (ESC), and WHO committees and expert groups on diabetes and cardiovascular disease. He has been a faculty member in many international postgraduate training courses on diabetes and cardiovascular disease. He has been actively involved in several editorial and advisory boards nationally and internationally. Currently, he serves as the Editor-in-Chief of Primary Care Diabetes.

He has received many prestigious scientific awards including Camillo Golgi Award from EASD, Kelly West Award and Harold Rifkin Award from ADA, Geoffrey Rose Award from ESC, and Fredrick H. Epstein Award and David Kritchevsky Award from AHA. He has over 1700 peer-reviewed publications with >128,000 citations and h-index 164.



10:15 - 11:45

Langerhans Hall

OP 01 Inflammatory events in type 2 diabetes

Chair: A. Novials, Spain, U. Smith, Sweden

1 Metabolic reprogramming of CD8⁺ T cells regulates systemic glucose metabolism

H.-S. Yi, Y. Lee, B. Ku, Korea, Republic of

2 Methylglyoxal induces microglial polarisation to pro-inflammatory state

J. Lin, J. Wang, A. Schlotterer, M. Kolibabka, N. Dietrich, T. Fleming, H. Hammes, Germany

3 Metformin alleviates the negative effects of the pro-inflammatory environment in brown adipocytes

N. Pescador, V. Francisco, C. Escalona, L. Ruiz, M. Valdecantos, A. Calle, M. Obregón, Á. Valverde, Spain

4 Hyperglycaemia epigenetically primes pro-inflammatory RELA/p65 gene in cord blood-derived CD34⁺stem cells

V. Vigorelli, J. Resta, S. Genovese, G. Pompilio, M. Vinci, Italy

5 Crosstalk between gut and pancreas in the context of metabolic syndrome: study in a rodent model of nutritional programming

A. Sanchez-Roncero, P. Martínez-Oca, F. Escrivá, E. Fernández-Millán, C. Álvarez, Spain

6 Glucagon induces the expression of inflammatory markers in the liver through NLRP3 inflammasome

C. Di Fatta, R. Spiga, E. Mancuso, A. Fuoco, C. Averta, G.C. Mannino, F. Andreozzi, G. Sesti, Italy

OP 02 Foot prints

Chair: N. Papanas, Greece, A.K. Trocha, Germany

7 Novel plantar pressure-sensing smart insoles reduce foot ulcer incidence in 'high-risk' diabetic patients: a longitudinal study

C.A. Abbott, K.E. Chatwin, A.N. Hasan, S.M. Rajbhandari, C. Sange, N. Musa, P. Foden, K. Stocking, L. Vileikyte, F.L. Bowling, A.J. Boulton, N.D. Reeves, UK

8 Ultrasound versus sharp wound debridement in healing of recalcitrant neuropathic diabetic foot ulcers: clinical and pathological study

F. Kyrillos, A. Albehairy, M. Roshdi, W. Elkashef, M. Tarshoby, Egypt

9 The LeucoPatch® system in the management of hard-to-heal diabetic foot ulcers: a multicentre, multinational, observer-blinded, randomised controlled trial

F. Game, W. Jeffcoate, L. Tarnow, J. Jacobsen, D. Whitham, E. Harrison, S. Ellender, M. Löndahl, UK, Denmark, Sweden

10 Platelet-rich plasma plays an anti-inflammatory and cell proliferation-promoting role through miR-21/PDCD4/NF-κB pathway in vitro of a diabetic wound model

W. Deng, T. Li, D. Armstrong, China, USA

11 Autologous mononuclear versus mesenchymal stem cells in healing of recalcitrant neuropathic diabetic foot ulcers

A. Albehairy, F. Kyrillos, H. Gawish, O. State, H. Abdelghaffar, O. Elbaz, A.H. El-Sebaie, A.A. Emam, M. Tarshoby, Egypt

12 Association of diuretics use and amputations in patients with type 2 diabetes: A hypothesis driven from CANVAS warning?

L. Potier, R. Roussel, G. Velho, P.-J. Saulnier, A. Bumbu, O. Matar, M. Marre, K. Mohammedi, S. Hadjadj, France

10:15 - 11:45

Koch Hall

OP 03 Unravelling nephropathy

Chair: K.A.M. Jandeleit-Dahm, Australia, P. Rossing, Denmark

13 Linagliptin reduced renal injury and proteinuria in a rat model of crescentic nephritis

A.-L. Mayer, K. Amann, T. Klein, C. Daniel, Germany

14 Non-esterified free fatty acids (NEFA) can enhance the inflammatory response in renal tubules by inducing ATP release

H. Sun, Z. Sun, X. Ruan, China, UK

15 Overexpression of CD38 (NADase) in diabetic kidney disease results in renal mitochondrial oxidative stress and pathologies via NAD⁺-dependent Sirt3 inactivation

Y. Ogura, M. Kitada, I. Monno, D. Koya, Japan

16 Soluble Nogo-B overexpression inhibits diabetes-mediated endothelial cell proliferation in a murine model of early diabetic glomerulopathy

I.P. Hernandez-Diaz, G. Fouli, C. Ricciardi, A. Hayward, D.E. Long, L. Gnudi, UK

17 FoxO1 inhibits autophagosome-lysosome fusion leading to endothelial autophagic-apoptosis in diabetes

X. Wu, H. Zhang, K. He, X. Zhao, Y. Wu, S. Ge, Y. Shao, China

18 Empagliflozin suppresses atherosclerotic lesion formation in apolipoprotein E deficient mice by inhibiting macrophage activation

T. Matsumura, S.M. Nishida, T. Senokuchi, N. Ishii, S. Nishida, T. Kondo, H. Motoshima, E. Araki, Japan

OP 04 The adipose tissue: from biology to intervention studies

Chair: M. Roden, Germany, M. Stumvoll, Germany

19 Insulin sensitising effects of vitamin D mediated through reduced adipose tissue inflammation and fibrosis

E. Lontchi-Yimagou, S. Kang, K. Zhang, A. Goyal, J. You, P. Kishore,
E. Rosen, M. Hawkins, USA

20 FKBP51 ablation using CRISPR/Cas-9 impairs adipocyte differentiation

C. Castillejo-López, X.M. Abalo, C.O. Sidibeh, M.J. Pereira, P.G. Kamble,
J.W. Eriksson, Sweden

21 Insulin regulates lipolysis and fat mass by upregulating growth/differentiation factor 3 in adipose tissue macrophages

T. Izumi, Y. Bu, K. Okunishi, Japan

22 The diabetes risk gene TCF7L2 regulates human adipose progenitor cell biology

M. Verma, N. Loh, M. Todorčević, K. Pinnick, A.V. Dam, M. Neville, F. Karpe,
C. Christodoulides, UK

23 Pros and cons of gastric bypass surgery in obese individuals with type 2 diabetes: nationwide, matched, observational cohort study

V. Liakopoulos, S. Franzén, A.-M. Svensson, M. Miftaraj, J. Ottosson,
I. Näslund, S. Gudbjörnsdottir, B. Eliasson, Sweden

24 Differing gut hormone responses drive weight loss after Roux-en-Y gastric bypass and sleeve gastrectomy, with similar effects on glucose dynamics and insulin sensitivity

C. Liaskos, C. Koliaki, K. Alexiadou, I. Mourouzis, C. Pantos,
G. Argyrakopoulou, A. Alexandrou, N. Katsilambros, T. Diamantis,
N. Tentolouris, A. Kokkinos, Greece, Germany

10:15 - 11:45

Rubner Hall

OP 05 Novel models for understanding complications

Chair: J. Szendrödi, Germany, J. Zemva, Germany

25 Finerenone improves the cardiovascular benefits after a return to a normal diet in the mouse model of high fat diet-induced obesity

M. Pieronne-Deperrois, L. Nicol, S. Messaoudi, A. Marouchtchak, V. Richard, P. Kolkhof, F. Jaisser, P. Mulder, A. Ouvrard-Pascaud, France, Germany

26 Characterisation of an animal model of type 2 diabetes with potential application in the evaluation of new therapies for diabetic neuropathy

F. Ezquer, C. De Gregorio, D. Contador, D. Santapau, M. Campero, M. Ezquer, Chile

27 Cardiac metabolism of a lipodystrophic mouse model studied using hyperpolarised [$1\text{-}^{13}\text{C}$] pyruvate magnetic resonance spectroscopy

X. Teo, B. Bai, W. Chan, Y. Fu, W. Han, P. Lee, Singapore

28 Role of amylin oligomer in transmission of type 2 diabetes between mother and offspring

C.-L. Chuang, S. Zhang, G. Amarsingh, G. Cooper, New Zealand

29 Pdx1-deficient zebrafish exhibit diabetes-induced altered function and structure of the pronephros and increased retinal sprouting angiogenesis

L.M. Wigganhauser, S.J. Stoll, J. Kroll, Germany

30 Downregulation of FKBPL influences metabolic and vascular function in experimental model of diabetes

A. Alqudah, R. McNally, N. Todd, K. Edgar, A. Short, D. Grieve, T. Robson, L. McClements, UK, Ireland

OP 06 Beta cell connectivity and heterogeneity

Chair: S.E. Baltrusch, Germany, D. Hodson, UK

31 Imaging Ins2 gene activity and single-cell RNA sequencing reveal heterogeneous beta cell states

H. Modi, H. Cen, S. Skovsø, X. Hu, N. Krentz, D. Dionne, S. Xuan, M. Huising, F. Lynn, J. Johnson, Canada, UK, USA

32 Loss of beta cell heterogeneity disrupts normal islet function

D. Nasteska, G.A. Rutter, Q. Zhou, D.J. Hodson, UK, USA

33 Differential beta cell coupling patterns drive biphasic activity

M. Jaffredo, A. Pirog, É. Bertin, B. Catargi, S. Renaud, J. Lang, M. Raoux, France

34 Glucose regulates pancreatic islet beta cell calcium dynamics and intercellular connectivity in vivo

V. Salem, L. Delgadillo Silva, K. Suba, N. Akhtar, N. Mousavy, A. Martin-Alonso, E. Georgiadou, D.C. Gaboriau, S.M. Rothery, T. Stylianides, D.J. Hodson, P. Marchetti, L. Briant, N. Ninov, G.A. Rutter, UK, Germany, Italy

35 Beta-screen: non-invasive, easy to use MEA-based parallelised screening system for intact islets of Langerhans

S. Schönecker, K.-H. Boven, U. Kraushaar, Germany

36 Role of the very long chain fatty acid elongase 2 (Elovl2) in the control of beta cell Ca^{2+} dynamics and connectivity

E. Georgiadou, UK

12:00 - 13:15

Langerhans Hall

HARMONY - Outcomes

Chair: S. Del Prato, Italy

A.F. Hernandez, USA:
Introduction and background

J.B. Green, USA:
Design, methods and baseline characteristics

S. Del Prato, Italy:
Effects on glycaemic and renal outcomes

J.J. McMurray, UK:
Effects on cardiovascular outcomes

C.B. Granger, USA:
Effects on safety outcomes

L.A. Leiter, Canada:
Summary and conclusions/implications

D.R. Matthews, UK:
Commentator

Poster Events

Poster presentations rank equally with oral presentations at EASD Annual Meetings. Posters must be displayed throughout the duration of the Meeting and should be already mounted in the morning of the first day and removed at the end of the EASD Meeting. The posters must be accessible at any time during the hours of the Annual Meeting. Furthermore, all posters are presented at six Poster Events which will be held on Tuesday, Wednesday and Thursday from 12:00 to 14:15.

During the Poster Presentation Sessions, the presenting author must be present or make arrangements for somebody with knowledge of the displayed work to be present at the poster. An average of four minutes will allow each author to present the poster, followed by open discussion of four minutes (depending on the number of abstracts in the postersession). Participants can collect a headset on a first come first served basis to follow the presentations within the corresponding sessions.

EASD will also make posters available via its Virtual Meeting. Participants are invited to discuss and comment on the posters using the Virtual Conference Tool.



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PS 001 Diabetes health burden	131
PS 007 Diet and lifestyle influences	138
PS 013 Diabetes across ethnicities	144
PS 019 Beta cell signal transduction	151
PS 025 Clocking in on exercise and nutrition	157
PS 031 Slimming down: with or without surgery	163
PS 037 Lipid metabolism in animal models	170
PS 043 Weight regulation and obesity in humans and rodent models	177
PS 049 Novel aspects of SGLT2 inhibitors	184
PS 055 New clues on metformin, sulfonylureas and insulin	191
PS 061 GLP1 receptor agonists: Do age and ethnicity matter?	198
PS 067 Artificial insulin delivery and insulin pump therapy	205
PS 073 Diabetes control around the world	214
PS 079 Clinical pathophysiology of insulin and hypoglycaemia	221
PS 085 Neuropathy: markers and remedies	228
PS 091 Biomarkers of nephropathy	235
PS 097 Unexpected comorbidities	242
PS 103 Diabetes from childhood to adults	248
PS 109 Dyslipidaemia and diabetes	256
PS 115 Novel diagnostic tool for NAFLD	262

13:15 - 14:15 Poster Event B	Page
PS 002 Diabetes prevalence	132
PS 008 Diabetes complications	139
PS 014 Genetics of diabetes	145
PS 020 Beta cell damage and protection	152
PS 026 Healthy diet for a healthy rodent	158
PS 032 Novel biomarkers	165
PS 038 Weight regulation and obesity in humans	171
PS 044 Are SGLT2 inhibitors effective and safe in type 1 diabetes?	178
PS 050 SGLT2 inhibitors: What do the CVOTs tell us?	185
PS 056 Metabolic effects of novel, dual and triple incretin agonists	193
PS 062 Incretin-based therapies: adherence and tolerability	199
PS 068 Faster acting insulins: state of the art	207
PS 074 Cost effectiveness in diabetes therapies	215
PS 080 Causes and consequences of hypoglycaemia	223
PS 086 Autonomic neuropathy	230
PS 092 Diabetic nephropathy: Predictions are hard to make	236
PS 098 Factors affecting cardiovascular outcome	243
PS 104 Complications and treatment	249
PS 110 Treating cardiovascular disease in diabetes	257
PS 116 Clinical aspects of NAFLD	264

14:30 - 16:00

Langerhans Hall

OP 07 New insights from clinical trials with incretin-based therapies

Chair: F. Giorgino, Italy, J.J. Meier, Germany

37 DURATION-8 randomised controlled trial 104-week results: efficacy and safety of once-weekly exenatide (ExQW) plus once-daily dapagliflozin (DAPA) vs ExQW or DAPA alone

E. Hardy, S.A. Jabbour, C. Guja, S. Bhattacharya, P.K. Öhman, J.P. Frías, USA, Romania

38 Effect and safety of oral semaglutide monotherapy in type 2 diabetes: PIONEER 1 trial

M. Haluzik, J. Rosenstock, Y. Terauchi, O. Jeppesen, E. Christiansen, C.L. Hertz, V.R. Aroda, Czech Republic, USA, Japan, Denmark

39 Common variants in the GLP-1 receptor are associated with glycaemic response to GLP-1 receptor agonists in observational and large RCT data: an IMI-DIRECT study

A.Y. Dawed, A. Mari, T.J. McDonald, N.R. Robertson, A. Mahajan, M. Walker, S. Gough, K. Zhou, I. Forgie, H. Ruetten, I. Pavo, S.G. Pillai, A.G. Jones, E.R. Pearson, for the DIRECT consortium, UK, Italy, Germany, USA

40 Potential impact of differential drop-in of open-label diabetes medications in EXSCEL

J.B. Buse, M.A. Bethel, R.A. Patel, S.R. Stevens, S.M. Gustavson, Y. Lokhnygina, A.F. Hernandez, R.R. Holman, for the EXSCEL Study Group, USA, UK

41 Near-normoglycaemia, with meaningful discontinuations of prandial insulin, by adding weekly albiglutide to uncontrolled basal/bolus insulin-treated type 2 diabetes

J. Rosenstock, A. Nino, J. Soffer, J. Mallory, L. Erskine, A. Acosta, J. Dole, M.C. Carr, P. Home, USA, UK

42 Diabetes prevention with lifestyle, linagliptin and metformin in patients with prediabetes: the PRELLIM project

R. Guardado-Mendoza, L. Jimenez-Ceja, D. Farfan, M. Alvarez-Canales, S. Salazar-Lopez, M. Montes de Oca, F. Angulo-Romero, M. Reyes-Escogido, E. Durán-Pérez, A. Aguilar-García, Mexico

OP 08 Diabetes gazing into the crystal ball

Chair: C.A. Brorsson, Denmark, C.M. Forsblom, Finland

43 Sex hormone binding globulin and development of insulin resistance: a longitudinal study

K. Ottarsdottir, A.G. Nilsson, M. Hellgren, U. Lindblad, B. Daka, Sweden

44 Broad changes in body mass index between age 10 and adulthood are associated with type 2 diabetes risk independently of adult body mass index

J. Tyrrell, H. Yaghootkar, S.E. Jones, R. Beaumont, A.R. Wood, M.A. Tuke, K.S. Ruth, R.C. Andrews, T.M. Frayling, UK

45 GWAS study on susceptibility to bacterial infections in patients with diabetes

J.R. Simonsen, A. Käräjämäki, I. Toppila, E. Ahlqvist, V. Harjutsalo, C. Forsblom, D.M. Aly, T. Tuomi, M. Lehto, L. Groop, P.-H. Groop, N. Sandholm, Finland, Sweden

46 Trial data show the proposed 5 diabetes subgroups from cluster analysis do predict drug response and diabetes progression but simple clinical measures are stronger predictors

J.M. Dennis, B.M. Shields, W.E. Henley, A.G. Jones, A.T. Hattersley, UK

47 Excess mortality and cardiovascular disease in type 1 diabetes in relation to age at disease onset: a study of 27,195 patients with diabetes

A. Rawshani, N. Sattar, S. Franzén, B. Eliasson, A.-M. Svensson, S. Gudbjörnsdottir, Sweden, UK

48 Determinants of progression of type 2 diabetes, a cross sectional analysis of UK BioBank

X. Wang, M. Lonergan, L. Donnelly, K. Zhou, E.R. Pearson, UK, Sweden

14:30 - 16:00

Koch Hall

OP 09 Pregnancy and gestational diabetes

Chair: F.P.M. Dunne, Ireland, A. Kautzky-Willer, Austria

49 Increasing prevalence of gestational diabetes according to the results of a population-based screening programme in Hungary between 2009-2017

A. Kun, E. Szabó, J. Tornoczky, Z. Kerényi, Á.G. Tabák, Hungary, UK

50 Early-onset gestational diabetes compared to late gestational diabetes: maternal characteristics and obstetrical outcomes in a French cohort of 2948 patients

A. Vambergue, A. Raynaud, A. Caron, S. Thinat, M. Cazaubiel, W. Karrouz, G. Ficheur, P. Deruelle, France

51 Pregnancy and neonatal diabetes outcomes in remote Australia: the PANDORA study

L. Maple-Brown, A. Brown, I.-L. Lee, F. Barzi, C. Connors, J.A. Boyle, E. Moore, C. Whitbread, M. Kirkwood, D. Longmore, K. O'Dea, J. Oats, H.D. McIntyre, P. Zimmet, J.E. Shaw, Australia

52 Randomised controlled trial of very tight versus less tight glycaemic targets in women with gestational diabetes: preliminary results

P. Popova, A. Tkachuck, Y. Bolotko, A. Gerasimov, E. Pustozarov, E. Vasilyeva, O. Li, I. Zazerskaya, E. Grineva, Russian Federation

53 Glyburide versus insulin for the prevention of perinatal complications of gestational diabetes: a pragmatic, non inferiority, randomised trial

F. Lorenzini, H. Affres, C. Rolland, A. Vambergue, M. Cazaubiel, H. Legardeur, P. Rosenberg, N. Bourcigaux, F. Maillot, A. Rod, I. Heron, V. Castera, S. Laboureau, F. Bretelle, M.-V. Senat, France

54 Which growth standards should be used to assess infant size in pregnancies affected by type 1 diabetes? An ancillary study from the CONCEPT clinical trial

C.L. Meek, R. Corcoy, D.S. Feig, H.R. Murphy, UK, Spain, Canada

OP 10 Where, when and hows of rapid acting insulins

Chair: T. Heise, Germany, J.J. Holst, Denmark

55 Total and severe hypoglycaemia is reduced with use of inhaled Technosphere Insulin (TI) relative to insulin aspart in type 1 diabetes

F. Pompilio, L. Blonde, S. Bruce, M. Grant, D.M. Kendall, USA

56 Structured self-management education for insulin pump therapy (INPUT): results from a randomised controlled trial

D. Ehrmann, B. Kulzer, M. Schipfer, B. Lippmann-Grob, T. Haak, N. Hermanns, Germany

57 The ultra-rapid insulin BioChaperone Lispro shows favourable pharmacodynamics and pharmacokinetics compared to faster insulin aspart and insulin aspart in insulin pumps

G. Meiffren, O. Klein, C. Seroussi, A. Ranson, J. Arrubla, J. Correia, M. Gaudier, O. Soula, R. Soula, B. Alluis, S. Glezer, T. Heise, B. Bode, France, Germany, USA

58 Long-term safety and efficacy of intraperitoneal insulin infusion from implanted pumps in a large series of patients with type 1 diabetes and initial high glucose variability

E. Renard, B. Guerci, N. Jeandidier, EVADIAC, France

59 Hypoglycaemia with mealtime fast-acting insulin aspart versus insulin aspart across two large type 1 diabetes trials

C. De Block, A. Carlson, L. Rose, T. Gondolf, A. Gorst-Rasmussen, T.W. Boesgaard, W. Lane, Belgium, USA, Germany, Denmark

60 Ultra rapid lispro (URLi) reduces postprandial glucose excursions vs lispro in patients with type 1 diabetes at multiple meal-to-dose timing intervals

L. Plum-Morschel, J.K. Leohr, R. Liu, S.R. Reddy, M.A. Dellva, S.T. Lim, M.T. Loh, M.P. Knadler, T.A. Hardy, C. Kazda, Germany, USA, Singapore, France

14:30 - 16:00

Rubner Hall

OP 11 Pain is in the brain

Chair: A.O. Stirban, Germany, S. Tesfaye, UK

61 Painful diabetic neuropathy is characterised by impaired sensory cortex and thalamic haemodynamic response to exogenous pain

M. Greig, I.D. Wilkinson, R. Gandhi, D. Selvarajah, S. Tesfaye, UK

62 Pain network functional connectivity in painful diabetic neuropathy: Resting State Functional MRI study

D. Selvarajah, I.D. Wilkinson, M. Awadh, K. Teh, S. Pallai, S. Tesfaye, UK

63 Pericyte mediated reduction in spinal cord blood flow in diabetic neuropathic pain

R.P. Hulse, M.E. Da Vitoria Lobo, D.O. Bates, UK

64 Regional brain volume reduction in diabetic peripheral neuropathy: a magnetic resonance imaging volumetry study

S. Tesfaye, S. Pallai, F. Heiberg-Gibbons, K. Teh, I.D. Wilkinson, D. Selvarajah, UK

65 Efficacy of platelet rich plasma injection in diabetic neuropathy: double blinded randomised controlled trial

W.A. Khalifa, M.M. Hassanien, A.-R. Al-awamy, H.M. Abdelhafez, Y.S. Hussien, Egypt

66 Improvement in painful diabetic neuropathy after 3 months from administration of a supplement containing SOD, ALA, B₁₂ and Carnitine

T. Didangelos, E. Karlafti, K. Tziomalos, Z. Kontoninas, C. Margaritidis, N. Krikis, A. Hatzitolios, Greece

OP 12 Beta cell identity, degeneration and type 2 diabetes

Chair: M. Cnop, Belgium, S.E. Kahn, USA

67 tRNA^{Gln} fragmentation in patient iPSC-derived beta-like cells mediates apoptosis in TRMT10A diabetes

C. Cosentino, S. Toivonen, E. Diaz Villamil, S. Demine, A. Schiavo, N. Pachera, D. Balboa, T. Otonkoski, P. Marchetti, D.L. Eizirik, M. Cnop, M. Igoillo-Esteve, Belgium, Finland, Italy

68 Role for a lncRNA at the Pax6 locus in controlling beta cell identity and function

R.M. Callingham, S. Itzkovitz, L. Farack, T.J. Pullen, G.A. Rutter, UK, Israel

69 Islet microRNA miR-183-5p is a regulator of beta cell apoptosis and dedifferentiation in NOD mouse pancreatic islet

F. Mancarella, G. Ventriglia, L. Nigi, G.E. Grieco, N. Brusco, C. Gysemans, D. Cook, C. Mathieu, G. Sebastiani, F. Dotta, Italy, Belgium

70 Metabolic insufficiency caused by cellular stresses is implicated to beta cell dedifferentiation in a mouse model of Wolfram syndrome

K. Shinoki-Amo, K. Tanabe, M. Hatanaka, H. Masutani, Y. Tanizawa, Japan

71 An islet gene expression module containing AldoB is correlated with progression of hyperglycaemia and type 2 diabetes in humans

M. Ibberson, F. Burdet, K.-P. Knoch, M. Barovic, A. Dahl, P. Marchetti, A. Schulte, M. Solimena, Switzerland, Germany, Italy

72 Beta Cell and Diabetes Platform (BCDP): a sustainable solution for IMI project data

I. Xenarios, R. Liechti, M. Gossel, M. Solimena, P. Marchetti, A.M. Schulte, C. Magnan, C. Cruciani-Guglielmacci, R. Scharfmann, O. Bernard-Poenaru, D. Madsen, B. Thorens, P. Hecht, W. Kramer, M. Ibberson, Switzerland, Germany, Italy, France, Denmark

CAMILLO GOLGI PRIZE

Camillo Golgi (1843 - 1926) was awarded the Nobel Prize in 1906 for his studies on the nervous system and kidney physiology. The EASD Camillo Golgi Prize is awarded for outstanding contributions in the field of the histopathology, pathogenesis, prevention and treatment of the complications of diabetes mellitus, which have been carried out in Europe by a member of EASD normally resident in Europe. The awardee delivers a lecture named in honour of Camillo Golgi at the EASD Annual Meeting in the year of the award.



Camillo Golgi

CAMILLO GOLGI LECTURERS:

1986	Rome	G.C. VIBERTI, UK
1987	Leipzig	D.J. EWING, UK
1988	Paris	C.E. MOGENSEN, DK
1989	Lisbon	G.B. BOLLI, IT
1990	Copenhagen	P.J. WATKINS, UK
1991	Dublin	R. OSTERBY, DK
1992	Prague	E. KOHNER, UK
1993	Istanbul	K.F. HANSSEN, NO
1994	Düsseldorf	J.E. TOOKE, UK
1995	Stockholm	R. LANDGRAF, DE
1996	Vienna	M.-R. TASKINEN, FI
1997	Helsinki	H.-H. PARVING, DK
1998	Barcelona	D.R. TOMLINSON, UK
1999	Brussels	E. STANDL, DE
2000	Jerusalem	U. DI MARIO, IT
2001	Glasgow	A. FLYVBJERG, DK
2002	Budapest	J. TUOMILEHTO, FI
2003	Paris	A. J. M. BOULTON, UK
2004	Munich	A. CERIELLO, IT
2005	Athens	C. STEHOUWER, NL
2006	Copenhagen	M. LAAKSO, FI
2007	Amsterdam	P. FIORETTO, IT
2008	Rome	A. AVOGARO, IT
2009	Vienna	P.-H. GROOP, FI
2010	Stockholm	D. ZIEGLER, DE
2011	Lisbon	A. BIERHAUS, DE
2012	Berlin	G. PUGLIESE, IT
2013	Barcelona	T. LAURITZEN, DK
2014	Vienna	S. TESFAYE, UK
2015	Stockholm	H.-P. HAMMES, DE
2016	Munich	P. ROSSING, DK
2017	Lisbon	B.M. FRIER, UK

16:15

33RD CAMILLO GOLGI LECTURE

Langerhans Hall

Chair:

**C. Mathieu, Belgium
J.R. Zierath, President, EASD and EFSD**

Speaker:

P.P. Nawroth, Germany

Title:

Diabetic complications: an alternative view on diabetes

Peter Nawroth graduated in medicine from the University of Hamburg, trained in Tübingen, New York, Oklahoma and Heidelberg. He is Professor of internal medicine and clinical chemistry at the medical faculty of the University Heidelberg, Germany. He is the division head of the joint Heidelberg-IDC-Translation Diabetes Program, Helmholtz Center Munich. From 2007 - 2011 he was the Deputy Chair of the board of Directors, University Hospital Heidelberg and from 2011 - 2012 was acting executive Medical Director.



From 2011 - 2014 he was the Council Member of the European Association for the study of diabetes and from 2013 - 2017 the Chair of the EASD study group "Reactive Metabolites in Diabetes". From 2005 - 2017 he was the Editor in Chief of ECED. In 2005 he was President of the annual meeting of the Thrombosis and Hemostasis Society of Germany and in 2007 President of the annual meeting of the German Diabetes Association. As of 2014 he has been the Speaker of the CRC 1118, reactive metabolites as a cause of diabetic complications.

Peter Nawroth's principal research interest is the pathophysiology of diabetes and its associated complications, with the particular interest in nephropathy, neuropathy and macrovascular pathology and recently the mechanisms leading to diabetic pulmonary pathology. His studies have focused on hyperglycaemia dependent and independent generation of reactive metabolites and the impaired detoxification of reactive metabolites leading to organ dysfunction. He had done so by combining experimental models, such as yeast, *C. elegans*, *drosophila* and mice, with proof of principle studies in patients with type 1 and type 2 diabetes. Peter Nawroth has published more than 200 scientific papers, review articles, book chapters and books. He is active in publishing books not only for the science community but also for the general public.

Tuesday, 2 October

ALBERT RENOLD PRIZE

The Albert Renold Prize and Lecture honours the memory of A. Renold, the distinguished diabetologist and researcher. The aim of the Lectureship is to recognise an individual's outstanding contribution to the advancement of knowledge in the field of research on the islets of Langerhans. Not only do many generations of scientists consider A. Renold their principal mentor, but he was also one of the founding fathers of EASD, serving as Honorary Secretary (1965-1969) and President (1974-1977). He trained with the eminent diabetologist, E.P. Joslin, and was the first full-time director of the Joslin Research Laboratory in the mid-1950s. In 1963, he returned to Geneva, where he founded the Institut de Biochimie Clinique. Under his leadership, it became an international centre of excellence in islet research until his death in 1988.



A. Renold
1923 - 1988

P. Langerhans Jr. was born in Berlin and entered the famous "School of the Grey Monastery" in the same city. He began medical studies at the University of Jena and completed them in Berlin. The discovery of the islets of Langerhans was published in his thesis in 1869. Later he became Professor of Pathology in Freiburg. He also gained fame due to his discovery of the Langerhans cells in the skin. In 1887, while living on the island of Madeira, progressive renal failure brought his medical activities to an end and he died of uraemia in 1888.



P. Langerhans Jr.
1847 - 1888

ALBERT RENOLD LECTURERS

2007	Amsterdam	F. ASHCROFT, UK
2008	Rome	J.-C. HENQUIN, BE
2009	Vienna	B. THORENS, CH
2010	Stockholm	S. SEINO, JP
2011	Lisbon	M. PRENTKI, CA
2012	Berlin	D.L. EIZIRIK, BE
2013	Barcelona	P. RORSMAN, UK
2014	Vienna	S.E. KAHN, US
2015	Stockholm	A. HATTERSLEY, UK
2016	Munich	M.S. GERMAN, US
2017	Lisbon	J. FERRER, UK

16:15

12TH ALBERT RENOLD LECTURE

Virchow Hall

Chair: M. Stoffel, Switzerland

Speaker: R.N. Kulkarni, USA

Title: *Epitranscriptomics (RNA methylation): a new level of regulation in islet biology and metabolism*

Rohit N. Kulkarni, M.D., Ph.D., is Professor of Medicine at Harvard Medical School, Co-Head and Senior Investigator in the Section on Islet Cell and Regenerative Biology, Associate Director of the DRC at Joslin Diabetes Center, Principal Faculty at the Harvard Stem Cell Institute in Boston, Associate Member of the Broad Institute in Cambridge, USA and currently holds the inaugural Margaret A. Congleton Endowed Chair.



After completing medical training from Bangalore Medical College and St. John's Medical College, Kulkarni received his doctoral degree from the Royal Postgraduate Medical School (University of London) under the mentorship of Sir Steve Bloom FRS followed by a Post-doctoral Fellowship in the lab of Prof. Ron Kahn MD at the Joslin Diabetes Center.

Kulkarni teaches in the BBS Program at Harvard Medical School and maintains a lab on basic and translational research. The research interests are focused on complementary areas with the long term goal of designing therapeutic strategies to enhance functional beta cell numbers to prevent and/or cure type 1 and type 2 diabetes. The Kulkarni Lab has led the field by making major contributions in understanding the significance of the insulin/IGF-1 signalling pathways in the regulation of islet biology in rodents and humans and identification of endogenous islet cell growth factors. Recently, the lab has developed an interest in regulation of RNA methylation of proteins relevant for islet biology especially in the context of insulin/IGF-1 signalling. A related research area is to derive induced pluripotent stem cells, from living human donors, used for differentiation into mature islet cells as well as cell types that are involved in complications observed in patients with type 1 or type 2 diabetes. Finally, the lab is investigating mechanisms that underlie defects that regulate glucagon secretion from alpha cells with the goal of identifying therapeutics to counter hypoglycaemia.

Tuesday, 2 October

16:15

RISING STAR SYMPOSIUM

Koch Hall

Chair:

F. Beguinot, Italy

M. Blüher, Germany

The Rising Star Symposium aims to identify promising and innovative keen researchers who are developing their research activities in Europe. Selected candidates will have the opportunity to present an overview of their past and ongoing research activities during a multidisciplinary research symposium at the EASD Annual Meeting. Four candidates have been selected.

Rising Star Awardees

2005	Athens	P.-O. CARLSSON, SE A.L. GLOYN, UK M. CNOP, BE N. MARX, DE	2013	Barcelona	A. ROSENGREN, SE J.A. POSPISILIK, DE D.J. PREISS, UK G. SUMARA, FR
2006	Copenhagen	G. DA SILVA XAVIER, UK M. FLODSTRÖM-TULLBERG, SE M. FEDERICI, IT J.J. MEIER, DE	2014	Vienna	G.H. GOOSSENS, NL H.J. HEERSPINK, NL L. PASQUALI, ES R. STIENSTRA, NL
2007	Amsterdam	T. FRAYLING, UK A. TENGHOLM, SE E.R. PEARSON, UK N. STEFAN, DE	2015	Stockholm	M. HENI, DE D. HODSON, UK R. NOGUEIRAS, ES R.A. SCOTT, UK
2008	Rome	R. MALLONE, FR P. SCHRAUWEN, NL M. BLÜHER, DE E. ZEGGINI, UK	2016	Munich	S. KOOIJMAN, NL F. D'ADDIO, IT N.K.A. SANDHOLM, FI A.G. JONES, UK
2009	Vienna	V. GAULT, UK G.P. FADINI, IT C. HERDER, DE V. LYSSENKO, SE	2017	Lisbon	G. CHRISTOFFERSSON, SE T. MEZZA, IT A.R. WOOD, UK Y. YAGHOOTKAR, UK
2010	Stockholm	P. FRANKS, SE F. KNOP, DK C. LINDGREN, UK K. BOUZAKRI, CH			
2011	Lisbon	I. PROKOPENKO, UK M. RAVIER, FR A.N.E. AKO, UK A.L. BIRKENFELD, DE			
2012	Berlin	A. BONNEFOND, FR J. BEULENS, NL L. HERRERO, ES H. SELL, DE			

Speaker: M.R. Boon, Netherlands

Title: Turning up the heat: brown adipose tissue to comBAT metabolic disease



Speaker: E. De Franco, UK

Title: The adventures of a gene detective: finding new genes causing beta cell dysfunction



Speaker: N. De Leu, Belgium

Title: Manipulating VEGF-A signalling for beta cell (re)generation and transplantation



Speaker: N.R. Gandasi, Sweden

Title: Peeking at single insulin granules to understand type 2 diabetes



18:10 EASD General Assembly

Hirsch Hall

08:30

Langerhans Hall

Update and new findings from the Restoring Insulin Secretion (RISE) Study

Chair: S.E. Kahn, USA

K.J. Nadeau, USA:

New analyses of RISE baseline measures and paediatric medication study outcomes

A.H. Xiang, USA:

Effect of metformin or gastric banding on beta cell function in prediabetes and early type 2 diabetes: background and design

T.A. Buchanan, USA:

Effect of metformin or gastric banding on beta cell function in prediabetes and early type 2 diabetes: results and interpretation

R. Taylor, UK:

Commentator

Virchow Hall

Insulin and cancer revisited

Chair: J.A. Johnson, Canada

M. Johansson, France:

Pancreatic cancer, insulin and BMI: What do Mendelian randomisation studies say?

P. Formisano, Italy:

Insulin and cancer revisited: a basic scientist perspective

T. van Staa, UK:

Exposure to glargine was not associated with an increased breast cancer risk in insulin-naïve patients

08:30

Koch Hall

EASD/JDRF Symposium: Looking into the future: developing new interventions for type 1 diabetes

Chair: C. Mathieu, Belgium; D.K. Rapp, USA

C.J. Greenbaum, USA:
Prevention trials for type 1 diabetes: the TrialNet experience and looking into the future

C. Daniel, Germany:
Defining immune mechanisms in paediatric populations with biomarkers

J.S. Skyler, USA:
Hope and hype: Where are we with type 1 diabetes?

Heubner Hall

Focus on studies using routinely accumulated clinical data

Chair: G.P. Fadini, Italy

P.D. Home, UK:
Methodology of real world studies

D. Fitchett, Canada:
Limitations

G.P. Fadini, Italy:
Future perspectives

Wednesday, 3 October

08:30

Rubner Hall

Exercise is medicine: new targets for diabetes treatment

Chair: M. Roden, Germany

B. Egan, Ireland:

The role of microRNA in managing skeletal muscle glucose and lipid metabolism in exercise and diabetes

C. Stettler, Switzerland:

Exercise and type 1 diabetes: from metabolic insight to clinical implication

D. Pesta, Germany:

Exercise therapy for type 2 diabetes: a responder/non-responder issue?

Hirsch Hall

Metabolic flexibility and dysfunctioning in disease

Chair: B.H. Goodpaster, USA

B.H. Goodpaster, USA:

Metabolic flexibility in health and disease

T. Alquier, Canada:

Gliopeptidic regulation of the melanocortin system and energy balance by endozepines

S. Luquet, France:

Brain lipid signalling and control of feeding behaviour



Wednesday, 3 October

10:15 - 11:45

Langerhans Hall

OP 13 GLP1 receptor agonists, SGLT2 inhibitors and the kidney: new lessons from large clinical trials

Chair: S. Hadjadj, France, H.J. Lambers Heerspink, Netherlands

73 Cardiovascular safety and efficacy of exenatide once-weekly in patients with moderate renal dysfunction in the EXenatide Study of Cardiovascular Event Lowering (EXSCEL)

A.F. Hernandez, M.A. Bethel, G.L. Bakris, P. Merrill, S.M. Gustavson, B.G. Katona, P. Ohman, Y. Lokhnygina, R.J. Mentz, R.R. Holman, for the EXSCEL Study Group, USA, UK

74 Liraglutide reduces major cardiovascular events in patients with chronic kidney disease: results from the LEADER trial

N. Poulter, J. Mann, V. Fonseca, O. Mosenzon, I. Raz, H. Frimer-Larsen, B. Von Scholten, T. Idorn, on behalf of the LEADER Trial Steering Committee and Investigators, UK, Germany, USA, Israel, Denmark

75 Canagliflozin and cardiovascular outcomes in patients with chronic kidney disease

V. Perkovic, B.L. Neuen, T. Ohkuma, B. Neal, D.R. Matthews, D. De Zeeuw, K.W. Mahaffey, G. Fulcher, M. Desai, Q. Li, H. Deng, N. Rosenthal, M. Jardine, G. Bakris, Australia, UK, Netherlands, USA

76 Lesser eGFR decline with dulaglutide regardless of weight changes in people with type 2 diabetes and moderate to severe chronic kidney disease (AWARD-7)

K.R. Tuttle, M.C. Lakshmanan, B. Rayner, R.S. Busch, A.G. Zimmermann, D.B. Woodward, F.T. Botros, USA, South Africa

77 Lixisenatide and renal outcomes in patients with type 2 diabetes: a post-hoc analysis of the ELIXA trial

M.H. Muskiet, H.J. Heerspink, L. Tonneijck, Y. Huang, M. Liu, A. Saremi, D.H. Van Raalte, Netherlands, USA

78 Semaglutide treatment and renal function in the SUSTAIN 6 trial

R. Silver, J. Gumprecht, T. Vilsbøll, T. Hansen, J. Pettersson, H. Vrazic, J. Wilding, USA, Poland, Denmark, UK

OP 14 The bottom line: What's the best basal insulin?

Chair: L. Czurpnyiak, Poland, S. Heller, UK

79 Superior efficacy of insulin degludec/liraglutide vs insulin glargine as add-on to sodium-glucose co-transporter-2 inhibitor in patients with type 2 diabetes: DUAL IX trial

A. Philis-Tsimikas, L.K. Billings, R. Busch, C. Morales Portillo, R. Sahay, N. Halladin, R. Gronskyte, S. Harris, USA, Spain, India, Denmark, Canada

80 Similar glycaemic control and less or comparable hypoglycaemia with insulin glargine 300 U/ml vs degludec 100 U/ml in insulin naive type 2 diabetes: the BRIGHT randomised study

A. Cheng, J. Rosenstock, R. Ritzel, Z. Bosnyak, C. Devisme, P. Stella, A.M. Cali, X. Wang, J. Frias, R. Roussel, G.B. Bolli, Canada, USA, Germany, France, Hungary, Japan, China, Italy

81 Reducing insulin degludec around regular exercise improves time spent in euglycaemia in people with type 1 diabetes: a randomised cross-over trial

O. Moser, M.L. Eckstein, A. Mueller, P. Birnbaumer, F. Aberer, G. Koehler, C. Sourij, H. Kojzar, P. Holler, H. Simi, P. Pferschy, P. Dietz, R.M. Bracken, P. Hofmann, H. Sourij, UK, Austria

82 Efficacy, safety and patient-reported outcomes (PROs) of patient-vs physician-led titration of Gla-300 in uncontrolled type 2 diabetes: the pan-European TAKE CONTROL study

E. Delgado, D. Russell-Jones, A. Dauchy, G. Dimitriadis, H.A. Frandsen, L. Popescu, A. Roborel de Climens, B. Schultes, K. Strojek, M. Bonnemaire, Spain, UK, France, Greece, Denmark, Romania, Switzerland, Poland

83 The clinical benefits of IDegLira in DUAL VII were achieved while using a simple regimen with fewer injections and dose adjustments compared with basal-bolus therapy

E.M. Miller, E. Jodar, K. Khunti, D. Sugimoto, P. Orsy, M.F. Ranthe, A. Viljoen, USA, Spain, UK, Denmark

84 CONFIRM: a comparative effectiveness study of insulin degludec and insulin glargine 300 units/ml (glargine U300) in insulin-naive patients with type 2 diabetes

J. Tibaldi, S. Haldrup, V. Sandberg, M.L. Wolden, H.W. Rodbard, USA, Denmark

10:15 - 11:45

Koch Hall

OP 15 Technological advances in the treatment of diabetes

Chair: G. Freckmann, Germany, L. Heinemann, Germany

85 THE I-HART CGM study: hypoglycaemic episodes reduced with continuous glucose monitoring compared to Flash in adults with type 1 diabetes

P. Avari, V. Moscardo, N. Jugnee, M. Reddy, N. Oliver, UK, Spain

86 First assessment of the performance of an implantable continuous glucose monitoring (CGM) system through 180 days in a primarily adolescent population with type 1 diabetes

A. Abitbol, R. Aronson, R. Rastogi, C. Mdingi, X. Chen, K.S. Tweden, Canada, USA

87 Development of a computerised, guideline based continuous glucose monitoring (CGM) directed therapy algorithm to assist physicians in the management of patients with type 2 diabetes

R.A. Vigersky, S. Guan, C. McMahon, B. Huhta, P. Agrawal, R. Buechler, P. Chung, O. Cohen, G. Hamer, J. Smith, S. Lee, R. Morawiec, L. Resurreccion, K. Saad, F. Kaufman, USA

88 Continuous glucose monitoring in healthy non-diabetic participants: a multicentre prospective study

A. Peters, Z. Li, S. DuBose, R. Beck, V. Shah, R.S. Weinstock, M. Tansey, D. Sparling, S. Woerner, F. Vendrame, R. Bergenstal, J. Sherr, J. Shine Dyer, S.E. Watson, B. Tamborlane, USA

89 Decreased time <70 mg/dl for patients previously using pumps, multiple daily injections, CGM or no CGM before using a predictive low glucose suspend system: the PROLOG study

B.A. Buckingham, Z. Li, J.E. Pinski, G.P. Forlenza, E. Cengiz, L. Ekhlaspour, M. Church, P. Wadwa, S.A. Weinzimer, W. Woodall, B.B. Dokken, V. Swanson, J. Lum, C. Kollman, R. Beck, USA

90 Closed-loop insulin delivery in suboptimally controlled type 1 diabetes: a multicentre, 12-week, randomised trial

M. Tauschmann, H. Thabit, J.M. Allen, J. Sibayan, C. Kollman, P. Cheng, M.L. Evans, D.B. Dunger, D. Elleri, R.M. Bergenstal, F. Campbell, V.N. Shah, A. Criego, L. Leelarathna, R. Hovorka, UK, USA

OP 16 Diabetes and mortality

Chair: U. Eriksson, Sweden, D.R. Matthews, UK

91 Impaired mitochondrial function of human ventricular myocardium in insulin resistance and type 2 diabetes

E. Zweck, D. Scheiber, T. Jelenik, P. Horn, S. Albermann, U. Boeken, D. Saeed, M. Kelm, M. Roden, R. Westenfeld, J. Szendroedi, Germany

92 Total mortality: the key-feature of type 2 diabetes

J. Vor dem Esche, Germany

93 Screening for diabetes and early treatment reduces mortality in peripheral arterial disease over seven years

C. Hoebaus, C.T. Herz, G. Pesau, B. Zierfuss, R. Koppensteiner, G.-H. Schernthaner, Austria

94 Effects of treatment-achieved HbA_{1c} on incidence of micro-/macrovascular complications in patients with diabetes

M. Harada, K. Fujihara, T. Osawa, M. Yamamoto, M. Kaneko, M. Ishizawa, Y. Matsubayasi, T. Yamada, N. Yamanaka, S. Hiroyasu, S. Kodama, H. Sone, Japan

95 Effect of preoperative metformin use on lactate levels in patients with type 2 diabetes undergoing coronary artery bypass graft surgery

S.K. Mishra, T. Bano, M.S. Kuchay, Y. Mehta, A. Mithal, India

96 Intermittent fasting delays the progression of cardiomyopathy in a pre-diabetic obese rat model

D. Abdurrachim, X.-Q. Teo, C.-C. Woo, J. Lalic, P.T. Lee, Singapore

10:15 - 11:45

Rubner Hall

OP 17 Exercise: running back and forth from the gym to the culture dish

Chair: D. O'Gorman, Ireland, N. Stefan, Germany

97 Effects of different types of physical activity on metabolic control in type 1 diabetic patients

I. Stotl, T. Kambic, A. Zdolsek, Slovenia

98 Combined effects of timing of exercise and high intensity exercise on plasma NEFA, glucose and insulin concentrations in type 2 diabetic and prediabetic men

P. Calders, B. Lapauw, S. Shadid, B. Celie, Belgium

99 Interleukin-6 blockade ameliorates the effect of exercise on cardiac fat in abdominally obese individuals

R. Christensen, L. Lang Lehrslov, A.-S. Wedell-Neergaard,
R. Krogh-Madsen, K. Karstoft, H. Ellingsgaard, J. Rosenmeier,
B.K. Pedersen, Denmark

100 Contraction-induced changes in mitochondrial function and insulin sensitivity of myocytes rely on the functional Ndufb6 subunit of the electron transport system complex I

T. Jelenik, S.W. Görgens, N. Krako Jakovljevic, I. Rokitta, N.M. Lalic,
J. Eckel, M. Roden, Germany, Serbia

101 Impaired exercise performance and glucose disposal in Tbc1d4-deficient mice is rescued by regular exercise training

A. Chadt, C.A. Springer, L. Toska, A. Grieb, S. Karpinski, C. De Wendt,
M. Dille, H. Backes, A. Cremer, J.C. Brüning, H. Al-Hasani, Germany

102 Roles of neutrophils and IL-1 in intramuscular immunometabolic niche for priming GLUT4 translocation during exercise

M. Kanzaki, S. Sekiai, H. Hatakeyama, C. Chaweewannakorn, K. Sasaki,
Y. Hagiwara, E. Itoi, M. Tsuchiya, Japan

OP 18 From stem cells to human pancreas development

Chair: E.J.P. De Koning, Netherlands, T. Otonkoski, Finland

103 A new dual reporter embryonic stem cell line for the purification of SOX9-positive pancreatic progenitors

O. Naujok, C. Davenport, J. Kresse, U. Diekmann, Germany

104 PKC activation promotes resolution of polyhormonality toward alpha cell fate in human pluripotent stem cell (HPSC) derived alpha cells

B. Tyrberg, Q.P. Peterson, A. Veres, J. Kenty-Ryu, M.Q. Slama, L. Chen, Q. Zhou, M.R. Brown, A. Matveyenko, M. Sörhede-Winzell, D.A. Melton, Sweden, USA

105 Endocrine cell specification and beta cell maturation require the transcriptional co-activator MED15

A.Z. Kadhim, E.E. Xu, T. Speckmann, C. Nian, R. Cullen, R. Shi, D.S. Luciani, S. Taubert, F.C. Lynn, Canada

106 GPR56 is highly expressed by pancreatic progenitor cells and it regulates beta cell development and function

O.E. Olaniru, K. Toczyska, A.-M. Cujba, P. Atanes, R. Sancho, P.M. Jones, S.J. Persaud, UK

107 Modelling congenital hyperinsulinism in patient stem cell derived beta like cells

V. Lithovius, J. Saarimäki-Vire, D. Balboa, J. Ustinov, S. Euroola, H. Grym, T. Otonkoski, Finland

108 New insights into beta cell development: a specific CNOT1 mutation impairs early pancreatic and neurological development in both humans and mice

A.T. Hattersley, R. Watson, S.E. Flanagan, S. Ellard, H. Heimberg, A. Caliebe, A. Deeb, A. Green, W.J. Weninger, E. De Franco, I. Barroso, UK, Belgium, Germany, United Arab Emirates, Austria

12:00

Langerhans Hall

UKPDS

Chair: R.R. Holman, UK

R.R. Holman, UK:
UKPDS: the first 40 years

A.M. Gray, UK:
Insights from the UKPDS outcomes model

D.R. Matthews, UK:
Putting the UKPDS into perspective

12:00 - 13:00 Poster Event C	Page
PS 003 Type 2 diabetes prediction	133
PS 009 Epigenetics and gene regulation	140
PS 015 Environment and beta cell damage	146
PS 021 Clinical and experimental immunology in type 1 diabetes	153
PS 027 Pinpointing pancreatic performance	159
PS 033 Inflammation, adipose tissue and obesity: human studies	166
PS 039 Obesity and lipid metabolism: studies in human-derived cells	172
PS 045 Microvascular effects of SGLT2 inhibitors: focus on kidneys and eyes	179
PS 051 Tackling glucose and fat with novel agents	187
PS 057 Lipids and fatty liver: What GLP1 receptor agonists can do	194
PS 063 DPP4 inhibitors: new regimens and new comparisons	201
PS 069 Approaches to insulin titration	208
PS 075 Psychosocial aspects in diabetes	217
PS 081 Sweet mothers - big babies	224
PS 087 Foot ulcers: morbidity and mortality	231
PS 093 Nephropathy: from markers to real life	237
PS 099 Don't forget!	244
PS 105 Bones and muscles	251
PS 111 Metabolism, inflammation in metabolic liver disease	258
PS 117 Treating NAFLD	265

13:15

Langerhans Hall

SGLT2 and DPP4 inhibitors: new avenues to protect the kidney

Chair: H.J. Lambers Heerspink, Netherlands

D.Z. Cherney, Canada:

SGLT2 and DPP4 inhibition: Extending from glycaemic control to kidney protection

C. Pollock, Australia:

Results of the DELIGHT trial: effects of dapagliflozin and saxagliptin on renal outcomes

M.A. Nauck, Germany:

Commentator

Q&A with all speakers

13:15 - 14:15 Poster Event D	Page
PS 004 Diabetes: therapeutic approaches	134
PS 010 Monogenic diabetes	141
PS 016 Regulation of functional beta cell mass	147
PS 022 Exercise is good for you	154
PS 028 Balancing the books: insulin delivery and clearance	160
PS 034 Animal models of type 2 diabetes and obesity	167
PS 040 Adipose tissue biology: animal studies	173
PS 046 Efficacy and safety of the SGLT2 inhibitor ertugliflozin	180
PS 052 Quality of nutrients and meals: How important are they?	188
PS 058 More on GLP1 receptor agonists and diabetes complications	195
PS 064 Incretin-based therapies: new mechanistic insights	202
PS 070 Clinical outcomes in insulin treated patients	210
PS 076 Education and patient / provider perceptions	218
PS 082 From pregnancy to breastfeeding	225
PS 088 Diabetic foot ulcers: How to prevent and how to treat	232
PS 094 Animal studies on nephropathy	238
PS 100 Brain functionalities	245
PS 106 From metabolism to vascular function	252
PS 112 Unconventional aspects of cardiovascular disease in diabetes	259
PS 118 Cancer and diabetes	266

14:30 - 16:00

Langerhans Hall

OP 19 SGLT2 inhibitors: new mechanisms and clinical evidence

Chair: F.J. Ampudia-Blasco, Spain, M. Frimodt-Moller, Denmark

109 Bioenergetics of myeloid angiogenic cells: its role in the damage induced by stearic acid and in the protective action of empagliflozin

F. Fantuzzi, V. Spigoni, G. Cinquegrani, R. Aldigeri, E. Derlindati, A. Dei Cas, R.C. Bonadonna, Italy

110 Empagliflozin reduces mortality and hospitalisation for heart failure irrespective of cardiovascular risk score at baseline

D. Fitchett, S.E. Inzucchi, C.P. Cannon, D.K. McGuire, O.E. Johansen, S. Sambeviski, U. Hehnke, J.T. George, B. Zinman, Canada, USA, Norway, Germany

111 Canagliflozin versus other antihyperglycaemic agents on the risk of below-knee amputation for patients with type 2 diabetes: a real world analysis of >700,000 US patients

P. Ryan, J.B. Buse, M. Schuemie, F. DeFalco, Z. Yuan, P. Stang, J.A. Berlin, N. Rosenthal, USA

112 The inTandem 2 study: 52-week efficacy and safety of sotagliflozin, a dual SGLT1 and SGLT2 inhibitor, as adjunct therapy to insulin in adults with type 1 diabetes

B. Cariou, T. Danne, P. Banks, M. Brandle, H. Brath, E. Franek, J.A. Kushner, P. Lapuerta, D.K. McGuire, A. Peters, S. Sangeeta, P. Strumph, France, Germany, USA, Switzerland, Austria, Poland

113 SGLT2i vs bolus insulin as add-on to stable basal insulin treatment in type 2 diabetes and risk of cardiovascular disease and mortality: a nationwide observational study

J.W. Eriksson, J. Bodegard, A. Norhammar, M. Thuresson, D. Nathanson, T. Nyström, Sweden, Norway

114 Efficacy and safety of empagliflozin-based quadruple therapy compared to insulin glargine-based therapy in poorly controlled type 2 diabetes

E. Ku, H. Jeon, T. Oh, Korea, Republic of

OP 20 Overriding mechanisms of NAFLD

Chair: A. Gastaldelli, Italy, E. Hatziagelaki, Greece

115 Role of the receptor RANK and its ligand RANKL in the development of NAFLD

F. Phan, M. Hu, I. Hainault, V. Ratzu, O. Bourron, F. Fougelle, France

116 Osteoprotegerin promotes hepatic steatosis through ERK-PPAR γ -CD36 pathway

Y. Lin, L. Li, G. Yang, China

117 NREP bridges TGF- β signalling and lipid metabolism in the epigenetic programming of NAFLD

D.F. De Jesus, K. Orime, E. Dirice, D. Kaminska, C.-H. Wang, J. Hu, V. Mannisto, A.M. Silva, Y.-H. Tseng, J. Pihlajamaki, R.N. Kulkarni, USA, Portugal, Finland

118 Role of PKD1 in the control of liver endoplasmic reticulum stress responses during non-alcoholic fatty liver disease progression

P. Rada, A. Mosquera, C. García-Monzón, T. Iglesias, Á.M. Valverde, Spain

119 Therapeutic effect of a novel long-acting GLP-1/GIP/Glucagon triple agonist (HM15211) in NASH and fibrosis animal models

J. Kim, I. Choi, J. Lee, E. Park, Y. Kim, S. Jung, S. Kim, Korea, Republic of

120 Patients with an impaired fructolysis are characterised by an increased intrahepatic triglyceride content

N. Simons, F.-G. Debray, N.C. Schaper, M.E. Kooi, E.J. Feskens, C.E. Hollak, L. Lindeboom, J.A. Bons, D.J. Lefeber, C.G. Schalkwijk, C.D. Stehouwer, D. Cassiman, M.C. Brouwers, Netherlands, Belgium

14:30 - 16:00

Koch Hall

OP 21 Predicting complications

Chair: N. Sattar, UK, B.H.R. Wolffenbuttel, Netherlands

121 Reduce the risk for repeat percutaneous coronary intervention: the importance of HbA_{1c} control in prediabetes

H. Yu, Y. Zhang, X. Liu, J. Li, China

122 The updated mean HbA_{1c} level is more strongly related to mortality compared to a single HbA_{1c} measurement: The Hoorn Diabetes Care System Cohort study

G. Nijpels, P. Elders, J. Beulens, F. Rutters, A. Van der Heijden, Netherlands

123 Trends in prevalence, incidence and mortality of type 1 and type 2 diabetes in Denmark 1996-2016

B. Carstensen, P.F. Rønn, M.E. Jørgensen, Denmark

124 Cardiovascular disease risk in OGTT-diagnosed diabetes patients with and without confirmation by HbA_{1c} values: the Whitehall II study

A.G. Tabák, E.J. Brunner, M.J. Shipley, M. Kivimäki, Hungary, UK, Finland

125 Multiplex proteomics for prediction of major cardiovascular events in type 2 diabetes

C. Nowak, A.C. Carlsson, C.J. Östgren, F.H. Nyström, M. Alam, T.R. Feldreich, J. Sundström, J.J. Carrero Roig, J. Leppert, P.O. Hedberg, A.C. Cordeiro, L. Lind, E. Ingelsson, T. Fall, J. Ärnlöv, Sweden, Brazil, USA

126 Reduced eGFR and/or increased urinary albumin excretion rate are powerful determinants of survival among insulin treated patients with type 2 diabetes in routine practice

U. Anyanwagu, R. Donnelly, I. Idris, UK

OP 22 Sweetening the endothelium

Chair: C. Schalkwijk, Netherlands, J. Skrha jr, Czech Republic

127 High glucose exposure reduces DNA demethylation of cAMP response element (CRE) region in eNOS promoter during pro-angiogenic CD34⁺ stem cell differentiation

M. Vinci, V. Vigorelli, J. Resta, S. Genovese, G. Pompilio, Italy

128 Apabetalone (RVX-208) an epigenetic modifier lowers risk of MACE in diabetes patients with CVD by affecting monocyte adhesion to endothelial cells

N.C. Wong, L. Tsujikawa, E. Kulikowski, C. Calosing, S. Wasiak, D. Gilham, C. Halliday, J.O. Johansson, M. Sweeney, Canada, USA

129 Liraglutide improves vascular dysfunction via regulating cAMP-independent PKA-SIRT1/AMPK-PGC1 α pathway in perivascular adipose tissue in obese mice

X. Sun, F. Han, N. Hou, China

130 Methylglyoxal driven endothelial dysfunction in hyperglycaemia targets protein folding, protein synthesis, glycolysis and gluconeogenesis pathways

N. Rabbani, A. Ashour, Z. Irshad, J. Larkin, M. Xue, P.J. Thornalley, UK, Saudi Arabia

131 Increased hexokinase-2-catalysed entry of glucose into glycolysis: key driver of metabolic dysfunction in endothelial cells in hyperglycaemia

P. Thornalley, Z. Irshad, M. Xue, A. Ashour, N. Rabbani, UK, Saudi Arabia

132 Comparative study in various model organisms regarding the effect of the loss of glyoxalase 1

B. Fuchs, J. Morgenstern, J. Tyedmers, E. Lodd, J. Kroll, D. Schuhmacher, M. Freichel, P. Nawroth, T. Fleming, Germany

14:30 - 16:00

Rubner Hall

OP 23 How our brain impacts on diabetes

Chair: S. Madsbad, Denmark, P. Nuutila, Finland

133 The influence of brain metabolism in insulin secretion and action assessed with FDG-PET in humans

E. Rebelos, M. Bucci, M.-J. Honka, A. Latva-Rasku, M. Laakso, K.A. Virtanen, J.C. Hannukainen, L. Nummenmaa, A. Mari, P. Iozzo, P. Nuutila, Finland, Italy

134 Hypothalamic orexin system prevents the development of non-alcoholic fatty liver disease in diet-induced obese mice

H. Tsuneki, K. Kon, S. Takata, T. Maeda, K. Otsuka, T. Wada, T. Sasaoka, Japan

135 Secretin activates brown fat and induces satiation in humans

S. Laurila, M. Lahesmaa, L. Sun, K. Braun, K. Virtanen, K. Laitinen, M. Klingenspor, L. Nummenmaa, P. Nuutila, Finland, Germany

136 Impaired brain plasticity in obesity: effects of bariatric surgery and gut hormones

G. Daniele, A. Dardano, C. Lunghi, L. Giusti, A. Ciccarone, F. Santini, G. Ceccarini, R. Bellini, C. Moretto, R. Miccoli, G. Penno, M. Morrone, S. Del Prato, Italy

137 Genetic disruption of Adipose Triglycerides Lipase (ATGL) in mediobasal hypothalamic neurons induces overweight and metabolic disturbances

R. Manceau, K. Bouyakdan, A. Fiset, D. Rodaros, G. Mitchell, S. Fulton, T. Alquier, Canada

138 Brain insulin action stimulates pancreatic insulin secretion: results from hyperglycaemic clamps

M. Heni, R. Wagner, C. Willmann, B.A. Jaghutriz, A. Vosseler, C. Kübler, A. Peter, H.-U. Häring, H. Preissl, S. Kullmann, A. Fritsche, Germany

OP 24 Beta cell signal transduction: new concepts

Chair: J.D. Johnson, Canada, S.J. Persaud, UK

139 Extended synaptotagmin-1 controls insulin secretion through diacylglycerol transport at ER-PM contact sites

B. Xie, O. Idevall-Hagren, Sweden

140 Regulation of pancreatic beta cell insulin secretion by RGS2

T. Speckmann, P.V. Sabatini, C. Nian, D.S. Luciani, F.C. Lynn, Canada

141 Evaluation of the acute metabolic effects and specificity of GPR55 agonists (Abn-CBD and AM251) on islet and enteroendocrine cell function

A.G. McCloskey, M.G. Miskelly, P.R. Flatt, A.M. McKillop, UK

142 Activation of PKD1 by autocrine ATP signalling in pancreatic beta cells

S. Khan, Canada

143 cAMP-dependent and -independent actions of GLP-1 to potentiate 1st and 2nd phase GSIS as revealed by Rp-8-Br-cAMPS-pAB - a dual antagonist of PKA and Epac activation

O. Cabrera, J. Ficorilli, K.R. Jones, O.G. Chepurny, C.A. Leech, F. Schwede, G.G. Holz, USA, Germany

144 GLP-1 analogues protect beta cells in models of Wolfram syndrome

P. Salpea, S. Toivonen, C. Cosentino, A. Musuaya, N. Pachera, P. Marchetti, C. Brown, F. Urano, D.L. Eizirik, M. Cnop, M. Igoillo-Esteve, Belgium, Italy, USA

EASD-Novo Nordisk Foundation Diabetes Prize for Excellence

EASD, in partnership with the Novo Nordisk Foundation, is again pleased to announce the “Diabetes Prize for Excellence” which was awarded for the first time in 2015.

The EASD-Novo Nordisk Foundation Diabetes Prize for Excellence is to be awarded to an internationally recognised researcher who has contributed significantly to our understanding of diabetes and/or its treatment. The Prize winner’s research may focus on prevention, treatment and/or basic research in physiological biochemistry.

The awardee will deliver a keynote lecture after the award ceremony.

The history of the Novo Nordisk Foundation commences in 1922 when August Krogh, who received the Nobel Prize for Physiology/Medicine in 1920, returned from Canada and the United States holding permission to produce insulin in the Nordic countries. In 1923, the first Foundation was formed - Nordisk Insulinlaboratorium and Nordisk Insulin Foundation which should become the forerunners for the Novo Nordisk Foundation. Today, the Novo Nordisk Foundation is an independent foundation with the vision to improve the health and welfare of people by contributing to research and development.

DIABETES PRIZE FOR EXCELLENCE LECTURER

2015	Stockholm	SIR S. O’RAHILLY, UK
2016	Munich	A. HATTERSLEY, UK
2017	Lisbon	P.E. SCHERER, USA



16:15

**4TH EASD/NOVO NORDISK FOUNDATION
DIABETES PRIZE FOR EXCELLENCE**

Langerhans Hall

Chair: J.R. Zierath, President EASD and EFSD

Speaker: G.S. Hotamisligil, USA

Title: A quarter century of immunometabolism

Gökhan Hotamisligil's research efforts focus on the molecular and genetic basis of common and complex diseases, particularly obesity and diabetes, and their complications. His research examines the identity and molecular mechanisms of adaptive response systems, especially as they relate to inflammation, metaflammation, and metabolic homeostasis in health and disease.

He is an internationally recognised leader with many seminal contributions including discoveries defined inflammatory origins of obesity and diabetes which are the pillars of the field of immunometabolism. His research group identified the role of endoplasmic reticulum as a key locus of metabolic and immunometabolic adaptation, identified key mechanisms that relate to ER's metabolic functions, such as the most recent discovery of ER-bound Nrf1 as a guardian of metabolism, and identified molecules that can target ER, some of which are in clinical trials. Hotamisligil's studies also led to the identification of new lipid and peptide hormones that regulate lipid and glucose metabolism and are being developed and tested to treat fatty liver disease and diabetes. Hotamisligil pursues interdisciplinary paths and collaborations towards development of novel preventive and therapeutic strategies against chronic metabolic diseases. These programmes have driven several drug development platforms, some currently in clinical trials. His work has resulted in >185 papers which have received >50,000 citations and resulted in multiple patents.



Hotamisligil has been recognised with many fellowships and awards during his training from the Markey and Pew Foundations, and the American Diabetes Association. He's an elected permanent member of the Turkish Academy of Sciences and the recipient of the 2004 TUBITAK Science Award. Hotamisligil's scholarly recognitions include the Outstanding Scientific Accomplishment Award of the American Diabetes Association, the Wertheimer Award of the International Association of Obesity, Science Award of the Vehbi Koç Foundation, Roy Greep Award for Outstanding Research of the Endocrine Society, and the International Danone Prize.

Wednesday, 3 October

17:30

Langerhans Hall

PIONEER Trial

Chair: D.J. Drucker, Canada

D.J. Drucker, Canada:

Frontiers of drug development: overcoming the barriers of oral peptide delivery

M.J. Davies, UK:

A GLP-1 receptor analogue in a tablet: from proof of concept of the novel semaglutide oral formulation to the PIONEER programme

V. Aroda, USA:

A first look at the clinical utility of oral semaglutide: the PIONEER-1 trial

S.C. Bain, UK:

Continuing the PIONEER journey

C.J. Bailey, UK:

Commentator

Virchow Hall

Hypoglycaemia: definition to prevention

Chair: A. Avogaro, Italy

S.R. Heller, UK:

Evolution of a standardised definition of hypoglycaemia

C. Wysham, USA:

Role of newer analogues in reducing events of hypoglycaemia

**EASD/ESC Symposium: Cardiorenal protection with SGLT2 inhibitors:
A benefit for all and also outside diabetes?**

Chair: F. Giorgino, Italy; TBA

**F. Zannad, France:
Cardiac protection**

**P. Fioretto, Italy:
Renal protection**

**Socioeconomical barriers to the prevention of diabetes-related
blindness**

Chair: M. Porta, Italy

**P.H. Scanlon, UK:
A success story: the English national screening programme for
diabetic retinopathy**

**E. Lamoureux, Singapore:
The relationship between person and areal-level socio-economic status
with the incidence and progression of diabetic retinopathy and
associated vision impairment**

17:30

Rubner Hall

Brown or beige adipose tissue: Does it matter?

Chair: E. Van Obberghen, France

U. Smith, Sweden:

BMP4 – making white and brown adipose cells beige

B. Cannon, Sweden:

UCP1 and browning

Hirsch Hall

**Michael Berger debate: Improving glucose control in type 1 diabetes:
sensors vs pumps**

Chair: A. Peters, USA

R. Hovorka, UK:

Pump

E. Toschi, USA:

Sensor



Wednesday, 3 October

8:30

Langerhans Hall

Comparative effectiveness of cardiovascular outcomes in new users of SGLT2 inhibitors (CVD-REAL)

Chair: M.A. Cavender, USA

K. Khunti, UK:

Importance of real world evidence (RWE) in the changing regulatory environment and clinical applicability

M.A. Cavender, USA:

CVD-REAL introduction to methods, primary and secondary findings

K.I. Birkeland, Norway:

The CVD-REAL regional impact

K. Khunti, UK:

Integrating CVD-REAL and CVOT

M. Kosiborod, USA:

CVD-REAL clinical implication impact and future directions

E. Ferrannini, Italy:

Commentator

8:30

Virchow Hall

EASE Programme: Empagliflozin as an adjunct to insulin in type 1 diabetes

Chair: B. Zinman, Canada

J.S. Skyler, USA:
Unmet need in type 1 diabetes

J. Rosenstock, USA:
Efficacy of empagliflozin

B.A. Perkins, Canada:
Safety profile and hypoglycaemia

L. Laffel, USA:
Translating evidence to practice

T.R. Pieber, Austria:
Commentator

Koch Hall

EASD/EASL Symposium: Diabetes and NAFLD

Chair: A. Gastaldelli, Italy; L. Castera, France

L. Castera, France:
NAFLD: How to diagnose and monitor patients

C.D.T. Byrne, UK:
Liver and extra-hepatic complications of NAFLD

H. Yki-Järvinen, Finland:
NAFLD and diabetes: Lifestyle and/or pharmacological treatment?

Thursday, 4 October

8:30

Heubner Hall

Diabetic pneumopathy – the lung: a forgotten organ

Chair: P.P. Nawroth, Germany

S. Kopf, Germany:

Diabetic pneumopathy: Does it exist?

R.B. Hubbard, UK:

Epidemiology of pulmonary fibrosis and its comorbidities

J. Oliveira, Portugal:

The impact of physical activity on pulmonary fibrosis

Rubner Hall

Genome and environment: a two-side conspiracy in the evolution towards diabetes

Chair: Y. Böttcher, Norway

B.T. Heijmans, Netherlands:

Genetic influence on the epigenome

J.H. Nadeau, USA:

Phenotypic 'noise' in metabolic systems

A. Bonnefond, France:

The genetics of type 2 diabetes at the bedside

8:30

Hirsch Hall

Pregnancy outcome and nutrition

Chair: E.R. Mathiesen, Denmark

C. Zhang, USA:

You are what your mom ate

D. Dabelea, USA:

Maternal diet during pregnancy and offspring adiposity

A. El-Osta, Australia:

Early-life nutrition, epigenetic programming and risk of metabolic disease

Thursday, 4 October

10:15 - 11:45

Langerhans Hall

OP 25 Hypoglycaemia: consequences and prevention

Chair: R.W. Holl, Germany, P.D. Home, UK

145 Severe hypoglycaemia and cardiovascular or all-cause mortality in the Korean population

S.-A. Cha, J.-S. Yun, K. Han, S.-H. Ko, Y.-B. Ahn, Korea, Republic of

146 Preserved glucose response to low-dose glucagon after exercise in insulin pump-treated individuals with type 1 diabetes: a randomised crossover study

I.I. Steineck, A. Ranjan, S. Schmidt, T.R. Clausen, J.J. Holst, K. Nørgaard, Denmark

147 The impact of hypoglycaemic stress on the connectivity of the default mode network in healthy controls

C.E. Osborne, O. O'Daly, M. Nwokolo, F.O. Zelaya, P. Choudhary, UK

148 Individualised nursing support reduces mortality in patients with type 2 diabetes following severe hypoglycaemia requiring ambulance attendance

K. Kulavarasalingam, B. Whittam, S. Cassidy, C. James, P. Baxter, S. Pearson, R.A. Ajjan, UK

149 Reduction in severe hypoglycaemia in paediatric type 1 diabetes during the first year of continuous glucose monitoring: real-world data from the DPV registry

J. Hermann, R. Holl, B. Rami-Merhar, C. Freiberg, M. Papsch, A. Thon, B. Heidtmann, K. Placzek, D. Akena, T. Kapellen, B. Schenk, J. Wolf, T. Danne, DPV initiative, Germany, Austria

150 Nasal glucagon: a viable alternative to treat insulin-induced hypoglycaemia in adults with type 1 diabetes

J. Suico, U. Hövelmann, S. Zhang, T. Shen, B. Bergman, J. Sherr, E. Zijlstra, B. Frier, L. Plum-Moerschel, USA, Germany, UK

OP 26 Diabetes: eat and heart beat

Chair: F. Bäckhed, Sweden, F. Karpe, UK

151 Effects of increased fiber and reduced red meat intake, combined with caloric restriction, on cardiometabolic risk: a randomised and controlled dietary intervention study

C. Willmann, M. Heni, K. Linder, R. Wagner, N. Stefan, J. Machann, H.-U. Häring, A. Fritsche, Germany

152 Eldecalcitol, a vitamin D analogue, for diabetes prevention in impaired glucose tolerance: DPVD study

T. Kawahara, G. Suzuki, T. Inazu, S. Mizuno, F. Kasagi, Y. Okada, Y. Tanaka, DPVD clinical study group, Japan

153 Sweetened beverage consumption is associated with autoimmune diabetes in adults only among low risk HLA genotype carriers

J.E. Löfvenborg, E. Ahlqvist, L. Alfredsson, T. Andersson, M. Dorkhan, L. Groop, A. Rosengren, T. Tuomi, A. Wolk, S. Carlsson, Sweden, Finland

154 Plant versus animal based diets and insulin resistance, prediabetes and type 2 diabetes: the Rotterdam Study

T. Voortman, M. Zuurmond, O. Franco, Z. Chen, Netherlands

155 Beneficial effects of three months exercise on plasma adipokines levels and inflammation-related gene expression in subcutaneous adipose tissue in men with prediabetes

H.L. Gulseth, S. Lee, T.M. Langlete, F. Norheim, K.I. Birkeland, C.A. Drevon, Norway

156 Gut microbiome, insulin resistance, and type 2 diabetes: a large population-based study

Z. Chen, D. Radjabzadeh, O. Franco, M. Ikram, A. Uitterlinden, R. Kraaij, T. Voortman, Netherlands

10:15 - 11:45

Koch Hall

OP 27 Liver at large

Chair: S.A. Amiel, UK, H. Kirchner, Germany

157 Insulin regulates the hypothalamic mitochondrial chaperone complex Hsp60/10 and impacts the mitochondrial stress response

K. Wardelmann, S. Blümel, M. Rath, K. Warnke, E. Alfine, B.-F. Belgardt, A. Kleinridders, Germany

158 BMP9 in the hypothalamus regulates hepatic glucose production and hepatic insulin sensitivity through the central PI3K/Akt/mTOR pathway

Q. Li, L. Li, G. Yang, China

159 Hepatocyte p110 α controls insulin signalling but is dispensable for free fatty acid and glucose sensing

M. Regnier, A. Polizzi, C. Lukowicz, S. Smati, A. Fougerat, S. Ellero-Simatos, K. Anderson, F. Lasserre, Y. Lippi, J. Bertrand-Michel, L. Stephens, N. Loiseau, C. Postic, A. Montagner, H. Guillou, France, UK

160 Longitudinal study of the pathogenesis of hepatic insulin resistance in diet-induced obese mice

C. Geißler, C. Krause, M. Kähler, I. Cascorbi, H. Kirchner, Germany

161 Leptin therapy suppresses alanine utilisation in type 1 diabetic mice independent of glutamic pyruvic transaminase

M.M. Kwon, S. Chen, R.K. Baker, P.R. Cullis, T.J. Kieffer, Canada

162 Circular dorsal ruffles and IR internalisation

M. Araujo-Correia, R. Machado de Oliveira, D.C. Barral, M. Macedo, Portugal

OP 28 Novel drug therapies: moving beyond GLP1

Chair: F.K. Knop, Denmark, C. Mathieu, Belgium

163 Effects of the novel dual GLP-1R/GCGR agonist SAR425899 on postprandial glucose metabolism in overweight/obese subjects with type 2 diabetes

B. Goebel, M. Schiavon, R. Visentin, M. Riz, C. Dalla Man, C. Cobelli, T. Klabunde, Germany, Italy

164 MEDI0382, a dual GLP-1 glucagon receptor agonist, promotes rapid glucose control and significant weight loss in patients with type 2 diabetes

V. Parker, P. Ambery, D. Robertson, M. Posch, L. Plum-Moerschel, T. Wang, M. Petrone, T. Heise, J. Meier, B. Hirshberg, UK, Germany, USA

165 Neuroprotective effects of HM15211, a novel long-acting GLP-1/GIP/glucagon triple agonist in the neurodegenerative disease models

J. Kim, S. Lee, S.-H. Lee, S. Jung, Y. Kim, I. Choi, S. Kim, Korea, Republic of

166 MEDI4166, a novel antibody-peptide fusion molecule: multiple-ascending-dose study in patients with type 2 diabetes

G. Carlson, W. Cook, L. Morrow, M. Petrone, N. White, T. Wang, P. Ambery, B. Hirshberg, M. Jain, USA, UK

167 Impact of praliciguat, a soluble guanylate cyclase stimulator, on blood pressure and metabolic parameters in patients with diabetes and hypertension

J.P. Seferovic, P. Wilson, K.E. Carlson, J. Jung, J.D. Wakefield, P. Miller, J.G. Chickering, L. Morrow, M.G. Currie, G.T. Milne, A.T. Profy, J.P. Hanrahan, USA

168 Effect of leptin replacement therapy (LRT) on survival and disease progression in generalised and partial lipodystrophy (GL, PL)

K. Cook, O. Ali, D. Gupta, D. Holmqvist, D. Lee, C. Ng, P. Bradt, R. Brown, USA

10:15 - 11:45

Rubner Hall

OP 29 Epigenetics: beyond the genes

Chair: R.R. Barrès, Denmark, J.-W. Kornfeld, Germany

169 Placental microRNA expression patterns in pregestational diabetes and identification of specific potential biomarkers

A. Ibarra, B. Vega, M. Armas, D. González, S. Perera, R. Horres, R. Valls, J.C. Wiebe, A.M. Wägner, Spain, Germany

170 Inhibition of lncRNA Lincpint expression affects insulin secretion and apoptosis in mouse pancreatic beta cells

Y. Li, Y. Zhu, Q. Yuan, China

171 Impact of type 2 diabetes-associated variants at the STARD10 locus on chromatin conformation and human beta cell function

M. Hu, P.J. Gadue, G.A. Rutter, UK, USA

172 Histone acetylation and transcriptome mapping reveals distinct glucose-regulated genomic regions mediated by histone acetyltransferase p300 in pancreatic beta cells

P. Bompada, P. Volkov, R. Andersson, M. Bysani, S. Atanur, C. Luan, J. Omella, E. Renström, Q. Zhang, M. Ridderstråle, J. Ferrer, L. Groop, Y. De Marinis, Sweden, UK

173 Role of microRNAs in the adipocyte morphology in relation to the family history of type 2 diabetes

P. Mirra, A. Desiderio, C. Nigro, M. Longo, L. Parrillo, R. Spinelli, F. Zatterale, F. Fiory, G.A. Raciti, U. Smith, F. Beguinot, Italy, Sweden

174 CRT1 variants and DNA methylation in eating behaviour and adipose tissue biology in humans

L. La Cour Poulsen, K. Rohde, M. Keller, M. Stumvoll, A. Tönjes, P. Kovacs, A. Horstmann, A. Villringer, A. Dietrich, M. Blüher, Y. Böttcher, Norway, Germany

OP 30 Retinopathy: a different look at the eyes

Chair: S. Harding, UK, R. Simó, Spain

175 Perinatal starvation increases risk for diabetic retinopathy in adulthood

O. Fedotkina, R.B. Prasad, R. Jain, L. Chervyakova, N. Khalimon, T. Svietleisha, T. Buldenko, I. Artner, V. Kravchenko, A.M. Zhydenko, A. Vaiserman, M. Khalangot, P.M. Nilsson, V. Lyssenko, Norway, Sweden, Ukraine

176 Starvation induced changes in transcriptome of retinal cultures

T. Özgümüş, A. Fedotkina, M. Keindl, I. Artner, R. Jain, V. Lyssenko, Norway, Sweden

177 NSE, a novel biomarker, is elevated as an indicator of diabetic retinopathy including macular oedema

J. Li, M. Yan, Y. Zhang, M. Xie, China

178 Improving diabetic retinopathy screening using deep learning

J.C. Mellor, A. Ochs, H.M. Colhoun, P. McKeigue, UK

179 Association between diabetic retinopathy and Parkinson's disease: the Korean national health insurance service database

E. Koh, S. Lee, J. Jang, C. Woo, K.-U. Lee, Korea, Republic of

180 Proteomic analysis of retinas from patients with type 2 diabetes reveals mediators of neurodegenerative diseases

O. Simo-Servat, C. Hernández, J. Sundstrom, S. Weber, Y. Zhao, M. Dunklebarger, N. Tiberti, T. Laremore, M. Garcia-Ramirez, A. Barber, T. Gardner, R. Simó, Spain, USA, Australia

12:00

Langerhans Hall

Diabetologia Symposium: Diabetes and microbiota: Close to a missing link, or ordure up to the ankles?

Chair: S.M. Marshall, UK

J. Raes, Belgium:

Human gut microbiota in health and disease: Where are we and where to go?

J.T. Bell, UK:

The role of the gut microbiota in human type 2 diabetes: insights from multi-omic studies

Virchow Hall

Single and combined stimulation of GIP and GLP-1 receptors in the treatment of type 2 diabetes

Chair: M.A. Nauck, Germany

D.A. D'Alessio, USA:

Incretin interactions: beta cell sensitivity to GIP and GLP-1

J.P. Frias, USA:

Efficacy and safety of LY3298176, a GIP/GLP-1 receptor co-agonist, in subjects with type 2 diabetes: a phase 2b study

M.H. Tschöp, Germany:

Commentary and panel discussion: Advantages of combined stimulation of GLP-1 and GIP receptors in type 2 diabetes?

12:00

Hirsch Hall

Self-eating: good or bad?

Chair: R. Ricci, France

R. Ricci, France:

Insulin secretory granules control autophagy in pancreatic beta cells

G.S. Hotamisligil, USA:

Defective autophagy in obesity promotes ER stress and causes insulin-resistance

H. Watada, Japan:

Autophagy in islet homeostasis and increase of beta cell mass in response to high-fat diet

Thursday, 4 October

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PS 017 Insulin secretion	148
PS 023 In gut we trust	155
PS 029 Visit to the diabetes zoo: novel animal models	161
PS 035 Inflammation in type 2 diabetes: human studies	168
PS 041 Lipid metabolism in humans and in cell models	174
PS 047 SGLT2 inhibitors around the world: evidence from clinical trials and registries	181
PS 053 Dietary supplements: Which is best?	189
PS 059 On the efficacy of GLP1 receptor agonists	196
PS 065 Beta cell function and response to incretin-based therapies	203
PS 071 Combination therapy with ultra-long-acting insulin	211
PS 077 Therapeutic adherence and satisfaction	219
PS 083 Diabetic pregnancy: experimental work	226
PS 089 The impact of retinopathy	233
PS 095 Diabetic nephropathy: on the bench	239
PS 101 Understanding vascular complications	246
PS 107 Big vessels	253
PS 113 Epidemiology of cardiovascular disease and diabetes	260

Glycaemic analyses from the CAMELLIA-TIMI 61 trial

Chair: E. Bohula May, USA

D.K. McGuire, USA:

Obesity and pharmacologic weight-loss

E. Bohula May, USA:

Primary results from the CAMELLIA-TIMI 61 Study: the cardiovascular safety and efficacy of lorcaserin in obese and overweight patients

B.M. Scirica, USA:

Primary results from the CAMELLIA-TIMI 61 Study: the metabolic effects of lorcaserin in obese and overweight patients

N. Sattar, UK:

Commentator

13:15 - 14:15 Poster Event F	Page
PS 006 Diabetes progression	137
PS 012 Diabetes mortality	143
PS 018 Pathogenesis and treatment of type 1 diabetes	149
PS 024 Following the signal inside muscle or fat	156
PS 030 Keeping it in the family: glucagon, GIP, GLP1, GLP2	162
PS 036 Inflammation in obesity and type 2 diabetes: mouse studies	169
PS 042 Adipose tissue biology in humans	176
PS 048 Glycaemic and metabolic effects of SGLT2 inhibitors	183
PS 054 All what you need to know for a healthy diet	190
PS 060 GLP1 receptor agonists: How good are they in real practice?	197
PS 066 Multiple facets of continuous glucose monitoring	204
PS 072 Clinical and patient reported outcomes	212
PS 078 Hypoglycaemia rates with basal insulin	220
PS 084 Neuropathy: prevalence and clinical impact	227
PS 090 Retinopathy: there is more than hits the eye	234
PS 096 Of drugs and kidneys	240
PS 102 The pump and the barrier	247
PS 108 Adverse cardiovascular disease events	254
PS 114 Vascular complications	261

OP 31 Nephropathy: bedside and back to bench

Chair: P.-H. Groop, Finland, G. Gruden, Italy

181 Trajectories of estimated GFR in patients with and without albuminuria

M.E. Jørgensen, D. Vistisen, G.S. Andersen, A. Hulman, F. Persson, P. Rossing, Denmark

182 Chronic kidney disease and risk of mortality, cardiovascular events and severe hypoglycaemia in type 2 diabetes: DEVOTE results

A. Amod, S.S. Emerson, S.P. Marso, D.K. McGuire, T.R. Pieber, R. Pop-Busui, R.E. Pratley, B. Zinman, M.V. Hansen, T. Jia, T. Mark, N.R. Poulter, on behalf of the DEVOTE Study Group, South Africa, USA, Austria, Canada, Denmark, UK

183 AVP gene variants, plasma copeptin and nephropathy in type 2 diabetes

G. Velho, L. Potier, K. Mohammedi, F. Fumeron, S. Hadjadj, M. Marre, R. Roussel, France

184 Cytosine methylation sequencing predicts the development of diabetic complications

I. Khurana, M. Ziemann, A. Kaspi, A.M. Syreeni, C. Forsblom, R. Ma, J.C. Chan, M.E. Cooper, P.-H. Groop, A. El-Osta, Australia, Finland, Hong Kong

185 Whole genome sequencing of individuals with type 1 diabetes reveals novel susceptibility loci for diabetic nephropathy

J. Haukka, N. Sandholm, E. Valo, M. Parkkonen, V. Harjutsalo, C. Forsblom, P.-H. Groop, Finland

186 Cooperative regulation of insulin signalling genes by DNA methylation in human podocytes

A. Jørgensen, I. Khurana, A. El-Osta, Australia, Denmark

14:30 - 16:00

Virchow Hall

OP 32 Beta cells stick together to fight insulin resistance

Chair: P. Marchetti, Italy, A. Tengholm, Sweden

187 Determinants and pathological role of insulin hypersecretion in non-diabetic adults and adolescents

D. Tricò, A. Natali, S. Arslanian, A. Mari, E. Ferrannini, Italy, USA

188 Quantifying beta cell mass non-invasively with PET probe:

¹⁸Fluorine-labelled Exendin4

N. Fujita, H. Fujimoto, K. Hamamatsu, T. Murakami, H. Kimura, K. Toyoda, H. Saji, N. Inagaki, Japan

189 Glucose homeostasis, insulin secretion and beta cell transcriptomics of mice with beta cell specific insulin resistance

S. Skovsø, D.A. Dionne, E. Panzhinskiy, H. Modi, J. Kolic, P. Overby, D. Hutchinson, S. Marcil, X. Hu, H.L. Noh, S. Suk, S. Flibotte, L.C. Alonso, J.K. Kim, J.D. Johnson, Canada, USA

190 FGF family members may represent novel drivers of beta cell dedifferentiation in type 2 diabetes

S. Knight, N. Mullooly, B.J. Isherwood, L. Holmberg-Schiavone, C. Wennberg-Huldt, G. O'Mahony, S. Gopel, UK, Sweden

191 Hyperglycaemia adversely affects mitochondrial function in pancreatic islets

E. Haythorne, A.I. Tarasov, F.M. Ashcroft, UK

192 The liver-alpha-cell axis during weight loss in type 2 diabetes

J. Otten, A. Stomby, M. Waling, E. Chorell, M. Ryberg, M. Svensson, J.J. Holst, T. Olsson, Sweden

OP 33 Dietary patterns and metabolic regulation

Chair: J.J. Nolan, Ireland, A. Rivellese, Italy

193 Integration of half-day carbohydrate restriction into a hypocaloric Mediterranean-type diet in overweight and obese subjects: an open label, randomised, controlled trial

D. Tsilingiris, D. Dellis, I. Eleftheriadou, A. Tentolouris, M. Karanasiou, A. Meimari, G. Dellis, C. Dimosthenopoulos, S. Lazarou, A. Kokkinos, P.P. Sfikakis, N. Tentolouris, Greece

194 Three meals diet with high energy breakfast is an effective strategy for weight loss, reduction of glucose variability and of total daily insulin dose in type 2 diabetes

D. Jakubowicz, O. Froy, S. Tsameret, J. Wainstein, I. Raz, M. Menaged, Y. Bar-Dayan, N. Mor, T. Ganz, Z. Landau, Israel

195 The incretin effect of essential amino acids (EAA) in youth and ageing

H. Abdulla, J.J. Bass, T. Stokes, S.H. Gorissen, S.M. Phillips, B.E. Phillips, K. Smith, I. Idris, P.J. Atherton, UK, Canada

196 Long-term effects of weight loss on muscle strength and bone mineral density in adults with overweight or obesity: a PREVIEW sub-study

R.V. Seimon, S. McClintock, J. Dodds, R. Muirhead, S. Brodie, J. Zibellini, A. Das, A.L. Wild-Taylor, J. Honeywood, M. Fogelholm, A. Raben, J. Brand-Miller, A. Sainsbury, Australia, Finland, Denmark

197 High dietary glycaemic load is associated with increased levels of plasma and urinary methylglyoxal hydroimidazolones (MG-H1) in type 2 diabetes: the CODAM study

K. Maasen, M.M. Van Greevenbroek, C.J. Van der Kallen, C.D. Stehouwer, C.G. Schalkwijk, Netherlands

198 Effects of the bitter taste receptor agonist, denatonium benzoate, on postprandial glycaemia, gastric emptying and energy intake in type 2 diabetes

C. Xie, X. Wang, M.J. Bound, J. Grivell, R.L. Young, K.L. Jones, M. Horowitz, C.K. Rayner, T. Wu, Australia

14:30 - 16:00

Heubner Hall

OP 34 Novelty in adipose tissue biology and lipid metabolism

Chair: P. Formisano, Italy, M. Rydén, Sweden

199 Chronic hyperadiponectinaemia ameliorates bone quality in aged mice by promoting osteogenesis rather than inhibiting bone resorption

S. Otabe, Y. Xiaohong, T. Ohki, T. Hashinaga, N. Wada, H. Nakayama, N. Tohgi, M. Nomura, K. Yamada, Japan

200 The dual PPAR α / γ -agonist tesaglitazar robustly induces browning of white fat in vitro and in vivo

T. Kroon, M. Harms, D. Nilsson, A. Lindblom, P. Gennemark, G. O'Mahony, V. Osinski, C. MacNamara, J. Boucher, Sweden, USA

201 AAV-mediated overexpression of BMP7 induces white adipose tissue adipogenesis and reverses insulin resistance

E. Casana, V. Jimenez, V. Sacristan, S. Muñoz, C. Jambrina, J. Rodo, S. Darriba, C. Mallo, M. Garcia, X. Leon, I. Grass, S. Franckhauser, F. Bosch, Spain

202 PCSK9 deficiency results in altered insulin secretion and glucose intolerance: the role of the LDL receptor

G. Norata, L. Da Dalt, M. Ruscica, C. Perego, A. Catapano, Italy

203 Newly discovered regulator of lipid metabolism: pyruvate dehydrogenase kinase 1

C.L. Leung, S. Karunakaran, B.X. Hu, J. Dong, L. Tang, S. Wei, Z. Rajwani, J.D. Johnson, S.M. Clee, Canada

204 Evaluation of changes in serum lipid intermediate oxidation products in the progress of type 2 diabetes development

M. Ciborowski, J. Godzien, J. Siroka, F. Traldi, M. Gorska, C. Barbas, A. Kretowski, Poland, Spain, Czech Republic

OP 35 Genetics of diabetes across the life course

Chair: A. Bonnefond, France, M. Walker, UK

205 Physical activity and the risk of LADA, results from a Swedish case-control study and the Norwegian HUNT Study

R. Hjort, E. Ahlqvist, L. Alfredsson, V. Grill, L. Groop, A. Rosengren, T. Tuomi, B.O. Åsvold, S. Carlsson, Sweden, Norway, Finland

206 Genetic discrimination between LADA and type 1 diabetes within the MHC

R. Mishra, J.P. Bradfield, D.L. Cousminer, A. Chesi, K.M. Hodge, H. Hakonarson, BMDCS, D. Mauricio, N.C. Schloot, K.B. Yderstræde, B.F. Voight, S. Schwartz, B.O. Boehm, R.D. Leslie, S.F. Grant, USA, Spain, Germany, Denmark, UK

207 Development and validation of a clinical prediction model to identify adult patients (aged 18 - 50) with type 1 diabetes requiring early insulin therapy

A.L. Grubb, K. Patel, R.A. Oram, A.V. Hill, C. Angwin, T.J. McDonald, M.N. Weedon, A.T. Hattersley, K.R. Owen, B.M. Shields, A.G. Jones, UK

208 Genetic determinants of type 1 diabetes

A. Spiliopoulou, S.J. McGurnaghan, C.N. Palmer, P.M. McKeigue, H.M. Colhoun, on behalf of the SDRNT1BIO Investigators, UK

209 Antibodies to oxidised insulin improve prediction of type 1 diabetes in children with positive standard islet-autoantibodies

R. Strollo, C. Vinci, N. Napoli, E. Fioriti, E. Maddaloni, L. Åkerman, R. Casas, P. Pozzilli, J. Ludvigsson, A. Nissim, Italy, UK, Sweden

210 Mutations in YIPF5 are a novel cause of neonatal diabetes, highlighting the critical role of endoplasmic reticulum-to-Golgi trafficking in human beta cell survival

E. De Franco, M. Lytrivi, K. Patel, M. Igoillo-Esteve, M. Wakeling, B. Haliloglu, E. Unal, T. Godbole, M. Yildiz, S. Ellard, M. Cnop, A.T. Hattersley, UK, Belgium, Turkey, India

14:30 - 16:00

Hirsch Hall

OP 36 Muscling up on diabetes

Chair: K. Bouzakri, France, C. Miele, Italy

211 Functional state of muscle mitochondria reflects exercise-induced changes in insulin sensitivity and cognitive performance in elderly

J. Ukropec, M. Nemec, D. Maderova, V. Tirpakova, P. Krumpolec, L. Slobodova, M. Vajda, M. Schon, J. Cvecka, Z. Sumbalova, M. Sedliak, B. Ukropcova, Slovakia, Austria

212 Local-tissue hyperinsulinaemia is a greater risk factor for insulin resistance than hyperglycaemia in type 1 diabetes and MODY2

J.M. Gregory, T.J. Smith, N.N. Abumrad, A.D. Cherrington, USA

213 AAV-mediated FGF21 overexpression in skeletal muscle expands healthspan and counteracts insulin resistance

V. Sacristan Fraile, C. Jambrina, E. Casana, S. Muñoz, J. Rodo, S. Darriba, M. Garcia, X. Leon, I. Grass, V. Jimenez, F. Bosch, Spain

214 Insulin and muscle contraction regulate TBC1D1 through phosphorylation and interaction with the cytosolic tail of insulin-regulated aminopeptidase

S. Mafakheri, R.R. Flörke, S. Kanngießner, S. Hartwig, T. Schönberger, N. Hamker, S. Lehr, A. Chadt, H. Al-Hasani, Germany

215 Diabetes modulates microRNAs 29b-3p, 29c-3p, 199a-5p and 532-3p expression in muscle: potential participation in GLUT4 repression

J. Esteves, C.Y. Yonamine, F. Gerlinger-Romero, D.C. Pinto-Junior, F.J. Enguita, U.F. Machado, Brazil, Australia, Portugal

216 Human skeletal muscle mitochondrial dynamics in relation to insulin sensitivity and oxidative capacity

A. Houzelle, J.A. Jörgensen, G. Schaart, S. Daemen, E. Phielix, M.K. Hesselink, P. Schrauwen, J. Hoeks, Netherlands



Thursday, 4 October

MINKOWSKI PRIZE

The prize will be given in relation to research which has been carried out by a person normally residing in Europe.

It is awarded for distinction, manifested by publications which contribute to the advancement of knowledge in the field of diabetes mellitus.

The prize commemorates Oskar Minkowski (1858-1931) who successfully performed the extirpation of the pancreas in dogs in 1889 and noticed that they developed diabetes.



O. Minkowski

MINKOWSKI LECTURERS

1966	Aarhus	P.J. PELTONEN-PALOTIE, UK	1992	Prague	E. VAN SCHAFTINGEN, BE
1967	Stockholm	E.R. FROESCH, CH	1993	Istanbul	H. YKI-JÄRVINEN, FI
1968	Louvain	L.A. CARLSON, SE	1994	Düsseldorf	T. MANDRUP POULSEN, DK
1969	Montpellier	B. HELLMAN, SE	1995	Stockholm	J. TODD, UK
1970	Warsaw	B. JEANRENAUD, CH	1996	Vienna	P. RORSMAN, DK
1971	Southampton	C.N. HALES, UK	1997	Helsinki	P. FROGUEL, FR
1972	Madrid	W.J. MALAISSE, BE	1998	Barcelona	J.H. AUWERX, FR
1973	Brussels	L. ORCI, CH	1999	Brussels	R. SCHARFMANN, FR
1974	Jerusalem	E. CERASI, SE	2000	Jerusalem	H. EDLUND, SE
1975	Munich	P. FREYCHET, FR	2001	Glasgow	J.R. ZIERATH, SE
1976	Helsinki	K.D. HEPP, DE	2002	Budapest	B.O. ROEP, NL
1977	Geneva	J. WAHREN, SE	2003	Paris	M. STUMVOLL, DE
1978	Zagreb	J. NERUP, DK	2004	Munich	G.A. RUTTER, UK
1979	Vienna	S.J.H. ASHCROFT, UK	2005	Athens	P. ROSSING, DK
1980	Athens	I.-B. TALJEDAL, SE	2006	Copenhagen	M. RODEN, AT
1981	Amsterdam	P. DE MEYTS, BE	2007	Amsterdam	M. STOFFEL, CH
1982	Budapest	G.F. BOTTAZZO, UK	2008	Rome	J.C. BRÜNING, DE
1983	Oslo	S.L. HOWELL, UK	2009	Vienna	G. PERSEGHIN, IT
1984	London	A. LERNMARK, DK	2010	Stockholm	F. GRIBBLE, UK
1985	Madrid	E. VAN OBBERGHEN, FR	2011	Lisbon	N. SATTAR, UK
1986	Rome	D. PIPELEERS, BE	2012	Berlin	T.M. FRAYLING, UK
1987	Leipzig	J.-L. CARPENTIER, CH	2013	Barcelona	M. CNOP, BE
1988	Paris	J.C. HUTTON, UK	2014	Vienna	A.L. GLOYN, UK
1989	Lisbon	H.U. HÄRING, DE	2015	Stockholm	M. BLÜHER, DE
1990	Copenhagen	P. A. HALBAN, CH	2016	Munich	P. SCHRAUWEN, NL
1991	Dublin	C. BOITARD, FR	2017	Lisbon	E.R. PEARSON, UK

16:15

INDUCTION OF HONORARY MEMBERS

Langerhans Hall

**J.R. Zierath, President EASD and EFSD
followed by**

53RD MINKOWSKI LECTURE

Chair: J.R. Zierath, President EASD and EFSD

Speaker: F. Bäckhed, Sweden

**Title: The gut microbiota – a forgotten organ – that
contributes to glucose metabolism**

Fredrik Bäckhed combines clinical oriented research with gnotobiotic mouse models to address the role of the normal gut microbiota in metabolic diseases, especially type 2 diabetes. Fredrik Bäckhed holds a PhD from Karolinska Institutet, Sweden in 2002 and performed his postdoctoral training at Washington University, St Louis where he identified the gut microbiota as an environmental factor that regulates adiposity and obesity. Bäckhed is professor at University of Gothenburg, Director of the Wallenberg Laboratory (www.wlab.gu.se) for cardiovascular and metabolic research. He is also appointed Professor at University of Copenhagen and has been guest Professor at University of Oslo.



Bäckhed has co-authored >130 research papers in international peer-reviewed journals, many of which are in high- impact journals such as Nature, Science, Cell, and Proceedings of National Academy of Sciences. Bäckhed has received several prestigious awards: Chorafas Prize (2003), Ingvar Carlsson Award (2006), Dr Eric K Fernström Foundation's Prize to Young Swedish Scientists (2010), the DPLU/LUDC Nordic Prize for an Outstanding Young Diabetes Investigator (2010) Prince Daniel's award for a young promising researcher (Swedish Heart Lung Foundation; 2013), the DuPont Young Professor Award (2013), and Göran Gustafsson's Prize in Medicine (2014). He has been elected to the Young Academy of Sweden (2011), The Royal Swedish Academy of Engineering Sciences (2015), The Royal Swedish Academy of Sciences (2018), and received an ERC consolidator award (2013). He was recently appointed Torsten Söderberg Professor in Medicine.

17:15

Langerhans Hall

Cardiovascular and Renal Microvascular Outcome Study with Linagliptin in Patients with Type 2 Diabetes Mellitus (CARMELINA)

Chair: J. Rosenstock, USA

R.D. Toto, USA:
Study design and statistical plan

S.E. Kahn, USA:
Baseline characteristics and metabolic outcomes

D.K. McGuire, USA:
Cardiovascular outcomes

V. Perkovic, Australia:
Renal outcomes

M.E. Cooper, Australia:
Hypoglycaemia and safety

B. Zinman, Canada:
Summary, conclusions, clinical perspectives and implications for practice

P.D. Home, UK:
Commentator

Virchow Hall

New approaches to diabetes risk in urban areas

Chair: A.D. Napier, UK

A.D. Napier, UK:
A novel toolkit for action research on urban diabetes

S. Nielsen, Denmark:
Bending the curve on urban diabetes: the role of public private partnerships

17:15

Koch Hall

Impact of metabolic abnormalities on diabetic kidney

Chair: P.-H. Groop, Finland

D. Koya, Japan:

Regulating autophagy as a therapeutic target for diabetes nephropathy

K. Sharma, UK:

A metabolite genome-wide association study (GWAS) approach to unveil chronic kidney disease progression

Heubner Hall

Ageing, obesity and diabetes: molecular connections and clinical implications

Chair: F. Beguinot, Italy

P. Zimmet, Australia:

Diabetes, obesity and ageing: drivers of one of the largest epidemics in human history

TBA:

Cellular senescence and age-associated disorders

Thursday, 4 October

17:15

Rubner Hall

Diabetic peripheral and somatic neuropathies: an update

Chair: R. Pop-Busui, USA

R.A. Malik, Qatar:

Somatic diabetic neuropathy: management of painful neuropathic symptoms

R. Pop-Busui, USA:

A 21st century approach to diabetic autonomic neuropathies

Hirsch Hall

Non coding RNAs in metabolic diseases

Chair: B.T. Heijmans, Netherlands

J.-W. Kornfeld, Germany:

Long non-coding RNAs in adipose tissue plasticity and metabolic disease

M. Rassoulzadegan, France:

Implication of small RNAs in epigenetic inheritance

**Management of hyperglycaemia in type 2 diabetes: ADA-EASD
Consensus Report 2018**

M.J. Davies, UK:

Introduction, overview and summary of the review process

J.E. Fradkin, USA; A. Tsapas, Greece:

The rationale and importance of antihyperglycaemic treatment

P. Rossing, DK:

**Personalised approach based on patient characteristics and
comorbidities**

W.N. Kernan, USA; G. Mingrone, Italy:

**Therapeutic options: lifestyle management and pharmacologic
treatment**

D.A. D'Alessio, USA; C. Mathieu, Belgium:

Strategies for implementing antihyperglycaemic treatment plan

J.B. Buse, USA:

Key knowledge gaps

D.R. Matthews, UK; W.T. Cefalu, USA:

Summary and implications from the EASD/ADA perspective

08:30

Virchow Hall

The Lancet Commission on Diabetes: practical strategies to conquer diabetes

Chair: N.J. Wareham, UK; S. Kleinert, UK

J.C.N. Chan, Hong Kong:

Integrated team-based detection, prevention and treatment with access to drugs and education for short term impact

B. Oldenburg, Australia:

Societal policies in line with WHO-noncommunicable diseases (NCDs) control framework and UN-sustainable development goals (SDGs) with examples from low and/or middle income countries (LMIC) for long-term impact

E.W. Gregg, USA:

How to prioritise diabetes prevention and control strategies in high, middle and low income countries

C. Varghese, Switzerland:

Commentator

08:30

Koch Hall

Digital diabetes health: from now to the future

Chair: D. Kerr, USA

R. Bellazzi, Italy:

Data mining to improve diabetes outcomes

D.C. Klonoff, USA:

Use of digital health to increase adherence to treatments

Heubner Hall

Deconvoluting big data: seeing the trees in the forest

Chair: A. Krook, Sweden

A. Rosengren, Sweden:

From big data to clinical application

E.R. Pearson, UK:

Big data, genomics and stratification in diabetes

Friday, 5 October

08:30

Rubner Hall

Saturated fat and cardiometabolic risk

Chair: M.B. Schulze, Germany

F.B. Hu, USA:

Saturated fat and cardiometabolic diseases: evidence from and pitfalls of observational studies

U. Risérus, Sweden:

Saturated fat and cardiometabolic risk factors: What do feeding trials tell us?

Hirsch Hall

Rodent and human beta cell proliferation

Chair: R. Scharfmann, France

G.A. Rutter, UK:

Proliferation and differentiation as determinants of functional beta cell mass

J.A. Kushner, USA:

Proliferation is not the way to increase beta cell mass

OP 37 Adipose tissue: I have you under my skin

Chair: M. Ouwens, Germany, J.-F. Tanti, France

217 Targeting adipose tissue glyoxalase system with GLP-1 to improve capillarisation and insulin sensitivity

P. Matafome, T. Rodrigues, P. Borges, C. Carrêlo, L. Mar, H. Eickhoff, B. Almeida, D. Marques, S. Pires, M. Abrantes, B. Martins, C. Uriarte, P. Gomes, S. Silva, R. Seïça, Portugal

218 Abdominal subcutaneous adipose tissue gene expression in relation to tissue-specific insulin resistance in human obesity

B.W. Van der Kolk, M. Kalafati, M. Adriaens, M.M. Van Greevenbroek, W.H. Saris, C.J. Van der Kallen, C.D. Stehouwer, G.H. Goossens, I.C. Arts, J.W. Jocken, C.T. Evelo, E.E. Blaak, the CODAM study, the Maastricht Study, the DiOGenes consortium, Netherlands

219 New insights in adipose tissue dysfunctions in diabetic obese patients: a new PPAR γ truncated isoform mimicking PPARG dominant negative mutations

M. Aprile, S. Cataldi, M. Blüher, A. Ciccodicola, V. Costa, Italy, Germany

220 Elevated plasma proneurotensin levels predict NAFLD and visceral adipose tissue inflammation in adults with and without type 2 diabetes

I. Barchetta, F.A. Cimini, F. Leonetti, D. Capoccia, L. Bertocchini, V. Ceccarelli, G. Silecchia, M. Orho-Melander, O. Melander, M.G. Cavallo, Italy, Sweden

09:45 - 10:45

Virchow Hall

OP 38 Novel actions of metformin and pioglitazone

Chair: A. Giaccari, Italy, K. Khunti, UK

221 Metformin attenuates the fall in postprandial blood pressure and slows gastric emptying in type 2 diabetes

M.J. Borg, C.K. Rayner, M. Horowitz, K.L. Jones, T. Wu, Australia

222 Comparative effects of proximal and distal small intestinal administration of metformin on plasma glucose and GLP-1, and gastric emptying after oral glucose in type 2 diabetes

T. Wu, M. Borg, K.L. Jones, M. Horowitz, C.K. Rayner, Australia

223 Pioglitazone treatment reverts diabetes-related abnormalities in mitochondrial proteomic profile of skeletal muscle

T.V. Fiorentino, A. Monroy, S. Kamath, C. Carroll, K. Hakala, R. Sotero, G. Daniele, M. Abdul-Ghani, M.L. Hribal, D. Tripathy, G. Sesti, R.A. DeFronzo, F. Folli, Italy, USA

224 Comparison of ipragliflozin and metformin for bone density and muscle in type 2 diabetes: a prospective, blinded-endpoint, randomised controlled study

K. Ishikawa, M. Koshizaka, R. Ishibashi, K. Sakamoto, A. Kobayashi, H. Yokoh, M. Shoji, S. Ide, K. Ide, Y. Baba, T. Ishikawa, Y. Maezawa, T. Horikoshi, K. Yokote, Japan

OP 39 Understanding diabetes through registry data

Chair: J.R. Petrie, UK, A.-M. Svensson, Sweden

225 Distinct trajectory patterns of HbA_{1c} in adults with type 2 diabetes: a longitudinal group-based modelling approach based on the DPV registry

K. Laubner, A. Schwandt, W. Rathmann, O. Kuss, F. Best, S. Ebner, M. Paulmann, R.W. Holl, DPV initiative and the DZD, Germany, Austria

226 Costs of prevalent and incident cardiovascular disease in patients with type 2 diabetes in Scotland using routinely collected data

P. McMeekin, C. Geue, O. Wu, E. Mocevic, C. Stentoft Hoxer, A. Ochs, S. McGurnaghan, H. Colhoun, Scottish Diabetes Research Network Epidemiology Subgroup, UK, Denmark

227 2016/17 national diabetes audit: certain newer to market agents impact positively on glycaemic control at a population level

A. Heald, A. Fryer, S.G. Anderson, S. Farman, M. Livingston, M. Davies, G. Moreno, R. Gadsby, M. Stedman, UK, Mexico

228 Are neighbourhood factors associated with diabetes progression in prediabetes patients? Using census data to predict patient-centered health outcomes

J.A. Schmittdiel, W. Dyer, C. Marshall, R. Bivins, USA, UK

09:45 - 10:45

Heubner Hall

OP 40 Innovation in genetics

Chair: Y. Böttcher, Norway, E.R. Pearson, UK

229 A common regulatory network for type 1 and type 2 diabetes susceptibility genes in human pancreatic islets

S. Kaur, A.H. Mirza, F. Pociot, J. Størling, Denmark, USA

230 Type 2 diabetes-induced beta cell gene regulatory networks identified using single-cell RNA-sequencing of human islets

N. Wierup, J.A. Martínez-López, A. Lindqvist, R.G. Fred, A.B. Muñoz-Manchado, S. Chriett, L. Shcherbina, J. Hjerling-Leffler, Sweden

231 Dietary fat quality and genetic risk of type 2 diabetes

J. Merino, M. Guasch-Ferre, C. Ellervik, H. Dashti, C.E. Smith, T.O. Kilpeläinen, D.I. Chasman, J.C. Florez, USA, Denmark

232 Genetic determinants of glucose response patterns during the OGTT: findings from the ADDITION-PRO cohort

A. Hulman, A. Jonsson, K. Færch, D. Vistisen, T. Hansen, N. Grarup, M.E. Jørgensen, D.R. Witte, Denmark

OP 41 Novel mechanisms of inflammation in obesity

Chair: F. Beguinot, Italy, M. Blüher, Germany

233 SUCNR1 signalling controls macrophage alternative activation and regulates immune metabolic responses in obesity

S. Fernandez Veleo, N. Keiran, E. Calvo, V. Ceperuelo-Mallafre, M.I. Hernandez-Alvarez, M. Ejarque, C. Nuñez-Roa, D. Horrillo, E. Maymó-Masip, M.M. Rodríguez-Peña, A. Zorzano, G. Medina-Gómez, C. Serena, A. Castrillo, J. Vendrell, Spain

234 ANKRD26 gene expression depends on the methylation of its promoter and associates with cardio-metabolic risk and altered levels of inflammatory mediators in human obesity

A. Desiderio, M. Campitelli, G. Cacace, A. Leone, I. Prevenzano, D. Conza, F.C. Pignalosa, M. Milone, C. Miele, F. Beguinot, G.A. Raciti, Italy

235 Loss of fractalkine-CX3CR1 signalling promotes diet-induced adipose tissue inflammation and insulin resistance by controlling the M1/M2 status of macrophage

M. Nagashimada, Y. Ni, T. Ota, Japan, China

236 Diverse hepatic microbial DNA fingerprints in healthy lean and obese steatotic humans

J.I. Bagger, M.P. Suppli, T. Nielsen, B. Lelouvier, A. Broha, M. Demant, M.J. Kønig, C. Strandberg, A. Lund, T. Vilsbøll, F.K. Knop, Denmark, France

09:45 - 10:45

Hirsch Hall

OP 42 Intercellular interactions and islet function

Chair: R. Taylor, UK, B. Thorens, Switzerland

237 Bottom-up islet engineeringQ.P. Peterson, A. Veres, D.M. Gonzalez, J. Ryu-Kenty, B. Tyrberg,
M. Sörhede-Winzell, D.A. Melton, USA, Sweden**238 The DPP4 inhibitor sitagliptin increases intra-islet active GLP-1 levels in human islets and may confer additional protection from cell death**S.A. Campbell, M. Hubert, N. Salamon, K. Ondrusova, A. Barr, W. Long,
M. Fatehi, K. Philippaert, P. Light, Canada**239 Acetate stimulates insulin secretion of human pancreatic microislets**E. Lorza Gil, F. Gerst, U. Deschl, H.-U. Häring, S. Ullrich, M. Beilmann,
Germany**240 Using a novel perfusion platform to investigate real-time crosstalk effects of contracting skeletal muscle on pancreatic beta cell function in vitro**

J. Barlow, T. Solomon, UK

OP 43 Do not let bugs pass by you

Chair: E.E. Blaak, Netherlands, H.-U. Häring, Germany

241 Low-calorie sweeteners disrupt the gut microbiome in healthy subjects in association with impaired glycaemic control

R.L. Young, D. Kreuch, F.M. Mobegi, L. Leong, G. Schober, N.J. Isaacs, T. Wu, N. Cvijanovic, N. Pezos, M.M. Bound, M. Horowitz, D.J. Keating, C.K. Rayner, G.B. Rogers, Australia

242 Gut microbiome induced by intra-intestinal carbohydrates suppresses glucose-dependent insulinotropic polypeptide secretion

E. Lee, J. Miyamoto, I. Kimura, T. Miki, Japan

243 GLP-1 secreting enteroendocrine cells co-release ATP as a fast acting transmitter to modulate vagal afferent neuronal activity

F. Reimann, V.B. Lu, J. Rievaj, C.A. Smith, R. Pais, G. Tolhurst, F.M. Gribble, UK

244 L cell secretory responses after gastric bypass surgery can be imitated in un-operated individuals by modulating carbohydrate digestion

C. Martinussen, K.N. Bojsen-Møller, C. Dirksen, M.S. Svane, J.J. Holst, S. Madsbad, Denmark

11:00 - 12:00

Virchow Hall

OP 44 Clinical use of insulin: What works and what doesn't

Chair: M.J. Davies, UK, E. Ferrannini, Italy

245 Quantitative ultrasound characteristics of insulin-induced lipohypertrophy in subjects with diabetes

M.M. Lazarev, V.V. Klimontov, A.A. Makhotin, D.M. Bulumbaeva, E.A. Koroleva, A.Y. Letyagin, Russian Federation

246 Favourable effects of insulin treatment for latent autoimmune diabetes in adults do not outweigh autoimmunity-induced decline in insulin release during 21 months of intervention

I. Hals, V. Grill, H. Fiskvik Fleiner, N. Reimers, M. Astor, Z. Ma, K. Filipsson, A. Björklund, Norway, Sweden

247 Comparison of canagliflozin and liraglutide as a replacement for bolus insulin in type 2 diabetes patients well-controlled by basal-bolus insulin

N. Kumashiro, Y. Ando, F. Shigiyama, H. Igarashi, F. Yoshikawa, H. Uchino, H. Yoshino, M. Miyagi, K. Ikehara, T. Hirose, Japan

248 Reasons for discontinuation of insulin therapy: results from the International Diabetes Management Practices Study (IDMPS)

J.-M. Chantelot, P. Aschner, J.J. Gagliardino, H. Ilkova, F. Lavalle, A. Ramachandran, G. Kaddaha, J.C. Mbanya, M. Shestakova, J.C. Chan, France, Colombia, Argentina, Turkey, Mexico, India, United Arab Emirates, Cameroon, Russian Federation, China

OP 45 Memory and mood

Chair: C. Herder, Germany, N. Lalic, Serbia

249 Biliverdin reductase-A mediates the beneficial effects of intranasal insulin administration in Alzheimer disease: a novel molecular mechanism

E. Barone, F. Triani, A. Tramutola, T. Cassano, M. Perluigi, Italy

250 Activation of LXR- β improves cognitive function of diabetic mice through ABCA1

R. Cai, S. Wang, China

251 Dissecting shared pathophysiology of type 2 diabetes and depressive symptoms using multi-phenotype genome-wide association study

Z. Balkhiyarova, M.A. Kaakinen, H.H. Draisma, M. Timonen, J. Veijola, M.-R. Jarvelin, A. Nouwen, I. Prokopenko, UK, Finland

252 Pragmatic lifestyle modification programme reduces depression and perceived stress in south Asian adults with pre-diabetes: a randomised controlled trial

S. Drignath, K. Winkley, M. Wijesuriya, L. Vasantharaja, D. Thamlini, J. Karalliedde, Germany, UK, Sri Lanka

11:00 - 12:00

Heubner Hall

OP 46 Neuropathy: nervy eyes

Chair: S. Frontoni, Italy, P. Kempler, Hungary

253 Corneal confocal microscopy detects greater reduction of small fibers in patients with painful neuropathy

A. Kalteniece, M. Ferdousi, S. Azmi, S. Adam, A. Marshall, A.J. Boulton, H. Soran, R.A. Malik, UK, Qatar

254 High RAGE expression might be responsible for early corneal nerve fibre damage in diabetic individuals

J. Leckelt, F. Thomas, A. Kott, R. Waterstradt, O. Stachs, A. Jünemann, M. Tiedge, S. Baltrusch, Germany

255 Corneal confocal microscopy shows nerve regeneration after treatment with exenatide/pioglitazone or basal/bolus insulin in patients with poorly controlled type 2 diabetes

R. Malik, G. Ponirakis, A. Khan, H. Al-muhannadi, I. Petropoulos, O. Migahid, A. Jayyousi, M. Abdul-Ghani, Qatar

256 Corneal confocal microscopy in screen-detected type 2 diabetes: ADDITION-Denmark

S. Toft Andersen, K. Grosen, H. Tankisi, M. Charles, N.T. Andersen, H. Andersen, I.N. Petropoulos, R.A. Malik, T.S. Jensen, P. Karlsson, Denmark, UK

OP 47 New insights in diabetes from mouse studies

Chair: C. Nigro, Italy, A. Schürmann, Germany

257 Determining the contribution of the G319S variant of HNF1a to beta cell dysfunction and type 2 diabetes development

C.A. Doucette, T. Morriseau, P. Agarwal, M. Fonseca, C. Nian, B.A. Wicklow, E. Sellers, V.W. Dolinsky, F.C. Lynn, Canada

258 Restoration of insulin secretion after bariatric surgery in leptin deficient mice independently of weight loss

C. Amouyal, J. Castel, C. Guay, A. Lacombe, J. Denom, S. Migrenne, J. Sobel, C. Rouault, F. Marquet, S. Luquet, R. Scharfmann, K. Clement, R. Regazzi, C. Magnan, F. Andreelli, France, Switzerland

259 A mutation in the NADH-dehydrogenase subunit 2 in the mitochondrial genome protects against diet-induced hepatosteatosis

M. Wietzke, M. Fischer, S. Baltrusch, M. Tiedge, Germany

260 The effect of kidney lipotoxicity on renal dysfunction in a model of metabolic syndrome

H. Malinska, M. Huttl, I. Markova, O. Oliyarnyk, J. Trnovska, P. Kačer, L. Kazdova, Czech Republic

11:00 - 12:00

Hirsch Hall

OP 48 Functional imaging of insulin secretion

Chair: N.R. Gandasi, Sweden, J. Lang, France

261 Glucose-induced changes of granules and actin in beta cells as visualised by TIRF-microscopy

D. Bruening, K. Reckers, I. Rustenbeck, Germany

262 Probing the dynamic fingerprint of insulin secretory granules in living beta cells by spatiotemporal fluctuation spectroscopy

G. Ferri, M. Bugliani, L. Digiaco, Z. Lavagnino, M. Occhipinti, P. Marchetti, G. Caracciolo, D.W. Piston, F. Cardarelli, Italy, USA

263 Control of insulin secretion by basement membrane proteins

P. Thorn, O.H. Do, L. Cottle, E. Kosobrodova, M. Bilek, W.J. Gan, Australia

264 The positive effect of apolipoprotein A-I on insulin secretion involves priming of insulin granules

O. Nilsson, R. Del Giudice, J.O. Lagerstedt, Sweden

Main results from the large EU-project PREVIEW: PREvention of diabetes through lifestyle Intervention and population studies in Europe and around the World

Chair: A. Raben, Denmark

A. Raben, Denmark:

Background, aims and main results from the 3-y randomised controlled trial in 2,500 subjects

E. Feskens, Netherlands:

Main results from the large population studies

M.S. Westerterp-Plantenga, Netherlands:

The role of brain and behaviour in the development of type 2 diabetes

J.C. Brand-Miller, Australia:

Translation of the results from PREVIEW into the “real” world

G. Riccardi, Italy:

Commentator

12:15

Virchow Hall

Combination therapy for type 2 diabetes: challenges and controversies

Chair: D.R. Matthews, UK

S. Del Prato, Italy:
Early in diabetes management

T. Vilsbøll, Denmark:
Fixed ratio vs free combinations

M.H. Tschöp, Germany:
Dual- and tri-agonists

Koch Hall

Diabetes and the mind: psychological aspects

Chair: X. Debussche, Réunion

W.H. Polonsky, USA:
Recognising and addressing diabetes distress

F. Pouwer, Denmark:
Depression and anxiety: impact on glycaemic control and response to treatment

T. Danne, Germany:
Glycaemic variability: Does it really matter?

EASD/AASD Symposium: Tackling diabetes at a whole system level

Chair: S.F. Dinneen, Ireland; D. Yabe, Japan

A.O.Y. Luk, Hong Kong:
Implementation of the Joint Asia Diabetes Evaluation (JADE)
programme in patient care

T.-J. Chang, Taiwan:
The nationwide diabetes management programme in Taiwan:
integration of diabetes education, screening diabetes complications
and clinics

H.J. Veeze, Netherlands:
Diabeter: Implementing value-based healthcare in paediatric diabetes
in the Netherlands

Rubner Hall

Diabetic destiny: pre-life exposure

Chair: R.R. Barrès, Denmark

J.G. Eriksson, Finland:
Early life stress and later health outcomes

M.E. Patti, USA:
Epigenetic mechanisms of transmission of metabolic disease across
generations

A. Soubry, Belgium:
Paternal origins of health and disease

12:15

Hirsch Hall

Cures for diabetes?

Chair: G. Matarese, Italy

F. Bosch, Spain:

Gene therapy in type 2 diabetes: where are we?

C.M. Dayan, UK:

Immunotherapy in type 1 diabetes

A. Schaefer, UK:

Mitochondrial donation and mitochondrial diabetes

14:00

Farewell Reception

Foyer of the Koch Hall (6.2)

All participants are invited to join the Farewell Reception.

Poster Event A, Tuesday, 12:00 - 13:00

PS 001 Diabetes health burden

Chair: R.I.G. Holt, UK

265 Health burden in type 2 diabetes and prediabetes: the Maastricht Study

M. Veugen, V. Onete, A. Koster, P. Dagnelie, N. Schaper, C. Van der Kallen, M. Schram, R. Henry, C. Stehouwer, Netherlands

266 Circulating cardiac stress, vascular dysfunction and inflammatory biomarkers predict acute kidney injury in French type 2 diabetes patients: the SURDIAGENE cohort

P. Saulnier, B. Sautenet, E. Gand, M. Fraty, J. Halimi, E. Thorin, O. Meilhac, E. Burillo, G. Velho, R. Roussel, S. Ragot, S. Hadjadj, for the SURDIAGENE study group, France, Canada

267 Glycaemic and cardiovascular risk factor burden post therapy intensification in patients with type 2 diabetes in the USA

S. Paul, O. Montvida, Australia

268 Prevalence of cardiovascular disease and treatment pattern in patients with type 2 diabetes in a real world setting

W. Weng, Y. Tian, S.X. Kong, R. Ganguly, M. Hersloev, J. Brett, T. Hobbs, USA

269 High LDL cholesterol levels and risk of peripheral vascular diseases: a Mendelian randomisation study including 116,419 individuals from the general population

F. Emanuelsson, B. Nordestgaard, A. Tybjaerg-Hansen, M. Benn, Denmark

270 More adverse differences in cardiometabolic risk factor levels in women with prediabetes and diabetes compared with men: the Maastricht study

R. De Ritter, S.J. Sep, M.T. Schram, E. Derksen, C.J. Van der Kallen, A. Koster, N. Schaper, A.A. Kroon, R.M. Henry, M.M. Van Greevenbroek, S.A. Peters, P.C. Dagnelie, C.D. Stehouwer, Netherlands, UK

271 Effect of number of achieved targets for risk factors on coronary artery disease (CAD) in those with and without diabetes

K. Fujihara, M. Harada, M. Yamamoto, Y. Mathubayashi, M. Kaneko, T. Osawa, T. Yamada, K. Kato, S. Kodama, H. Sone, Japan

272 The use of computer simulation modelling to estimate complications in patients with type 2 diabetes: validation of the cornerstone diabetes simulation model

Z.T. Su, L. Sauriol, J. Bartelt-Hofer, S. Brown, E. Lew, L. Annemans, D.T. Grima, Canada, France, Belgium

Poster Event B, Tuesday, 13:15 - 14:15

PS 002 Diabetes prevalence

Chair: P.M. Nilsson, Sweden

273 Prevalence of undiagnosed diabetes and hypertension in high-risk adults across Europe: Feel4Diabetes study

G.E. Dafoulas, O. Androutsos, C. Mavrogianni, C.-P. Lambrinou, S. Liatis, G. Cardon, J. Lindstrom, V. Iotova, T. Tankova, R. Mateo-Gallego, L.A. Moreno, C. Semanova, M. De Sabata, K. Makrilakis, Y. Manios, Greece, Belgium, Finland, Bulgaria, Spain, Hungary

274 A high glucose visit-to-visit variability is associated with a poor metabolic profile in individuals in the Hoorn Diabetes Care System cohort

R.C. Slieker, A.W. Van der Heijden, P.J. Elders, G. Nijpels, L.M. 't Hart, J.W. Beulens, Netherlands

275 Diabetes prevalence, mortality and healthcare expenditure in 2017 and 2045 in Europe: data from the IDF Diabetes Atlas

S. Karuranga, Y. Huang, A. F Moura, W. Rathmann, B. Malanda, Belgium, Germany

276 BMI z-score trajectories in youth with type 1 diabetes: an international analysis from Australia, Germany/Austria and USA

A. Schwandt, N. Foster, H. Phelan, C. Steigleder-Schweiger, M. Wu, J.J. Couper, P. Kroschwald, S.M. Willi, T.W. Jones, N. Prinz, D. Maahs, M.E. Craig, Germany, USA, Australia, Austria

277 Comparison of the incidence of diabetes in U.S. and Indian youth: an international harmonisation of youth diabetes registries

E.T. Jensen, D. Dabelea, P.A. Praveen, A. Anandakumar, C.W. Hockett, S. Isom, T.C. Ong, V. Mohan, R. D'Agostino, Jr, M.G. Kahn, R.F. Hamman, E. Mayer-Davis, N. Tandon, USA, India

278 Prevalence of pre-diabetes, undiagnosed and diagnosed diabetes among adults aged 18 to 70 years in France: the CONSTANCES cohort

S. Fuentes, S. Fosse-Edorh, N. Regnault, M. Goldberg, E. Cosson, France

279 DIAGESTCAT. Trends in prevalence of diabetes in pregnancy and perinatal outcomes: a large, population-based study in Catalonia, Spain, 2006-2015

L. Gortazar, A. Goday, D. Benaiges, E. Sarsanedas, L. Mañé, G. Llauradó, J.J. Chillarón, M. Prados, A. Paya, J.A. Flores, Spain

280 Regional burden of obesity and diabetes in adults: projections from 2017-2045

S. Nielsen, D. Napier, B.B. Jensen, A. Moses, N. Lund, Denmark, UK, USA

Poster Event C, Wednesday, 12:00 - 13:00

PS 003 Type 2 diabetes prediction

Chair: L.M. 't Hart, Netherlands

281 Are the normal glucose tolerance individuals totally outside of the diabetes spectrum?

A.F. Pina, R.S. Patarrão, R.T. Ribeiro, C. Penha-Gonçalves, J.F. Raposo, R.M. De Oliveira, L. Gardete-Correia, R. Duarte, J.M. Boavida, R. Andrade, I. Correia, J.L. Medina, R. Henriques, M. Macedo, Portugal

282 A simple clinical risk score in detecting diabetes in the Chinese populations: insights from two population-based Chinese cohorts

Y.C. Woo, B. Gao, C.H. Lee, C.H. Fong, J. Ming, S. Lin, T.H. Lam, E. Janus, Q. Ji, K.S. Lam, Hong Kong, China, Australia

283 The predictive role of endothelial progenitor cells and asymmetric dimethylarginine in the onset of type 2 diabetes: a 10-year prospective study

A. Angelidi, A. Papazafiropoulou, A. Gritzapis, T. Sergeantanis, E.-M. Tzouganatou, S. Papantoniou, E. Efstratiadi, S. Matsagos, P. Spyropoulou, J. Protosaltis, E. Boutati, G. Dimitriadis, A. Melidonis, Greece

284 Mathematical modelling of glucose tolerance tests describing glucose, insulin and C-peptide levels in different cohorts: an IMI DIRECT study

C. Dings, N. Scherer, V. Nock, A.M. Hennige, E.R. Pearson, P.W. Franks, T. Lehr, for the IMI DIRECT consortium, Germany, UK, Sweden

285 Performance of existing risk assessment models for prevalent or undiagnosed type 2 diabetes in a multi-ethnic population

M. Obura, I.G. Van Valkengoed, L. 't Hart, S.P. Rauh, R.J. Peters, F. Rutters, M.B. Snijder, J.W. Beulens, Netherlands

286 Triglycerides, triglyceride-rich lipoprotein subfractions and genetic predisposition for type 2 diabetes in the Women Genome's Health Study (WGHS)

S. Ahmad, S. Mora, P.M. Ridker, F.B. Hu, D.I. Chasman, USA

287 A prospective study on fasting glucagon prior to OGTT and mixed meal and 7-year change of fasting glucose: the Hoorn Meal Study

A.D. Koopman, F. Rutters, M. Alsema, A. Van der Heijden, P. Elders, J. Beulens, J. Dekker, Netherlands

288 Plasma acylcarnitines and risk of type 2 diabetes in a Mediterranean population at high cardiovascular risk

M. Guasch-Ferré, M. Ruiz-Canela, J. Li, M. Bullo, D. Wang, E. Toledo, C. Clish, D. Corella, R. Estruch, E. Ros, M. Fitó, L. Liang, M.A. Martinez-Gonzalez, F.B. Hu, J. Salas-Salvado, Spain, USA

Poster Event D, Wednesday, 13:15 - 14:15

PS 004 Diabetes: therapeutic approaches

Chair: E.R. Pearson, UK

289 Improvements in HbA_{1c} and LDL-cholesterol in type 2 diabetes in Denmark, 2000-2015: a population based study

J.S. Knudsen, A. Hulman, D.R. Witte, R.W. Thomsen, Denmark

290 Socioeconomic factors, gender and adherence to lipid-lowering therapy in type 1 diabetes

C. Hero, S. Axia Karlsson, S. Franzén, A.-M. Svensson, M. Miftaraj, K. Andersson Sundell, S. Gudbjörnsdottir, B. Eliasson, K. Eeg-Olofsson, Sweden

291 Investigation of an association of the anti-inflammatory drug sulfasalazine on HbA_{1c} in a large cohort of individuals with type 2 diabetes

S.M. N'Dow, L.A. Donnelly, E.R. Pearson, G. Rena, UK

292 Long-term relapse of type 2 diabetes after bariatric surgery: prediction and clinical relevance

J. Debédât, N. Sokolovska, M. Coupaye, L. Genser, G. De Turenne, J.-L. Bouillot, C. Poitou, J.-M. Oppert, S. Ledoux, J.-D. Zucker, K. Clément, J. Aron-Wisnewsky, France

293 Effect of vitamin D₃ therapy on immunological parameters at stages of development of type 1 diabetes in children and adolescents

N.M. Muz, V.V. Popova, V.L. Orlenko, K.Y. Ivaskiva, Y.A. Sayenko, K.M. Tron'ko, O.V. Furmanova, O.V. Bolshova, K.P. Zak, M.D. Tron'ko, Ukraine

294 Change over 12 months in HbA_{1c}, fasting plasma glucose and weight among patients with type 2 diabetes in 37 countries: DISCOVER

P. Fenici, F. Bonnet, H. Chen, J. Cid-Ruzafa, M.B. Gomes, N. Hammar, L. Ji, K.F. Kennedy, K. Khunti, M. Kosiborod, S. Pocock, W. Rathmann, M.V. Shestakova, I. Shimomura, B. Charbonnel, UK, France, USA, Spain, Brazil, Sweden, China, Germany, Russian Federation, Japan

295 Can a visit at the dentist's help prevent type 2 diabetes?

L. Czupryniak, M. Czerniuk, E. Szymańska-Garbacz, P. Bijoś, Poland

296 Burden of illness associated with generalised lipodystrophy (GL) in leptin replacement therapy-naïve patients: a longitudinal medical chart review study

B. Akinci, E. Oral, A. Neidert, D. Rus, W. Cheng, P. Thompson-Leduc, T. Salinardi, E. Cochran, R. Brown, Turkey, USA, Canada

Poster Event E, Thursday, 12:00 - 13:00**PS 005 Prediction of type 1 diabetes**

Chair: C.M. Dayan, UK

297 CVB5 proteases 2A reduces insulin granule maturation only indirect

K.-P. Knoch, A. Petzold, C. Wegbrod, A. Sönmez, C. Münster, A. Friedrich, Z. Zuzana Marinicova, J.-P. Merl-Pham, S. Hauck, M. Solimena, Germany

298 Relationship of C-peptide persistence and HbA_{1c} in type 1 diabetes

M. Colombo, T.J. McDonald, P.M. McKeigue, H.M. Colhoun, on behalf of the SDRNT1BIO Investigators, UK

299 Population screening of type 1 diabetes and coeliac disease: Autoimmunity Screening for Kids (ASK)

M. Rewers, C. Geno-Rasmussen, J. Baxter, K. Waugh, L. Yu, B. Frohnert, A.K. Steck, E. Liu, USA

300 The BETA-2 score: a novel measure of beta cell function in type 1 diabetes intervention trials

A. Lam, R. Oram, R. Andrews, P. Narendran, M. Haller, P. Senior, Canada, UK, USA

301 Type 1 diabetes leading to severe insulin deficiency occurs after 30 years of age and is commonly treated as type 2 diabetes in clinical practice

N. Thomas, A. Grubb, T. McDonald, A. Hill, M. Weedon, R. Oram, A. Hattersley, A. Jones, UK

302 Impact of routine C-peptide screening in individuals with a clinician diagnosis of type 1 diabetes

E. Foteinopoulou, C. Clarke, R. Pattenden, J. McKnight, M.W. Strachan, UK

303 Serum 25-hydroxyvitamin D concentration at birth in children screened for HLA-DQB1 conferred genetic risk for type 1 diabetes

M. Mäkinen, E. Löyttyniemi, M. Koskinen, M. Vähä-Mäkilä, H. Siljander, M. Nurmio, J. Mykkänen, S.M. Virtanen, O. Simell, H. Hyöty, J. Ilonen, M. Knip, R. Veijola, J. Toppari, Finland

304 Gene expression profile of peripheral blood mononuclear cells of recent-onset type 1 diabetes

A.S. Santos, C. Chevillard, N.V. Gonfinetti, J. Kalil, E. Cunha-Neto, M.R. Silva, Brazil, France

Poster Event F, Thursday, 13:15 - 14:15

PS 006 Diabetes progression

Chair: M. Walker, UK

305 Impact of visit-to-visit fasting plasma glucose variability on the development of type 2 diabetes: a nationwide population based cohort study

J. Kim, Y. Lee, E. Roh, S. Hong, N. Kim, H. Yoo, J. Seo, S. Kim, N. Kim, S. Baik, K. Choi, Korea, Republic of

306 Leg length, a marker of early childhood conditions, associates with specific clusters of serum fatty acids

L.W. Johnston, Z. Liu, R. Retnakaran, S.B. Harris, R.P. Bazinet, A.J. Hanley, Denmark, Canada

307 Individuals fulfilling criteria for type 2 diabetes display transient evidence of autoimmunity preceding diagnosis with possible clinical implication: the HUNT study

E.P. Sørgerd, B.O. Åsvold, P.M. Thorsby, V. Grill, Norway

308 Longitudinal analyses of serum metabolite phenotypes in the EarlyBird cohort identify metabolic readouts associated with childhood insulin resistance

J. Hosking, M. Lauria, O. Cominetti, A. Jeffery, J. Hager, J. Pinkney, F.-P. Martin, UK, Italy, Switzerland

309 Quantification of individual disease progression in type 2 diabetes patients using a semi-mechanistic model: an IMI DIRECT study

N. Scherer, C. Dings, V. Nock, A.M. Hennige, E.R. Pearson, P.W. Franks, T. Lehr, for the IMI DIRECT consortium, Germany, UK, Sweden

310 Breastfeeding effect on insulin and adipokines secretion in women during postpartum period

L. Tchammi Wandji, S. Leumi, M. Guewo-Fokeng, E. Djahmeni, M. Dehayem, M. Etoa, J. Mbanya, E. Sobngwi, Cameroon

311 Effects of preoperative hepatitis B virus infection, hepatitis C virus infection, and co-infection on the development of new-onset diabetes after kidney transplantation

M. Yu, J. Liang, C. Lv, M. Xu, J. Gao, R. Rong, T. Zhu, China

312 Type 2 diabetes: When does it start?

H. Sagesaka, Y. Sato, K. Yamashita, K. Hirabayashi, H. Koike, Y. Someya, Y. Tamura, H. Watada, M. Komatsu, T. Aizawa, Japan

Poster Event A, Tuesday, 12:00 - 13:00**PS 007 Diet and lifestyle influences**

Chair: E. Feskens, Netherlands

313 Vitamin D, prediabetes and diabetes: bi-directional Mendelian randomisation analysis

N. Wang, L. Zhao, F. Xia, Y. Chen, C. Chen, B. Han, Q. Li, B. Hu, Y. Lu, China

314 FGF21 regulates insulin sensitivity following long-term chronic stress

M. Dille, T. Jelenik, S. Müller-Lühlhoff, D.G. Kabra, Z. Zhou, C. Binsch, A. Chadt, M. Roden, T.R. Castañeda, H. Al-Hasani, Germany

315 Did decreasing prevalence of obesity and intensifying regular exercise reduce the number of people at high risk of developing diabetes? Results from nationwide survey

S. Katoh, H. Toshima, Y. Sakamoto, K. Utsunomiya, Japan

316 Insomnia and incident risk of diabetes related complications in Hong Kong Chinese patients with type 2 diabetes

C. Ding, J. Zhang, E. Lau, A. Luk, E. Chow, R. Ma, J. Chan, Y. Wing, A. Kong, Hong Kong

317 Effects of dietary and physical activity interventions on type 2 diabetes risk in South Asians: individual participant data meta-analysis of randomised controlled trials

A.K. Jenum, I. Brekke, I. Mdala, M. Muilwijk, A. Ramachandran, M. Kjøllesdal, K.R. Richardsen, G. Cezard, A. Sheikh, C.A. Celis-Morales, J.M. Gill, N. Sattar, K. Stronks, E.J. Beune, I.G. Van Valkengoed, Norway, Netherlands, India, UK

318 Investigation of vitamin D metabolites, vitamin D genes, and risk of type 1 diabetes: the Diabetes Autoimmunity Study in the Young (DAISY)

J.M. Norris, N.L. Zwick, B.C. DeFelice, R.K. Johnson, F. Dong, L. Vanderlinden, P. Carry, J. Seifert, B.I. Frohnert, K. Kechris, T. Fingerlin, O. Fiehn, M. Rewers, USA

319 Adherence to the Dutch dietary guidelines 2015 and the risk of prediabetes and type 2 diabetes in Dutch adults: the New Hoorn study

N.R. Den Braver, A.L. Van der Spek, M. Looman, M.M. Geelen, J. Lakerveld, F. Rutters, J. Brug, S.S. Soedama-Muthu, J.W. Beulens, Netherlands

320 Plasma ceramides and dairy consumption in the D.E.S.I.R. study

F. Fumeron, A. Nicolas, L. Wigger, M. Ibberson, C. Cruciani-Guglielmacci, H. Le Stunff, G. Velho, C. Magnan, M. Marre, B. Balkau, R. Roussel, France, Switzerland

Poster Event B, Tuesday, 13:15 - 14:15**PS 008 Diabetes complications**

Chair: S.M. Marshall, UK

321 Factors predicting participation in the Diabetes Prevention Program (DPP) among people with prediabetes

W.H. Herman, K.L. Joiner, M.B. Stites, L.N. McEwen, USA

322 Phthalates exposure as determinant of albuminuria in type 2 diabetes subjects: a cross-sectional study

A. Mengozzi, F. Carli, V. Della Latta, E. Buzzigoli, M. Seghieri, E. Biancalana, A. Solini, A. Gastaldelli, Italy

323 Selected osteoprotegerin gene variants as diabetic foot risk factors

P. Nehring, B. Mrozikiewicz-Rakowska, K. Szymański, A. Sobczyk-Kopciot, N.A. Acharya, R. Płoski, W. Drygas, J. Krzymień, L. Czupryniak, Poland

324 Changes in glycaemic control and rates of diabetes-related complications in type 2 diabetes: 10 years of the International Diabetes Management Practices Study (IDMPS)

P. Aschner, J.J. Gagliardino, H. Ilkova, F. Lavallo, A. Ramachandran, G. Kaddaha, J.C. Mbanya, M. Shestakova, J.-M. Chantelot, J.C. Chan, Colombia, Argentina, Turkey, Mexico, India, United Arab Emirates, Cameroon, Russian Federation, France, China

325 The impact of blood pressure on retinal vascular traits in patients with type 2 diabetes: a Mendelian Randomisation study

Y. Huang, T. Li, S. Hogg, G. McKay, E. Trucco, C. Palmer, A. Doney, UK

326 Diabetic kidney disease occurrence in a large cohort of patients with incident diabetes in the UK

D. Vizcaya, A. Gonzalez-Perez, M.E. Saez, L.A. Garcia Rodriguez, Spain

327 Larger and faster decline in eGFR among patients with vs without type 2 diabetes

G.A. Nichols, A. Deruaz-Luyet, S.J. Hauske, K.G. Brodovicz, USA, Germany

Poster Event C, Wednesday, 12:00 - 13:00**PS 009 Epigenetics and gene regulation**

Chair: R.R. Barrès, Denmark

328 MicroRNAs associated with insulin secretion in type 1 diabetes

A.S. Januszewski, M. Joglekar, Y. Cho, E. Scott, R. Farr, Y. Loh,
D.N. O'Neal, P. Benitez-Aguirre, M. Craig, K. Donaghue, A. Hardikar,
A.J. Jenkins, Australia

329 Impact of family history on the phenotype and genotype of type 1 diabetes at diagnosis

M. Turtinen, T. Härkönen, A. Parkkola, J. Ilonen, M. Knip, Finland

330 Circulating miRNAs as predictive biomarkers for type 2 diabetes development in individuals at risk: outcomes of a 5-year prospective observational cohort study

M. Niemira, K. Maliszewska, M. Paczkowska-Abdulsalam, A. Bielska,
A. Szalkowska, E. Adamska, A. Citko, L. Szczerbinski, E. Siewiec,
M. Gorska, M. Ciborowski, A. Kretowski, Poland

331 Epigenetic regulation of Slc2a4 gene in skeletal muscle of type 2 diabetic mice: participation of post-translational modifications of histone H3

C.Y. Yonamine, A.B. Alves-Wagner, J.V. Esteves, M.M. Okamoto,
M.L. Corrêa-Giannella, D. Giannella-Neto, U.F. Machado, Brazil

332 Epigenetic response to bariatric surgery in human skeletal muscle

M. Ouni, S. Gancheva, C. Koliaki, J. Szendroedi, T. Jelenik, D. Markgraf,
M. Jähnert, M. Schlensak, A. Schürmann, M. Roden, Germany, Greece

333 Increased serum expression of miR-518d-3p and miR-618 in individuals with type 1 diabetes with microvascular chronic complications

D.P. Santos-Bezerra, A.S. Santos, G.C. Guimarães, S.N. Admoni,
R.V. Perez, T.S. Pelaes, C.G. Machado, M. Passarelli, U.F. Machado,
M.S. Queiroz, M.E. Silva, M.L. Corrêa-Giannella, Brazil

334 Hyperglycaemia changes the miRNA expression pattern during differentiation and maturation of human visceral adipocytes

J. Strycharz, E. Swiderska, A. Wroblewski, M. Podolska, J. Drzewoski,
J. Szemraj, A. Sliwinska, Poland

335 Familial diabetes status and the risk of incident type 2 diabetes in Denmark

O. Silverman-Retana, A. Hulman, J. Nielsen, C.T. Ekstrøm, B. Carstensen, R.K. Simmons, D.R. Witte, Denmark, USA, UK

Poster Event D, Wednesday, 13:15 - 14:15

PS 010 Monogenic diabetes

Chair: A. Bonnefond, France

336 Patients with Down syndrome who present with neonatal diabetes are unlikely to have a monogenic aetiology

M.B. Johnson, K.A. Patel, E. De Franco, S. Ellard, S.E. Flanagan, A.T. Hattersley, UK

337 Excess insulin secretion with a high protein meal in sulphonylurea treated KCNJ11 neonatal diabetes patients shows the limitations of amplifying insulin secretion pathways

P. Bowman, M.H. Shepherd, T.J. McDonald, R.C. Andrews, S.R. Spaul, S. Statton, S. Hammersley, M. Leveridge, B.M. Shields, S.E. Flanagan, B.A. Knight, K.A. Patel, A.T. Hattersley, UK

338 The diagnostic utility of urinary C-peptide/creatinine ratio (UCPCR): insights from a review of the local use of UCPCR in the diabetes clinic

A. Poddar, J.S. Clark, V. Nayyar, S. Zachariah, N. Maghsoodi, B.C. Field, UK

339 Functional characterisation of HNF1A variants identified in Norwegian diabetes registries can be important for precision medicine in diabetes clinics

I. Aukrust, A. Kaci, J. Molnes, H.U. Irgens, B.B. Johansson, L. Bjørkhaug, P.R. Njølstad, Norway

340 Double monogenic diabetes of the young: implications for treatment in pregnancy

H. Khan, A.T. Hattersley, D.L. Browne, UK

341 “De Novo” Maternally Inherited Diabetes and Deafness (MIDD)? Variable genetic transmission in MIDD

A. Lam, Y. Zhao, L. Ong, W. Sim, L. Zhu, S. Rama Chandran, D.-L. Gardner, Singapore

342 The utility of MODY probability calculator among HNF1A- and GCK-MODY Polish patients: a retrospective analysis

M. Szopa, D. Ucieklak, S. Mrozinska, I. Solecka, B. Zapala, J. Hohendorff, B. Matejko, M. Sani, M.T. Malecki, Poland

343 Paradoxical worsening of glucose tolerance after metformin in a patient with insulin resistance due to the SHORT syndrome

K.C. Lewandowski, K. Dabrowska, M. Brzozowska, J. Kawalec, A. Lewinski, Poland

Poster Event E, Thursday, 12:00 - 13:00

PS 011 Type 2 diabetes therapy intensification

Chair: P.D. Home, UK

344 Quality of life in patients with type 2 diabetes initiating a second-line glucose-lowering therapy: the global DISCOVER study

A. Nicolucci, M.B. Gomes, K. Khunti, M. Kosiborod, S. Pocock, W. Rathmann, M.V. Shestakova, I. Shimomura, H. Watada, H. Chen, J. Cid-Ruzafa, P. Fenici, N. Hammar, F. Tang, L. Ji, Italy, Brazil, UK, USA, Germany, Russian Federation, Japan, Spain, Sweden, China

345 Second line glucose lowering treatment therapies as chosen by cardiologists vs non-cardiologists: an analysis of the Diabetes Collaborative Registry (DCR)

D. Koehn, E. Repetto, I. Brookes-Smith, J. Eudicone, K. Olsson, T. Schutt, S. Arnold, USA

346 The characterisation of people with type 2 diabetes and polypharmacy in the Netherlands: the Diabetes Pearl cohort

F. Rutters, S. Van Oort, P. Elders, K. Kramers, on behalf of the Diabetes Pearl from the Parelsnoer Initiative, Netherlands

347 Individualised HbA_{1c} targets in people with type 2 diabetes initiating second-line therapy: the global DISCOVER study

K. Khunti, H. Chen, J. Cid-Ruzafa, P. Fenici, M.B. Gomes, N. Hammar, K.F. Kennedy, S. Pocock, M.V. Shestakova, I. Shimomura, F. Surmont, L. Ji, UK, USA, Spain, Brazil, Sweden, Russian Federation, Japan, China

348 Treatment thresholds for patients with newly diagnosed diabetes: an application of dynamic marginal structural models in the Clinical Practice Research Datalink

R.E. Farmer, D. Ford, L. Smeeth, N. Chaturvedi, K. Bhaskaran, UK

349 Impact of treatment intensification in patients with type 2 diabetes suboptimally controlled on basal insulin in The Health Improvement Network UK primary care database

E. Lew, M. Myland, M. Nixon, N. Gooch, C. O'Leary, A. Shaunik, E.B. Jude, France, UK, USA

350 Proportion of patients reaching HbA_{1c} targets related to second-line treatment initiation: a Nordic observational study comparing type 2 diabetes management in primary care

F. Persson, J. Bodegard, S.T. Knudsen, H.L. Gulseth, K. Furuseth, M. Thuresson, A. Lindh, M. Alvarsson, M.E. Jørgensen, J. Søndergaard, K.I. Birkeland, P.M. Nilsson, Denmark, Norway, Sweden

351 Initiation of combination therapy in type 2 diabetes patients with high HbA_{1c} at diagnosis

R.M. Klok, A. Kumar, S. Rajpathak, A.Z. Fu, K. Khunti, USA, UK

Poster Event F, Thursday, 13:15 - 14:15

PS 012 Diabetes mortality

Chair: H. Beck-Nielsen, Denmark

352 Microvascular disease and all-cause mortality in a single-center cohort of individuals with type 1 diabetes: a 10-year follow-up study

M. Garofolo, R. Giannarelli, M. Aragona, D. Lucchesi, L. Giusti, V. Sancho Bornez, G. Daniele, R. Miccoli, G. Penno, S. Del Prato, Italy

353 Diabetes increases the mortality in myocardial infarction, heart failure and stroke: results from a longitudinal study over 40 years

E. Lampa, J. Ärnlöv, J. Sundström, U. Risérus, L. Lind, Sweden

354 Decreasing trend in years of life lost due to diabetes: a nationwide cohort study

L. Niskanen, T. Partonen, A. Auvinen, J. Haukka, CARING Project, Finland

355 Association between postprandial hyperglycaemia at clinic visits and cancer mortality in patents with type 2 diabetes

T. Takao, K. Takahashi, K. Kimura, M. Suka, H. Yanagisawa, Y. Iwamoto, Japan

356 Socioeconomic status and mortality risk among patients with hypertension and diabetes: a cohort study from the Swedish Primary Care Cardiovascular Database (SPCCD)

T. Andersson, M. Pikkemaat, L. Schiöler, P. Hjerpe, A.C. Carlsson, P. Wändell, K. Manhem, T. Kahan, J. Hasselström, K. Bengtsson Boström, Sweden

357 Thirty-day mortality following admission with lactic acidosis in diabetes patients using metformin: a Danish nationwide study

A. Aharaz, R.W. Thomsen, K. Berencsi, T. Frøslev, H. Beck-Nielsen, Denmark

358 Haemoglobin glycation index and all-cause mortality in individuals with type 2 diabetes: the Pisa Mortality Study

G. Penno, M. Garofolo, D. Lucchesi, L. Giusti, V. Sancho Bornez, R. Miccoli, C. Bianchi, G. Sesti, S. Del Prato, Italy

Poster Event A, Tuesday, 12:00 - 13:00

PS 013 Diabetes across ethnicities

Chair: S. Nielsen, Denmark

359 Aryl-hydrocarbon receptor binding and the incidence of type 2 diabetes: the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil)

B.B. Duncan, C.D. Castilhos, P.A. Bracco, M.I. Schmidt, H.K. Lee, A. Vigo, Y.K. Pak, Brazil, Korea, Republic of

360 Local traditions and conventions impact vulnerability to type 2 diabetes

A.-M. Volkmann, L. Hesseldal, M. Bagger, D. Napier, UK, Denmark

361 Adherence to diabetes care process indicators in migrants as compared to non-migrants with diabetes: a population study

G. Seghieri, L. Policardo, P. Francesconi, C. Seghieri, Italy

362 Area level deprivation and quality of care in type 2 diabetes: results from a disease management programme in North Rhine-Westphalia, Germany

B. Hagen, S. Groos, J. Kretschmann, C. Macare, A. Weber, Germany

363 Diabetes knowledge, self-care behaviours, and metabolic control in Arabic-speaking adults with type 2 diabetes in Edmonton, Canada

R.O. Yeung, A. Belag, M. Alfaituri, F. Al-Sayah, Canada

364 The impact of black ethnicity on performance of HbA_{1c} and 1 hour plasma glucose as screening modalities for impaired glucose tolerance

A. Ghafar, O. Bello, M. Ladwa, G. Alberti, S.A. Amiel, L. Goff, UK

365 Integration increases the risk of diabetes and obesity in the Filipino population resident in Rome

S. Pieralice, R. Del Toro, G. Pesce, K. Jansen, M. Khazrai, A. Maurizi, S. Manfrini, P. Pozzilli, Italy, Netherlands

Poster Event B, Tuesday, 13:15 - 14:15

PS 014 Genetics of diabetes

Chair: J. Tuomilehto, Kuwait

366 Withdrawn

367 Identification of novel loci associated with lipid levels in recent-onset type 1 diabetes

A.J. Overgaard, S. Kaur, A. Ali, J.M. Weir, K. Jayawardana, H.B. Mortensen, P.J. Meikle, F. Pociot, Denmark, Australia

368 Genetic determinants of glycated haemoglobin in type 1 diabetes

A. Syreeni, N.K. Sandholm, J. Cao, I. Toppila, C. Forsblom, V. Harjutsalo, M. Parkkonen, E. Valo, A.D. Paterson, P.-H. Groop, the FinnDiane Study Group, Finland, Canada

369 Type 1 diabetes genetic risk score discriminates between monogenic and type 1 diabetes in patients with diabetes presented below five years of age in Iranian population

H. Yaghootkar, K. Patel, K. Colclough, A. Moleirinho, N. Ghaemi, S. Heidari, S. Vakili, S. Enayati, A. Rabbani, F. Abbasi, T. McDonald, S. Ellard, M.M. Amoli, R. Vakili, A.T. Hattersley, UK, Iran, Islamic Republic of

370 IRS1 genetic variants associated with glucose control and insulin resistance in type 2 diabetic patients from Bosnia and Herzegovina

L. Mahmutovic, T. Bego, M. Sterner, G. Gremesperger, E. Ahlqvist, Z. Velija Asimi, B. Prnjavorac, N. Hamad, A. Causevuc, L. Groop, S. Semiz, Bosnia and Herzegovina, Sweden

371 Does low birth weight and type 2 diabetes share a common genetic background?

O. Al-Allaf, UK

372 Variants in genes regulating vitamin D metabolism (DHCR7, CYP2R1 and GC) determine low vitamin D levels in type 2 diabetic patients

L. Bertocchini, D. Bailetti, I. Barchetta, C. Pibiri, F. Bagella, T. Filardi, E. Alessi, M. Incani, S. Carletti, S. Pezzilli, P. Piscitelli, G. Leanza, U. Di Folco, SUMMER Study Group, M.G. Baroni, Italy

373 Association of CUBN gene variants with type 2 diabetes and vitamin D levels in an elderly Greek population

X. Tsekmekidou, F. Tsetsos, S. Karras, M. Georgitsi, A. Roumeliotis, S. Panagoutsos, E. Thodis, M. Theodoridis, N. Papanas, D. Papazoglou, P. Pasadakis, E. Maltezos, P. Paschou, K. Kotsa, Greece

Poster Event C, Wednesday, 12:00 - 13:00

PS 015 Environment and beta cell damage

Chair: N. De Leu, Belgium

374 Novel roles of alpha-4, a non-canonical scaffolding subunit of protein phosphatase 2A, in the onset of beta cell dysfunction under glucotoxic conditions

A. Kowluru, USA

375 Glutamine deprivation induces metabolic adaptations associated with beta cell dysfunction and exacerbate lipotoxicity

R. Carlessi, J. Rowlands, G. Ellison, H.H. De Oliveira Alves, P. Newsholme, C. Mamotte, Australia

376 Proteasomal degradation of the histone acetyl transferase p300 contributes to beta cell injury in a diabetes environment

S. Costes, L. Ruiz, T. Gurlo, M.A. Ravier, A. Wojtusciszyn, J. Mathieu, M.R. Brown, C. Broca, G. Bertrand, P.C. Butler, A.V. Matveyenko, S. Dalle, France, USA

377 Omentin-1, a new adipokine influencing islet cells survival and function

S. Rutti, P. Heckman, W. Bietiger, C. Widmann, M. Pinget, K. Bouzakri, France, Switzerland

378 Activation of Ang II type 2 receptor (AT2R) protects pancreatic islets function via regulation of apoptosis and autophagy in obese rats

M. Liu, X. Li, A. Wang, S. Yin, Y. Mu, China

379 Overexpression of sphingosine-1 phosphate lyase sensitises insulin-secreting INS1E cells to lipotoxicity

E. Gurgul Convey, D. Kindler, H. Möller-Gnangra, Germany

380 High-fat diet accelerates pancreatic stellate cell activation and initiates islet fibrosis during pancreatogenic diabetes

X. Zhu, J. Sun, L. Li, China

381 MSCs improved insulin resistance and beta cell function in type 2 diabetes through modulation of macrophage polarisation and restoration of autophagy in insulin-targeted organs and islets

Y. Mu, China

Poster Event D, Wednesday, 13:15 - 14:15

PS 016 Regulation of functional beta cell mass

Chair: J.A. Kushner, USA

382 Characterisation of enteroendocrine transcription factors during development in the human duodenum and pancreas

J. Li, R. Wang, Canada

383 A pancreas-specific ECM scaffold - human iPS cell culture and pancreatic differentiation goes 3D

C. Berger, Y. Bjørlykke, M. Mühlemann, H. Ræder, H. Walles, M. Metzger, D. Zdzienko, Germany, Norway

384 The epigenetic characteristics of liver to pancreas transdifferentiation

S. Ferber, H. Cohen, A. Har-Zahav, M. Szyf, D. Cheishvili, I. Meivar-Levy, Israel, Canada

385 The global identification of glucose-regulated RNA binding proteins (RBPs) in pancreatic beta cells and their role in beta cell function and diabetes

T.P. Herbert, R. Wardman, J. Whitehead, UK

386 The E3 SUMO ligase PIASy is a novel interaction partner regulating the activity of diabetes associated hepatocyte nuclear factor-1 alpha

A. Kaci, M. Keindl, P. Njølstad, L. Bjørkhaug, I. Aukrust, Norway

387 The absence of melatonin during pregnancy impairs energy metabolism and maternal pancreatic remodelling: Is it the onset of type 2 diabetes in the mother?

P.R. Gomes, E.A. Leite, C.F. Lucena, A.C. Bonassa, E.A. Vilas-Boas, F.G. Amaral, A.R. Carpinelli, J. Cipolla-Neto, Brazil

388 Identification of pancreatic elastase inhibitors with a potential to stimulate beta cell proliferation

G. Basile, A. Vetere, J. Hu, K.-C. Liu, Y. Zhang, O. Andersson, B.K. Wagner, R.N. Kulkarni, USA, Sweden

389 The impact of cilia-genes on pancreatic beta cell replication and the risk of type 2 diabetes

M. Stadion, O. Kluth, P. Gottmann, H. Aga, U. Krus, J. Gerdes, C. Ling, A. Schuermann, Germany, Sweden

390 Protective effects of Clec11a on lipotoxicity induced islets injury via modulation of proliferation and secretion in mice

R. Shi, S. Zhao, Z. Sun, China

Poster Event E, Thursday, 12:00 - 13:00

PS 017 Insulin secretion

Chair: P. Maechler, Switzerland

391 Evidence for differential role of beta-arrestin2 in GLP-1 and GIP signalling in mouse pancreatic beta cells

M.A. Ravier, J. Obeid, M. Leduc, S. Costes, P. Gilon, S. Dalle, G. Bertrand, France, Belgium

392 CB1 and CB2 antagonists stimulate insulin secretion and regulate human and mouse islet viability

I. Ruz-Maldonado, B. Liu, P. Atanes, A. Pingitore, G.C. Huang, D. Baker, S.J. Persaud, UK

393 The role of ER Ca²⁺sensor, stromal interaction molecule 1 (STIM1) in GPR40-mediated potentiation of glucose-induced insulin secretion

R. Usui, D. Yabe, H. Goto, M. Fauzi, S. Tokumoto, H. Tatsuoka, Y. Tahara, M. Ogura, K. Nagashima, N. Inagaki, Japan

394 A genetically encoded low-affinity Ca^{2+} sensor unmasks autocrine purinergic signalling in beta cells

M. Yang, O. Idevall-Hagren, E. Gylfe, A. Tengholm, Sweden

395 The lipid phosphatase INPP5F regulates insulin secretion

P.M. Nguyen, N. Gandasi, O. Idevall-Hagren, Sweden

396 The inhibition of protein biosynthesis diminishes insulin secretion in freshly isolated islets but not in cultured islets

T. Schulze, M. Morsi, I. Rustenbeck, Germany

397 Selective disruption of the very long chain fatty acid elongase 2 (ELOVL2) in the pancreatic beta cell impairs insulin release during obesity

K. Meneyrol, L. Bellini, E. Georgiadou, B. Blondeau, N. Kassis, B. Thorens, G.A. Rutter, C. Cruciani-Guglielmacci, C. Magnan, H. Le Stunff, France, UK, Switzerland

398 Interactions between statins and the farnesoid-X-receptor inhibit positive effects of chenodeoxycholic acid on insulin secretion

T. Hoffmeister, J. Kaiser, G. Drews, M. Düfer, Germany

399 Roles for the type 2 diabetes-associated genes C2CD4A and C2CD4B in the control of insulin secretion

N. Mousavy Gharavy, A. Martinez-Sanchez, G. Rutter, UK

Poster Event F, Thursday, 13:15 - 14:15

PS 018 Pathogenesis and treatment of type 1 diabetes

Chair: G. Christoffersson, Sweden

400 Shotgun proteomic analysis and protein lysine-acetylation in cytokine exposed human pancreatic islets

F. Ciregia, F. Grano, M. Mazzoni, S. Mossuto, A. Lucacchini, M. Suleiman, L. Giusti, C. De Luca, S. Lacerenza, L. Marselli, M. Ronci, A. Urbani, P. Marchetti, M. Bugliani, Italy

401 An integrated multi-omics approach identifies the type I interferon-induced signature of human beta cells

M.L. Colli, E.S. Nakayasu, M. Ramos-Rodriguez, J.-V. Turatsinze, A. Coomans de Brachène, M. Lopes, R.S. Dos Santos, J. Juan-Mateu, H. Raurell-Vila, R. Scharfmann, P. Marchetti, L. Pasquali, T.O. Metz, D.L. Eizirik, Belgium, USA, Spain, France, Italy

402 The type 1 diabetes candidate gene CTSH protects against cytokine-induced beta cell apoptosis via Rac2 GTPase

T. Fløyel, A.H. Mirza, S. Kaur, J. Størling, F. Pociot, Denmark, USA

403 The type 1 diabetes candidate gene Src kinase associated phosphoprotein 2 (SKAP2) controls beta cell sensitivity to pro-inflammatory cytokines

J. Størling, K. Meyerovich, T. Fløyel, H.B. Mortensen, L.B. Nielsen, D.L. Eizirik, A.K. Cardozo, F. Pociot, Denmark

404 Characterisation of CXCL10 expression pattern in pancreatic islets of NOD mice and type 1 diabetic patients: a new role for alpha cells in T-lymphocytes recruitment

L. Nigi, F. Mancarella, L. Krogvold, L. Marselli, G. Sebastiani, G. Ventriglia, G.E. Grieco, N. Brusco, C. Gysemans, P. Marchetti, C. Mathieu, K. Dahl-Jørgensen, F. Dotta, Italy, Norway, Belgium

405 Studies of insulin-related peptides in pancreas and plasma support the existence of two distinct aetiological subtypes of type 1 diabetes associated with age at diagnosis

P. Leete, R. Oram, T.J. McDonald, C. Ziller, B. Shields, T. Tigi Study Team, A.T. Hattersley, S.J. Richardson, N.G. Morgan, UK

406 Prevascularisation of pseudo-islets: a new strategy to improve the engraftment of transplanted islets

L. Nalbach, E. Ampofo, V. Becker, W. Metzger, N. Wilhelm, M.D. Menger, M.W. Laschke, Germany

407 Donor body mass index does not affect short term clinical islet transplant outcomes

K.J. Potter, A. Lam, D. O'Gorman, T. Kin, S. Forbes, A. Malcolm, A. Haqq, A. Shapiro, P. Senior, Canada, UK

408 DPP6 as a new biomarker suitable for human islet in vivo imaging

R.S. Ribeiro, S. Demine, J. Kerr-Conte, F. Pattou, A. Balhuizen, J. Thevenet, D. Pacitte, R. Scharfmann, P. Marchetti, S. Goldman, T. Lahoutte, L. Bouwens, D. Eizirik, N. Devoogdt, Belgium, France, Italy

Poster Event A, Tuesday, 12:00 - 13:00

PS 019 Beta cell signal transduction

Chair: R.N. Kulkarni, USA

409 Orphan G-protein coupled receptors (GPC) expression profiling in human islets revealed novel genes for type 2 diabetes

J. Taneera, A. Mohammed, N. Sulaiman, M. Hamad, A.S. Salehi,
United Arab Emirates, Sweden

410 Proteomic analysis on human islets shows-up new markers of cellular and metabolic dysfunction

C.M. Cefalo, T. Mezza, S. Alfieri, W.-J. Qian, R.N. Kulkarni, A. Giaccari, Italy,
USA

411 The glutamate receptor GLUK2 plays a role in glucose homeostasis

M. Abarkan, F. Lebreton, R. Perrier, M. Jaffredo, J. Gaitan, C. Magnan,
M. Raoux, J. Lang, France, Switzerland

412 Inhibition of insulin secretion by the chemokine Cxcl14 via a cAMP-independent pathway

P. Atanes, R.G. Hawkes, I. Ruz-Maldonado, O. Olaniru, B. Liu, S. Amisten,
S.J. Persaud, UK

413 Beta cell resident hypoxia inducible factor prolyl 4-hydroxylase PHD3 is involved in the regulation of glucose homeostasis

F. Cuzzo, D. Nasteska, A. Thakker, D.A. Tennant, D.J. Hodson, UK

414 Fetuin-A impairs islet differentiation and function via inhibition of TGFbeta-1 signalling

F. Gerst, A.-K. Fritz, E. Lorza Gil, G. Kaiser, E. Wolf, H.-U. Haering,
S. Ullrich, E. Kemter, Germany

415 Characterisation of a mechanotransductive signalling pathway in human islets of Langerhans: implications for beta cell fate

A. Galli, E.S. Di Cairano, E. Maffioli, E. Sogne, F. Bertuzzi, P. Milani,
C. Lenardi, G. Tedeschi, C. Perego, Italy

416 The mechanism of impaired incretin responsiveness in the pancreatic islets of obese type 2 diabetes: a study of the ZFDM rat

N. Yokoi, T. Hayami, S. Hidaka, A. Kawabata, H. Takahashi, S. Seino, Japan

Poster Event B, Tuesday, 13:15 - 14:15**PS 020 Beta cell damage and protection**

Chair: S. Ullrich, Germany

417 The selective serotonin reuptake inhibitor fluoxetine improves glucose homeostasis in mice and humans: effects on insulin secretion and functional beta cell mass

B. Liu, C.D. Moulton, I. Ruz-Maldonado, K. Toczyska, G.C. Huang, M.G. Zariwala, K. Ismail, P.M. Jones, S.J. Persaud, UK

418 Prolactin protects beta cells against oxidative stress through HSPB1

L. Labriola, R.A. Wailemann, A.F. Dos Santos, V.M. Gomes, R.P. Silva, A. Laporte, F.C. Meotti, W.R. Terra, G. Palmisano, S. Lortz, L.F. Terra, Brazil, Germany

419 A novel prolactin-receptor target in pancreatic beta cells

C. Huang, G. Makkar, V. Shrivastava, B.D. Kyle, A.P. Braun, F.C. Lynn, Canada

420 Impact of mitochondrial dysfunction on pancreatic islet cell composition in a mouse model of premature ageing

X. Yu, C. Arden, C. Chen, M. White, D. Turnbull, L. Greaves, M. Walker, UK

421 Pancreatic beta cell-specific deletion of CR6-interacting factor-1 (CRIF1) causes blunted first phase insulin secretion and altered islet morphology

H. Hong, K. Joung, Y. Kim, J. Chang, J.-H. Park, H. Kim, M. Shong, Korea, Republic of, USA

422 The KINGS $\text{Ins2}^{+/G32S}$ mouse: a novel model of diabetes

A.L. Austin, C. Gentry, D. Andersson, S. Sharp, S. Bevan, P.M. Jones, A.J. King, UK

423 Overexpression of eukaryotic translation initiation factor 2A (eIF2A) in pancreatic beta cells attenuates diabetes progression in Akita mice

E. Panzhinskiy, G. Soukhatcheva, S. Skovsø, D.A. Dionne, J.S. Wildi, S. Marcil, X. Hu, C.B. Verchere, E. Jan, J.D. Johnson, Canada

424 Metallothionein 1 inhibits glucose-stimulated insulin secretion and is differentially regulated in conditions of beta cell compensation and failure

M. Bensellam, Y.-C. Shi, J. Chan, D.R. Laybutt, J.-C. Jonas, Belgium, Australia

Poster Event C, Wednesday, 12:00 - 13:00

PS 021 Clinical and experimental immunology in type 1 diabetes

Chair: H. Le Stunff, France

425 Older age of diagnosis is the major feature of persistent long term endogenous insulin secretion in type 1 diabetes

R.A. Oram, T.J. McDonald, S. Sabbah, S. Bloem, B. Shields, A. Hill, R. Bolt, S. Begom, L. Khatri, T. Tree, B.O. Roep, A.T. Hattersley, The TIGI Study Group, UK, Netherlands, USA

426 Repeat BCG vaccination creates lasting HbA_{1c} reductions in adult subjects with longstanding type 1 diabetes

D. Faustman, W.M. Kühtreiber, L. Tran, M. Dybala, S. Plager, S. Janes, A. Defusco, H. Zheng, USA

427 GAD65 autoantibodies are associated with incident diabetes in mid-life: the EPIC-InterAct study

O. Rolandsson, C.S. Hampe, S.J. Sharp, C. Langenberg, N. Wareham, EPIC-Interact Group, Sweden, USA, UK

428 Exogenous IL-33 prevents diabetes induction in mice

N. Jovicic, I. Petrovic, S. Pavlovic, B. Ljubic, M. Miletic Kovacevic, N. Pejnovic, N. Arsenijevic, M.L. Lukic, Serbia

429 Immunomodulatory therapies with anti-IL-6 and anti-IL-17 combined with anti-TCR to regain normoglycaemia in the LEW.1AR1-iddm rat as a model for human type 1 diabetes

A. Joerns, H. Teraoku, T. Yoshimoto, D. Wedekind, S. Lenzen, Germany

430 Gut microbiome signatures in LEW.1AR1-iddm rats during time course of beta cell autoimmunity

T. Schoeppe, J.-H. Sachs, B. Kreikemeyer, D.P. Herlemann, M. Tiedge, Germany

431 HERV-W-Env is involved in type 1 diabetes pathogenesis: new insights from mouse models

S. Levet, J. Medina, J. Joanou, N. Queruel, J. Pierquin, H. Perron, France, Switzerland

432 EMC-D virus-induced diabetes in DBA/2 mice

K. Mine, S. Nagafuchi, H. Takahashi, Y. Yoshikai, H. Mori, Y. Matsuta, K. Anzai, Japan

Poster Event D, Wednesday, 13:15 - 14:15

PS 022 Exercise is good for you

Chair: B. Egan, Ireland

433 Effectiveness and applicability of an aggressive management of insulin therapy and CHO-integration strategy during prolonged endurance competition in athletes with type 1 diabetes

E. Gamarra, A. Benso, L. Nollino, M. Miccio, C. Agnoli, M. Sudano, M. Vasta, Italy

434 Assessment of glycaemic changes and parameterisation of physical exercise during football matches in adolescents with type 1 diabetes

A. Gawrecki, A. Michalak, S. Gałczyński, J. Nowaczyk, I. Dachowska, M. Szymańska, B. Dulińska, D. Zozulińska-Ziółkiewicz, A. Szadkowska, Poland

435 Variability and reproducibility in the rise in blood glucose levels in response to high intensity interval training (HIIT) in type 1 diabetes: the FIT reproducibility study

M.C. Riddell, R. Pooni, R.E. Brown, L. Yavelberg, Z. Li, C. Kollman, R. Aronson, Canada, USA

436 Optimal insulin correction factor (ICF) for post-exercise hyperglycaemia following high intensity training in adults with type 1 diabetes: the FIT Study

R. Aronson, R.E. Brown, M.C. Riddell, Canada

437 Aerobic exercise training improves hepatic insulin sensitivity but lowers splanchnic glucose uptake in obese type 2 diabetic humans

J.J. Winnick, J.M. Gregory, USA

438 Plasma branched-chain amino acids predict change in insulin sensitivity after exercise training

S. Lee, T.M. Langleite, H. Refsum, H.L. Gulseth, C.A. Drevon, K.I. Birkeland, Norway

439 Resistance training improves neuromuscular health in the elderly with type 2 diabetes: a randomised clinical trial

C.E. Botton, R.S. Pinto, L. Helal, B.D. Schaan, D. Umpierre, Brazil

440 Metabolic response of skeletal muscle tissue to three-month exercise intervention in sedentary non-diabetic men

L. Szczerbinski, E. Siewiec, A. Citko, U. Puchta, J. Zapolska, M. Gorska, A. Kretowski, Poland

441 High intensity interval training improves insulin sensitivity in individuals with prediabetes

P. Mensberg, C. Frandsen, E. Espersen, T. Leineweber, H. Storgaard, K.S. Schlawitz, T.H. Petersen, J.N. Poulsen, F. Sørensen, J.L. Forman, F.K. Knop, T. Vilsbøll, Denmark

Poster Event E, Thursday, 12:00 - 13:00

PS 023 In gut we trust

Chair: J.J. Holst, Denmark

442 Ghrelin in rat pancreatic islets decreases islet blood flow and impairs insulin secretion

C.J. Drott, P. Franzén, P.O. Carlsson, Sweden

443 C-terminal plasma degradation of PYY(1-36) and PYY(3-36) severely curtails effects on insulin secretion, beta cell mass and satiety

P.R. Flatt, R.A. Lafferty, N. Irwin, UK

444 A novel exendin-4/gastrin/xenin-8-Gln fusion peptide, in combination with a stable GIP agonist, substantially improves metabolic control in high fat fed mice

N. Irwin, A. Hasib, M.T. Ng, P.R. Flatt, V.A. Gault, UK

445 Differential efficacy of a GLP-1R/GCGR dual agonist versus a GLP-1R agonist in diet-induced obese mice

M.P. Valdecantos, L. Ruiz, M.J. Obregon, A. Dos Santos, M.A. Bednarek, J. Grimsby, C. Rondinone, A.M. Valverde, Spain, USA

446 Increasing the cellular populations secreting incretins improves glucose homeostasis and beta cell regeneration

M. Terasaki, C.L. Mattsson, K.-C. Liu, J. Charbord, Q. Zhou, T. Hirano, O. Andersson, Sweden, Japan, USA

447 Transcriptional factor pancreatic duodenal homeobox-1 (Pdx1) is involved in age-related glucose-dependent insulintropic polypeptide (GIP) hypersecretion in mice

E. Ikeguchi, N. Harada, Y. Kanemaru, A. Sankoda, S. Yamane, K. Iwasaki, M. Imajo, Y. Murata, K. Suzuki, E. Joo, N. Inagaki, Japan

448 GLP-1 releaser D-allulose effectively and glucose-dependently corrects hyperglycaemia

T. Yada, M. Sendo, M. Yoshino, Y. Yamada, D.J. Drucker, M. Tokuda, Y. Iwasaki, Japan, Canada

449 The role of the incretins in the postprandial bone remodelling

M.M. Helsted, L.S. Gasbjerg, A.R. Lanng, S. Stensen, B. Hartmann, M.B. Christensen, J.J. Holst, T. Vilsbøll, M.M. Rosenkilde, F.K. Knop, Denmark

Poster Event F, Thursday, 13:15 - 14:15

PS 024 Following the signal inside muscle or fat

Chair: A. Schürmann, Germany

450 The thromboxane A2 receptor modulates glucose metabolism in skeletal muscle

A.M. Abdelmoez, A. Krook, J.R. Zierath, N.J. Pilon, Sweden

451 Mechanical stretch-induced extracellular vesicles improved insulin-stimulated glucose uptake in myotubes and adipocytes

T. Saito, Y. Shimoda, T. Shimizu, J. Okada, R. Shibusawa, Y. Kasai, A. Osaki, E. Yamada, S. Okada, M. Yamada, Japan

452 Caveolin and clathrin mediate insulin receptor internalisation and are associated with high-insulin induced insulin resistance in muscle cells

H. Cen, L. Abraham, M. Gold, J.D. Johnson, Canada

453 Withdrawn

454 Prdx6 reduced the risk of type 2 diabetes-associated sarcopenia by improving skeletal muscle cells differentiation

F. Pacifici, B. Capuani, F. Piermarini, D. Pastore, R. Arriga, A. Coppola, S. Rea, G. Donadel, A. Bellia, D. Della-Morte, D. Lauro, Italy

455 The novel adipokine Wnt1-inducible signalling pathway protein-1 (WISP1) associates with insulin resistance and impairs insulin action

N. Rudovich, T. Hörbelt, C. Tacke, M. Markova, F. Van de Velde, M. Bekaert, Y. Van Nieuwenhove, H.G. Thoresen, O. Kuss, V. Lange, B. Lapauw, A. Schürmann, A.F. Pfeiffer, O. Pivovarov, D. Ouwens, Switzerland, Germany, Belgium, Norway

456 Plasma methylglyoxal is associated with insulin resistance and induces impairment of insulin-induced akt-phosphorylation in microvascular endothelial cells

T.A. Chimhanda, D.E. Maessen, N. Hanssen, M.K. Hasselink, P. Schrauwen, C.D. Stehouwer, C.G. Schalkwijk, Netherlands

457 Effect of glycated albumin in the expression of glucose transporter GLUT4 in adipocytes: potential participation of transcription factor NF- κ B

M.L. Michalani, M. Passarelli, U.F. Machado, Brazil

Poster Event A, Tuesday, 12:00 - 13:00

PS 025 Clocking in on exercise and nutrition

Chair: T.G. Olsson, Sweden

458 Skeletal muscle contraction protects against hyperglycaemia-induced insulin resistance and associated transcriptomic (dys) regulation

S. Carter, J.P. Barlow, T.P. Solomon, UK

459 Endurance exercise training in the fasted or fed state in male patients with type 2 diabetes: safe and equally effective

K. Verboven, I. Wens, B. Lapauw, P. Calders, D. Hansen, Belgium

460 Time dependence of glucagon under hypoglycaemic conditions

C. Pedersen, G. Kraft, D. Laneve, M. Scott, M.N. Najdowski, B. Farmer, P. Williams, A.D. Cherrington, D.S. Edgerton, Denmark, USA

461 Afternoon exercise is more efficacious than morning exercise at improving blood glucose levels in men with type 2 diabetes

M. Savikj, B.M. Gabriel, P. Alm, J. Smith, K. Caidahl, M. Björnholm, T. Fritz, A. Krook, J.R. Zierath, H. Wallberg-Henriksson, Sweden, Norway

462 Carbohydrates standard breakfast as a more physiological test of glucose tolerance than the OGTT in obese patients: glycaemic variability and insulin secretion indexes

I. Banu, A. Rezki, M. Fysekidis, S. Chiheb, E. Cosson, P. Valensi, France

463 Fructose contributions to hepatic triglyceride synthesis in the presence of glucose during overnight feeding in mice

J. Jones, J. Silva, F. Martins, I. Viegas, C. Marques, M. Macedo, Portugal

464 An essential role of ghrelin in circadian rhythmicity of voluntary exercise under constant darkness

Y. Tajiri, Y. Sakai, T. Sato, M. Kojima, M. Nomura, H. Mifune, Japan

465 Changes in mitochondrial morphology lead to disruption of circadian rhythms in skeletal muscle

L. Sardon Puig, B. Gabriel, N.J. Pilon, J. Smith, R. Sjögren, C. Cantó, A. Krook, J. Zierath, Sweden, Switzerland

Poster Event B, Tuesday, 13:15 - 14:15

PS 026 Healthy diet for a healthy rodent

Chair: J. Spranger, Germany

466 Dietary methionine restriction protects from type 2 diabetes in NZO mice

T. Castaño-Martinez, W. Jonas, T. Laeger, Germany

467 Medium-chain triglyceride oil does not induce GIP secretion and induces less body weight and fat mass gain compared with long-chain triglyceride oil

Y. Murata, N. Harada, S. Yamane, K. Iwasaki, Y. Kanemaru, T. Harada, A. Sankoda, E. Ikeguchi, S. Kuwahara, E. Joo, H. Poudyal, N. Inagaki, Japan

468 High fat diet induces a blunted antihyperglycaemic effect of the neuropeptide 26Rfa in mice

G. Prevost, J. Bons, A. Arabo, M. Picot, J. Maucotel, H. Berrahmoune, M. El Mehdi, S. Cherifi, M. Coeffier, J. Leprince, V. Brunel, P. Dechelotte, H. Lefebvre, Y. Anouar, N. Chartrel, France

469 Murine lipid-induced hepatic insulin resistance is not pathway-selective

D.F. Vatner, L. Goedeke, X. Li, M.C. Petersen, J.C. Rogers, G. Casals, G.W. Cline, V.T. Samuel, G.I. Shulman, USA

470 CD44 plays a key role in regulating high fat diet induced muscle insulin resistance

A. Hasib, C.K. Hennayake, D.P. Bracy, D.H. Wasserman, L. Kang, UK, USA

471 Long-term hypercaloric diet consumption exacerbates age-induced metabolic dysfunction: beneficial effects of CSN denervation

J.F. Sacramento, B.F. Melo, C.S. Prego, S.V. Conde, Portugal

472 GIP-xenin hybrid peptide enhances the metabolic benefits of exenatide in high fat fed and db/db diabetic mice

V.A. Gault, A. Hasib, M. Ng, R.A. Perry, P.R. Flatt, N. Irwin, UK

Poster Event C, Wednesday, 12:00 - 13:00

PS 027 Pinpointing pancreatic performance

Chair: P. Marchetti, Italy

473 Postnatal loss of pancreatic beta cell insulin receptor affects insulin secretion observed under long-term high-fat diet

A. Oakie, L. Zhou, S. Rivers, C. Cheung, J. Li, R. Wang, Canada

474 Corticotropin-releasing hormone: a novel signal for regulating the islet adaptation to pregnancy

S.J. Simpson, L.I. Smith, T.G. Hill, P.M. Jones, J.E. Bowe, UK

475 Effect of sustained hyperglycaemia on insulin sensitivity and beta cell function in normal glucose tolerant subjects with and without family history of type 2 diabetes

D. Tripathy, A. Merovci, X. Chen, E. Maldonado-Corchado, R. DeFronzo, USA

476 The increment of noradrenergic fibers correlates with the density of dedifferentiated beta cells and impairs beta cell function in humans

F. Cinti, T. Mezza, I. Severi, M. Suleiman, C. Cefalo, G. Sorice, S. Moffa, F. Impronta, S. Alfieri, A. Pontecorvi, L. Marselli, S. Cinti, P. Marchetti, A. Giaccari, D. Accili, Italy, USA

477 The role and mechanism of TXNIP in aging related proliferation and secretion dysfunction of pancreatic beta cells

Y. Li, D. Liu, G. Yang, China

478 Mitochondrial respiratory chain complex IV dysfunction and beta cell failure is associated with a novel mutation in the mitochondrial assembly factor NDUFAF5

S. Weksler-Zangen, A. Kogot-Levin, G. Aharon Hananel, E. Gurgul-Convey, I. Raz, A. Saada, Israel, Germany

479 The increase in calcium by arginine, but not by strong potassium depolarisation is different between pancreatic alpha and beta cells

E.-H. Frueh, I. Rustenbeck, Germany

480 Endocytosis occurs right after fusion pore open and plays crucial roles in granule collapse

W. Ma, J. Tong, J. Chang, P. Thorn, Australia

Poster Event D, Wednesday, 13:15 - 14:15

PS 028 Balancing the books: insulin delivery and clearance

Chair: A. Mari, Italy

481 Does and to what extent insulin decides the fasting glucose levels?

M. Watve, M. Diwekar, S. Kulkarni, A. Ojha, India

482 Insulin clearance is modulated by insulin sensitivity independently of hypersecretion

R. Bizzotto, A. Natali, A. Gastaldelli, R.A. De Fronzo, S. Arslanian, E. Ferrannini, A. Mari, Italy, USA

483 Pharmacological characterisation of an ultra-long acting once-weekly insulin-Fc fusion with continuous glucose monitoring

C.D. Church, V. Howard, S. Oldham, R. Gaddipati, K. Mather, A. Rossi, G. Browne, L. Liang, J. Naylor, J. Dhillon, D. Hornigold, J. Trevaskis, D. Baker, C.J. Rhodes, A. Buchanan, UK, USA

484 Association between a metabolic syndrome severity score and all-cause mortality in type 1 diabetes: a 10-year follow-up study

R. Miccoli, M. Garofolo, R. Giannarelli, F. Campi, D. Lucchesi, L. Giusti, V. Sancho Bornez, A. Dardano, G. Daniele, S. Del Prato, G. Penno, Italy

485 Estimation of glucose disposal rate in type 1 diabetes using clinical and research biomarkers

A.J. Jenkins, A.S. Januszewski, N. Sachithanandan, G. Ward,
C. Karschinkus, D.N. O'Neal, Australia

486 The higher insulin sensitivity the higher exercise capacity in patients with type 1 diabetes

A. Uruska, P. Niedzwiecki, D. Naskret, O. Rozanska, A. Cieluch,
D. Powezki, M. Chudzinski, D. Zozulinska-Ziolkiewicz, Poland

487 Impaired subcutaneous insulin delivery in type 2 diabetes patients

E. Fryk, J. Olausson, L. Strindberg, B. Becattini, K. Mossberg, M. Schmelz,
H. Brogren, G. Solinas, P.-A. Jansson, Sweden, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 029 Visit to the diabetes zoo: novel animal models

Chair: P. Formisano, Italy

488 T63 displays beneficial effects on various tissues in animal models of diabetes via pleiotropic protective actions

V. Chavanelle, Y.F. Otero, P. Sirvent, P.D. Cani, S.L. Peltier, France, Belgium

489 Liver-specific nicotinamide N-methyltransferase deficiency protects mice from body weight gain and improves insulin sensitivity under standard diet

S. Brachs, J. Polack, M. Brachs, R. Elvert, F. Bärenz, S. Ruf, M. Kabiri,
A. Kannt, J. Spranger, Germany

490 Renal denervation stimulates hepatic glucose uptake in dogs

L.M. Moore, D.S. Edgerton, E. Allen, B. Farmer, P. Williams,
A.D. Cherrington, G. Kraft, USA

491 A novel preclinical model to define the window between plasma glucose lowering versus water retention in the gut during SGLT1 inhibition

M. Fritsch Fredin, M. Sundqvist, H. Peilot Sjögren, C. Kankkonen,
M. Persson, M. Strimfors, D. Lindén, T. Rydén-Bergsten, D. Karlsson,
Sweden

492 Effect of hyperamylinemia on expression of genes involved in metabolic hormone signalling in the brain

T. Nie, S. Zhang, G. Vazhoor Amarsingh, H. Liu, G.J. Cooper, New Zealand

493 Evaluation of GPR120 regulation of glucose homeostasis and incretin secretion using intestinal cell lines and incretin receptor knockout mice

A.M. McKillop, B.M. Moran, M.G. Miskelly, P.R. Flatt, UK, Ireland

494 Characterisation of a new mouse model for gestational diabetes

K. Grupe, F. Dannehl, M. Planteur, S. Scherneck, Germany

495 Insights in the role of a fatty acid oxidation enzyme in insulin secretion: rare genetic variants and a new murine model of SCHAD deficiency

K. Velasco, J. Lüdeke, H. Hovland, Å. Ottesen, M. Choi, L.M. Myklebust, K. Fjeld, I. Aukrust, T. Arnesen, P. Njølstad, R.N. Kulkarni, A. Molven, Norway, USA

496 A new implantable insulin-delivery device designed for extraperitoneal space, an alternative site for insulin delivery

J. Magisson, A. Sassi, A. Kobalyan, C.-T. Burcez, R. Bouaoun, K. Gouget Kaufmann, M. Vix, N. Jeandidier, S. Sigrist, France

Poster Event F, Thursday, 13:15 - 14:15

PS 030 Keeping it in the family: glucagon, GIP, GLP1, GLP2

Chair: S. Barg, Sweden

497 Proteomics of secreted glucagon reveals heterogeneous complexes as novel mediators of alpha cell function

F. Asadi, S. Dhanvantari, Canada

498 Pancreatic alpha cells respond to glucose with a change in the frequency of intracellular calcium oscillations

J.A. Kellard, J.G. Knudsen, L. Briant, P. Rorsman, UK

499 Loss of melatonin receptor 1 in mouse pancreatic islets results in dysregulated glucagon secretion in vitro

C.L. Lyons, E. Cowan, D.G. Abellán, C.L. Nagorny, H. Mulder, M. Fex, Sweden

500 Bone protective effect of a novel long-acting GLP-1/GIP/Glucagon triple agonist (HM15211) in an animal model

S. Lee, Y.-Y. Kim, J. Lee, S.-H. Lee, Y. Kim, I. Choi, S. Kim, Korea, Republic of

501 Separate effects of glucagon like peptide-2 (GLP-2) and glucose-dependent insulintropic polypeptide (GIP) on bone remodelling

K. Skov-Jeppesen, M. Svane, C. Martinussen, M. Gabe, L. Gasbjerg, S. Madsbad, J. Holst, M. Rosenkilde, B. Hartmann, Denmark

502 Direct effects of glucagon on human adipose tissue metabolism

M.J. Pereira, G.J. Boersma, P.G. Kamble, P. Lundkvist, K. Almby, J.W. Eriksson, Sweden

503 Postprandial effects of individual and combined GIP and GLP-1 receptor antagonism in healthy subjects

L.S. Gasbjerg, M.M. Helsted, A.H. Sparre-Ulrich, A.R. Lanng, S. Stensen, M.H. Jakobsen, B. Hartmann, M.B. Christensen, J.J. Holst, T. Vilsbøll, M.M. Rosenkilde, F.K. Knop, Denmark

504 Individual and combined glucose-lowering effects of glucagon receptor antagonism and dipeptidyl peptidase-4 inhibition

H. Maagensen, S. Haedersdal, A. Lund, E. Nielsen-Hannerup, J. Holst, F. Knop, T. Vilsbøll, Denmark

505 The initial rise in GIP secretion during OGTT correlates with the initial suppression of glucagon secretion in adolescents with obesity and type 2 diabetes

H. Kristinsson, H. Manell, M. Dahlbom, J. Presto, C. Gäredal, H. Ritzén, M. Vilhelmsson, E. Kilstedt, F. Johnson, H. Stenberg, A. Forslund, P. Bergsten, Sweden

Poster Event A, Tuesday, 12:00 - 13:00

PS 031 Slimming down: with or without surgery

Chair: M. Rydén, Sweden

506 Glucagon and gastrointestinal hormones changes after Roux-en-Y gastric bypass: an IMI DIRECT study

J. Gassenhuber, F. Frau, V. Raverdy, F. Baerenz, M. Gebauer, F. Pattou, Germany, France

507 Increased GLP-1 levels after bariatric surgery are not explainable by adaptations to enteroendocrine cells or the intestinal peptidome

P. Larraufie, A.K. McGavigan, R.G. Kay, F. Reimann, F.M. Gribble, UK

508 The effect of Roux-en-Y gastric bypass surgery on the gut mucosal gene expression profile and circulating gut hormones

M.M. Christensen, T. Jorsal, B. Mortensen, E. Wandall, E. Langholz, S. Friis, D. Worm, R.K. Støving, A. Aldries, C.B. Juhl, J. Rehfeld, N. Vrang, J. Jelsing, T. Vilsbøll, F.K. Knop, Denmark

509 Post-prandial hypoglycaemia after Roux-en-Y gastric bypass: Could Neuromedin U play a role in the pathogenesis?

D. Bottazzo, D. Tricò, D. Guarino, S. Baldi, M. Anselmino, S. Taddei, E. Ferrannini, M. Nannipieri, Italy

510 Different nutrient handling and gut hormone response after gastric bypass and sleeve gastrectomy

M.S. Svane, K.N. Bojsen-Møller, C. Martinussen, C. Dirksen, S. Reitelseder, L. Holm, V.B. Kristiansen, J.J. Holst, S. Madsbad, Denmark, UK

511 The different mechanisms of action of GIP and GLP-1 explain their different efficacy as therapeutic agents in type 2 diabetes

E. Grespan, T. Giorgino, A. Natali, E. Ferrannini, A. Mari, Italy

512 Remission of type 2 diabetes: underlying mechanisms revealed by the Diabetes Remission Clinical Trial (DiRECT)

R. Taylor, A. Al-Mrabeh, S. Zhyzhneuskaya, C. Peters, A.C. Barnes, B.S. Aribisala, K.G. Hollingsworth, N. Sattar, M.E. Lean, UK

513 Ethnic differences in hepatic and adipose tissue insulin sensitivity in normal glucose tolerant black west African and white European men

O. Bello, M. Ladwa, C.S. Marathe, F. Shojee-Moradie, N. Jackson, J.L. Peacock, A.M. Umpleby, S.A. Amiel, L.M. Goff, UK

Poster Event B, Tuesday, 13:15 - 14:15

PS 032 Novel biomarkers

Chair: N.J. Pillon, Canada

514 Metabolomics reveal changes in plasma concentrations of 3-hydroxybutyric acid, citric acid, oleic acid and proline in gestational diabetes

N.J. Johansen, M. Demant, T. Suviolaiva, K. Trost, L. Ahonen, L. Bonde, J.A. Svare, C.L. Quigley, T. Vilsbøll, F.K. Knop, Denmark

515 A targeted proteomic profile of prevalent diabetes in a population-based sample

K. Beijer, J. Sundström, J. Ärnlöv, T. Fall, E. Ingelsson, L. Lind, Sweden, USA

516 Linagliptin treatment is associated with improved cobalamin (vitamin B₁₂) storage in mice and potentially in humans

H. Tammen, M. Kömhoff, M. Mark, B. Hoher, D. Delic, R. Hess, M. Von Eynatten, T. Klein, Germany

517 Insulin-like Growth Factor-1 (IGF-1) regulates the levels of serum uric acid through the urate transporters

A. Fuoco, G.C. Mannino, R. Spiga, C. Di Fatta, E. Mancuso, C. Averta, F. Andreozzi, G. Sesti, Italy

518 Genetic regulation of pigment epithelium-derived factor (PEDF), a multifunctional anti-tumour factor: an exome-chip association analysis in subjects with type 2 diabetes

C.Y. Cheung, P.C. Lee, C.S. Tang, A. Xu, C.H. Fong, K.K. Ng, K.H. Kwok, W.-S. Chow, Y.-C. Woo, M.M. Yuen, K.K. Tan, T.-H. Lam, H.-F. Tse, P.-C. Sham, K.S. Lam, Hong Kong

519 Expression of lymphocytes phenotypic markers in patients with diabetic foot syndrome and healing rate of ulcerative defects

M. Mashkova, T. Mokhort, V. Goranov, L. Chvatova, O. Symantovich, I. Pukita, E. Yurenova, A. Shyshko, Belarus

Poster Event C, Wednesday, 12:00 - 13:00

PS 033 Inflammation, adipose tissue and obesity: human studies

Chair: V. D'Esposito, Italy

520 A lower level of intestinal inflammation markers is associated with a higher insulin resistance in patients with morbid obesity

A. Ho Plágaro, C. Gutiérrez Repiso, C. Santiago Fernández, S. García Serrano, L. Garrido Sánchez, S. Valdés, M. Gonzalo, G. Alcaín Martínez, F. Martín Reyes, A. Rodríguez Cañete, F. Moreno Ruiz, C. Montiel Casado, E. García Fuentes, Spain

521 Omentin-induced secretion of proteins by primary human adipocytes and stimulation of the innate immune system

C. Niersmann, S.M. Hauck, J.M. Kannenberg, K. Röhrig, C. Von Toerne, M. Roden, C. Herder, M. Carstensen-Kirberg, Germany

522 The impact of inflammation on alternative splicing at PPARG locus in hypertrophic obesity

S. Cataldi, M. Aprile, P. Italiani, A. Ciccodicola, V. Costa, Italy

523 Resistin inhibits neuronal autophagy through Toll Like Receptor (TLR) 4

Y. Benomar, J. Miao, S. Al Rifai, G. Poizat, L. Riffault, D. Crepin, M. Taouis, France

524 Obesity is associated with a more inflammatory phenotype of macrophages in human pancreatic islets

W. He, K. Maedler, Germany

525 Human obesity alters circadian clock function through NF- κ B activation

E. Maury, L. Noel, B. Navez, S.M. Brichard, Belgium

526 Complement C3 and C4, but not their regulators or activated products, are associated with metabolic syndrome: the CODAM study

Y. Xin, E. Hertle, C.J. Van der Kallen, C.G. Schalkwijk, C.D. Stehouwer, M.M. Van Greevenbroek, Netherlands

527 Circulating WISP1/CCN4 is associated with body fat distribution and adipose tissue dysfunction in subjects with type 2 diabetes

V.V. Klimontov, D.M. Bulumbaeva, A.P. Lykov, O.N. Fazullina, N.P. Bgatova, A.F. Pfeiffer, O. Pivovarova, N. Rudovich, Russian Federation, Germany, Switzerland

Poster Event D, Wednesday, 13:15 - 14:15**PS 034 Animal models of type 2 diabetes and obesity**

Chair: H. Al-Hasani, Germany

528 Genetic deletion of RAGE in db/db mice interferes in the liver with other AGE-receptors and AGE-detoxifying systems sustaining lipogenesis and inflammation

R. Mastrocola, A.S. Cento, D. Collotta, F. Chiazza, F. Barutta, J. Scheijen, M. Aragno, K. Gaens, M. Collino, C.G. Schalkwijk, K. Wouters, Italy, Netherlands

529 Constitutive Androstane Receptor deficiency leads to sexually dimorphic metabolic disorders in aging

C. Lukowicz, M. Régnier, F. Lasserre, A. Polizzi, A. Montagner, S. Smati, Y. Lippi, F. Lenfant, V. Theodorou, L. Gamet-Payrastre, S. Ellero-Simatos, P. Gourdy, N. Loiseau, H. Guillou, L. Mselli-Lakhal, France

530 Inhibition of MG53 E3 ligase activity as a possible new target in the treatment of type 2 diabetes

J. Reinke, T. Sadowski, K. Breitschopf, Germany

531 Interindividual susceptibility to type 2 diabetes in mice: hepatic transcriptome and DNA methylome profiling

S. Saussenthaler, M. Ouni, M. Jähnert, P. Huypens, J. Beckers, A. Schürmann, Germany

532 Two immune-related GTPases prevent from hepatic fat accumulation by inducing autophagy

K. Schwerbel, A. Kamitz, M. Jähnert, P. Gottmann, F. Schumacher, B. Kleuser, T. Haltenhof, F. Heyd, M. Roden, A. Chadt, H. Al-Hasani, W. Jonas, H. Vogel, A. Schürmann, Germany

533 Impact of different mtDNA mutations on glucose homeostasis and fat accumulation in liver in aging mice

C. Johné, S. Schröder, M. Tiede, S. Baltrusch, Germany

534 The experiment study of effects of multi-electrode renal denervation on insulin sensitivity and glucose metabolism

T. Pan, Y. Qian, G.-J. Teng, China

535 Next generation of spontaneous diabetic model of ZSD rats with intact leptin signalling develop cardiac dysfunction and compromised cardiac dysfunction

G. Sun, G. Zhang, V. Jackson, J. Wang, USA

536 Aged New Zealand Obese (NZO) mice are protected against diet-induced loss of beta cells

R. Kehm, O. Kluth, A. Schürmann, T. Grune, A. Höhn, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 035 Inflammation in type 2 diabetes: human studies

Chair: T.M. Stulnig, Austria

537 Association of serum Sestrin2 level with metabolic risk factors in newly diagnosed drug-naive type 2 diabetes

Y. Lee, J. Kim, E. Roh, S. Hong, N. Kim, J. Seo, S. Kim, N. Kim, K. Choi, S. Baik, H. Yoo, Korea, Republic of

538 Antagonistic functions of WNT5A and SFRP5 in hepatic glucose metabolism and inflammation

M. Carstensen-Kirberg, C. Niersmann, K. Röhrig, M. Roden, C. Herder, Germany

539 Relationship of complement parameters in type 2 diabetic patients with non-alcoholic fatty liver disease

E. Sipter, L.J. Barkai, D. Csuka, Z. Prohaszka, N. Hosszufalusi, Hungary

540 Intra-acinar fat in the pancreas of non-diabetic and type 2 diabetic subjects

M. Suleiman, C. De Luca, M. Bugliani, S. Mossuto, F. Grano, P. Marchetti, L. Marselli, Italy

541 Extracellular nicotinamide phosphoribosyltransferase (eNAMPT) induces beta cell dysfunction via p38 and STAT3 signalling

P.W. Caton, R. Beavil, D.J. Hodson, G.G. Lavery, S. Sayers, UK

542 Anti-inflammatory and immune-mediated effects of metformin therapy in patients with type 2 diabetes

M.D. Tron'ko, O.V. Furmanova, V.V. Popova, Y.A. Sayenko, V.L. Orlenko, K.Y. Ivaskiva, K.M. Tron'ko, K.P. Zak, Ukraine

543 Vitamin-D improves glycaemic outcome in prediabetes through reduced fetuin-A and systemic inflammation

M. Kumar, D. Dutta, S.A. Mondal, S. Mukhopadhyay, India

544 Role of O-GlcNAc glycosylation in the inflammatory effect of LPS in macrophage

H. Al-Mukh, L. Baudoin, M. Khair, L. Francese, F. Niedergang, T. Issad, France

Poster Event F, Thursday, 13:15 - 14:15

PS 036 Inflammation in obesity and type 2 diabetes: mouse studies

Chair: J. Vendrell Ortega, Spain

545 Protective role of SIRT1 against the deleterious effect of inflammation in insulin sensitivity and thermogenesis in brown adipocytes

C. Escalona, P. Vázquez, E. García-Casarrubios, M. Obregón, Á.M. Valverde, Spain

546 Leukotriene B4 induces mitochondrial dysfunction in skeletal muscle by mediating oxidative stress and inflammation

M. Abu Bakar, Malaysia

547 Role of resistin/TLR4 signalling pathway in HFD induced hypothalamic inflammation and gliosis

S. Al-Rifai, D. Crepin, L. Riffault, C. Alexandre, G. Poizat, M. Taouis, Y. Benomar, France

548 Impaired PPAR gamma signalling but not endoplasmic reticulum stress promotes inflammation in white adipose tissue of hormone-sensitive lipase deficient mice

P. Kotzbeck, C. Haudum, I. Foessler, B. Boulgaropoulos, K. Bounab, T.O. Eichmann, B. Obermayer-Pietsch, G. Haemmerle, S. Cinti, T.R. Pieber, R. Zechner, Austria, Italy

549 The role of TLR4 interactor with leucine-rich repeats (TRIL) in hypothalamic inflammation

A. Moura-Assis, J. De Lima Junior, J. Gaspar, R. Gaspar, E. R. Ropelle, L.A. Velloso, Brazil

550 Cystatin C alleviates obesity-associated tissue inflammation and insulin resistance

M.A. Dedual, S. Wueest, T.R. Aeppli, T.D. Challa, D. Konrad, Switzerland

551 Mouse strain-specific immunometabolic response in white adipose tissue during cold exposure

K. Adamcova, K. Bardova, P. Janovska, O. Horakova, P. Flachs, M. Svobodova, M. Rossmeisl, L. Madsen, K. Kristiansen, J. Kopecky, Czech Republic, Norway, Denmark

552 Microbiome inhibition of IRAK-4 by trimethylamine mediates metabolic and immune benefits in high fat diet-induced insulin resistance

M.-E. Dumas, J. Chilloux, A. Myridakis, L. Hoyles, A. Everard, H. Plovier, P. Cani, F. Brial, D. Gauguier, D. Smyth, L. Zhang, P. Liu, UK, Belgium, France, Canada

Poster Event A, Tuesday, 12:00 - 13:00**PS 037 Lipid metabolism in animal models**

Chair: G.A. Raciti, Italy

553 AGEs induce alterations of sphingolipids metabolism in the liver of genetically- and diet-induced diabetic mice

A.S. Cento, K. Gaens, D. Collotta, F. Chiazza, F. Barutta, J. Scheijen, M. Aragno, M. Collino, K. Wouters, C.G. Schalkwijk, R. Mastrocola, Italy, Netherlands

554 Metabolic and hormonal alterations after orchiectomy in the rat: effect of testosterone substitution

N.L. Katsilambros, I.P. Doulamis, P. Konstantopoulos, A. Tzani, A. Daskalopoulou, T. Spinos, E. Bletsa, D. Mitsopoulou, M. Spinou, M. Brinia, K. Palaiojanos, L. Korou, D.N. Perrea, Greece

555 A short bout of HFD desynchronises feeding behaviour in mice thereby affecting glucose and lipid metabolism

S. Wueest, M.A. Dedual, D. Konrad, Switzerland

556 Unsaturated fatty acids rescue GLP-1 secreting cells from a ceramide induced increase in ROS following long term exposure to saturated fatty acids

S. Ntika, K. Thombare, M. Aryapoor, C. Krizhanovskii, Sweden

557 Intracellular lipid mobilisation in INS-1E beta cells is required for sustained glucose-stimulated insulin secretion

L. Oberhauser, T. Brun, P. Maechler, Switzerland

558 The protective effect of SFC on high fat diet induced NAFLD in C57BL/6J mice

S. Hong, Y. Kang, Korea, Republic of

559 Linking of bioenergetic function of mitochondria to tissue-specific molecular fingerprints in mice and humans

L. Kappler, M. Hoene, J. Li, C. Hu, C. Von Törne, L. Kollipara, C. Hoffmann, A. Böhm, S. Hauck, G. Xu, H.-U. Häring, A. Peter, A. Sickmann, C. Weigert, R. Lehmann, Germany, China, UK

560 Chronic treatment with acylated analogues of apelin-13 improves glycaemic control and lipid profiles in diet induced obese diabetic mice

F.P. O'Harte, V. Parthasarathy, C. Hogg, P.R. Flatt, UK

Poster Event B, Tuesday, 13:15 - 14:15

PS 038 Weight regulation and obesity in humans

Chair: N. Stefan, Germany

561 Weight loss reduces postprandial dicarbonyl stress but not AGEs in abdominally obese men

M.D. Van den Eynde, Y.H. Kusters, J.L. Scheijen, A.J. Houben, P.J. Joris, J. Plat, R.P. Mensink, C.D. Stehouwer, C.G. Schalkwijk, Netherlands

562 High number of responders with pharmacotherapy-induced weight loss $\geq 15\%$ in a placebo-controlled dose-ranging study of semaglutide in subjects with obesity

A.L. Birkenfeld, J. Wilding, B. McGowan, O. Mosenzon, S.D. Pedersen, S. Wharton, L. Endahl, C.E. Heerdegen-Jepsen, P.M. O'Neil, Germany, UK, Israel, Canada, Denmark, USA

563 The effects of acarbose, sitagliptin, verapamil, liraglutide and pasireotide on hypoglycaemia and glycaemic variability in Roux-en-Y gastric bypass operated subjects

C.C. Øhrstrøm, D.L. Hansen, U.L. Kielgast, J.J. Holst, D. Worm, Denmark

564 A randomised, phase 2, placebo- and active-controlled dose-ranging study of semaglutide for treatment of obesity in subjects without diabetes

J. Wilding, A.L. Birkenfeld, B. McGowan, O. Mosenzon, S.D. Pedersen, S. Wharton, M. Kabisch, C.G. Carson, P.M. O'Neil, UK, Germany, Israel, Canada, Denmark, USA

565 Serum acid uric levels as an indicator for metabolically unhealthy obesity in youth: results from a population-based cohort in Germany

E.A. Rocha, M. Vogel, J. Stanik, A. Körner, W. Kiess, Germany

566 Beta cells in diabetes remission and hypoglycaemia after Roux-en-Y gastric bypass surgery, visualised by 68Ga-exendin-4 PET/CT

M. Boss, L.N. Deden, H. De Boer, E.O. Aarts, E. Hazebroek, M. Brom, F.J. Berends, M. Gotthardt, Netherlands

567 Morbid obesity does not attenuate ethnic differences in regionalisation of body fat

M.B. Whyte, P. Chitongo, L.N. Roberts, R. Arya, S.J. Aylwin, UK

568 Aberrant functional connectivity of the anterior insula with reward and inhibitory control circuits and its association with plasma levels of leptin in obese individuals

A. Ferrulli, F. Devoto, L. Zapparoli, R. Bonandrini, L.M. Sconfienza, G. Banfi, L. Luzi, E. Paulesu, Italy

Poster Event C, Wednesday, 12:00 - 13:00

PS 039 Obesity and lipid metabolism: studies in human-derived cells

Chair: M.-R. Taskinen, Finland

569 Integral lipidomic analysis of human skeletal muscle and visceral adipose tissue biopsy samples from lean, obese and type 2 diabetic individuals

U. Loizides-Mangold, S. Chanon, M. Robert, E. Lefai, C. Dibner, Switzerland, France

570 Long-chain ceramides are lipotoxicity-induced cell non-autonomous endoplasmic reticulum stress-activating secretory signals released from skeletal myocytes

L.D. Roberts, B.D. McNally, S.A. Murfitt, F. Sanders, J. Garnham, M. Vacca, K. Witte, A.J. Murray, J.L. Griffin, UK

571 Structure-toxicity relationships of different saturated and unsaturated free fatty acids with respect to mechanisms of toxic action in human EndoC- β H1 beta cells

T. Plötz, B. Krümmel, I. Mehmeti, S. Lenzen, Germany

572 The importance of adipocyte H2S-synthesising enzymes in human adipose tissue adipogenesis and systemic insulin action

J. Moreno-Navarrete, F. Comas, J. Latorre, M. Arnoriaga-Rodríguez, F. Ortega, M. Kern, O. Cusso, M. Sabater, W. Ricart, X. Ribas, M. Costas, M. Blüher, J. Fernández-Real, Spain, Germany

573 Effects of glycated insulin on adipogenic differentiation

A. Piccoli, T. Bisogno, M. Maccarrone, P. Pozzilli, N. Napoli, R. Strollo, Italy, UK, USA

574 MicroRNAs regulate expression of uncoupling protein 2 gene (UCP-2) in visceral adipose tissues of obese individuals

A. Kurylowicz, M. Owczarz, J. Polosak, M. Jonas, M. Jonas, W. Lisik, M. Puzianowska-Kuznicka, Poland

575 Comparative and functional analysis of plasma membrane-derived extracellular vesicles from obese vs nonobese women

J. Latorre, F. Santamaria-Martos, I. Benítez, J. Moreno-Navarrete, M. Sabater, W. Ricart, M. Sanchez de la Torre, S. Mora, J. Fernández-Real, F. Ortega, Spain, UK

576 CEBP-beta regulates RAP1 expression in visceral adipose tissue of obese patients

C. Formichi, G. Sebastiani, N. Brusco, S. Cantara, G.E. Grieco, C. Maccora, A. Tirone, G. Vuolo, C. Ciuli, F. Dotta, Italy

Poster Event D, Wednesday, 13:15 - 14:15

PS 040 Adipose tissue biology: animal studies

Chair: A.M. Valverde, Spain

577 Glucagon-like peptide 2 (GLP-2): an underestimated signal in metabolic control

J.J. Vendrell, M. Ejarque, D. Beiroa, E. Calvo, N. Keiran, C. Nuñez Roa, R. Nogueiras, S. Fernandez-Veledo, Spain

578 Evaluation of active brown adipose tissue by the use of hyperpolarised [1-13C] pyruvate MRI in mice

M. Riis-Vestergaard, P. Breining, S. Pedersen, C. Laustsen, H. Stødkilde-Jørgensen, P. Borghammer, N. Jessen, B. Richelsen, Denmark

579 Absence of Interleukin-1 Receptor (IL-1RI) alters adipogenesis and adipokine secretion in high-fat diet-induced obesity

K.A. Mitchelson, J.C. Ralston, C.R. Strain, Y.M. Lenighan, E.B. Kennedy, G.M. Lynch, F.C. McGillicuddy, P.W. O'Toole, H.M. Roche, Ireland

580 Characterisation of the exosomal proteins and their potential as regulators of systemic metabolism

R. Garcia Martin, E. Altindis, B.B. Brandao, C. Kahn, USA

581 Increased FGF21 expression in brown adipose tissue of TH heterozygous mice: implications for cold-adaptative mechanisms

P. Vázquez, C. Hernández, L. Pereira, J. Balsinde, F. De Pablo, Á.M. Valverde, Spain

582 Unravelling the molecular mechanisms involved in adaptation of adipose tissue to cold

J. Rodó, M. Garcia, E. Casana, V. Sacristan, C. Jambrina, S. Muñoz, C. Mallol, X. Leon, S. Darriba, I. Grass, S. Franckhauser, V. Jimenez, F. Bosch, Spain

583 Adenosine metabolism is deregulated in brown adipose tissue in diet-induced type 2 diabetes

I.B. Martins, B.F. Melo, C.S. Prego, J.F. Sacramento, S.V. Conde, Portugal

584 Characterising the function of the Arl15 gene and its role in the development of metabolic traits

Y. Bai, Y. Wu, L. Bentley, R.D. Cox, UK

Poster Event E, Thursday, 12:00 - 13:00

PS 041 Lipid metabolism in humans and in cell models

Chair: P. Mirra, Italy

585 Suppression of hepatic VLDL production after weight loss is associated with the recovery of beta cell function in type 2 diabetes

A. Al-Mrabeh, S.V. Zhyzhneuskaya, C. Peters, A.C. Barnes, B.S. Aribisala, K.G. Hollingsworth, N. Sattar, M.E. Lean, R. Taylor, UK

586 Correlates of pentraxin 3 serum concentration in men and women with type 2 diabetes

M. Walus-Miarka, M. Kapusta, A. Trojak, A. Hebda-Szydło, P. Miarka, E. Kawalec, B. Idzior-Walus, Poland

587 Increased glycerophosphocholine concentration is associated with insulin resistance and hyperglycaemia in skeletal muscle

G.D. Clarke, J.A. Vasquez, C. Solis, M. Abdul-Ghani, D. Tripathy, R.A. DeFronzo, USA

588 Acute hyperketonaemia does not reduce glucose or palmitate uptake in abdominal organs or skeletal muscle

E. Søndergaard, K.M. Lauritsen, N. Møller, L.C. Gormsen, Denmark

589 GlycA and lipoprotein by ¹HNMR in subjects with type 2 diabetes, prediabetes and control and the association with clinical and inflammatory factors during a programme of exercise

L. Brugnara, S. Murillo, N. Amigò, R. Fuentes, X. Correig, A. Novials, Spain

590 Energy metabolism and lipid turnover are altered in superficial subcutaneous adipose tissue of male type 2 diabetes patients

K. Bódis, J. Lundbom, T. Jelenik, D. Markgraf, A. Strom, O.-P. Zaharia, Y. Karusheva, V. Burkart, K. Müssig, M. Ouni, J.-H. Hwang, D. Ziegler, A. Schürmann, M. Roden, J. Szendroedi, Germany

591 Dissociation of insulin sensitivity and bioactive lipid content in endurance-trained athletes

D. Pesta, E. Anadol-Schmitz, S. Gancheva, D. Markgraf, O.-P. Zaharia, H. Katsuyama, Y. Kupriyanova, J.-H. Hwang, D. Zhang, G. Shulman, M. Roden, Germany, USA

592 Both fructose and glucose contribute substantially to intestinal triglyceride synthesis in vitro

S. Steenson, K.G. Jackson, A.M. Uempleby, F. Shojaee-Moradie, N. Jackson, J.A. Lovegrove, B.A. Fielding, UK

Poster Event F, Thursday, 13:15 - 14:15**PS 042 Adipose tissue biology in humans**

Chair: R.A. DeFronzo, USA

593 Cytoskeletal transgelin 2 (TAGLN2) is associated with sex-dependent adipose tissue expandability

F. Ortega, J. Moreno-Navarrete, M. Gómez-Serrano, E. García-Santos, J. Latorre, M. Sabater, E. Caballano-Infantes, R. Guzmán, A. Vidal-Puig, M. Malagón, B. Peral, A. Zorzano, J. Fernández-Real, Spain, UK

594 Betatrophin predicts cardiovascular events independently from the presence of type 2 diabetes and coronary artery disease

A. Leiherer, A. Muendlein, K. Geiger, C.H. Saely, E.-M. Brandtner, J. Ebner, B. Larcher, A. Mader, P. Fraunberger, H. Drexel, Austria, Liechtenstein, Switzerland

595 Dysregulated urocortin 3 expression and its modulation with physical exercise in adult humans with obesity and diabetes

S.A. Kavalakatt, A. Khadir, A. Tiss, Kuwait

596 Skin autofluorescence measurement and carotid intima media thickness in morbid obese patients

D. Gogas Yavuz, M. Uygur, D. Yazici, Turkey

597 Role of adipose tissue in development of insulin resistance in healthy non-obese male offspring of type 2 diabetes patient

M. Koc, E. Krauzová, M. Šiklová, L. Beranová, M. Štěpán, J. Gojda, V. Šrámková, L. Rossmeislová, V. Štich, Czech Republic

598 Relationship of pigment epithelium derived factor to metabolic syndrome and vascular damage in patients with type 2 diabetes

D. Karasek, J. Spurna, O. Krystynik, V. Kubickova, Czech Republic

599 Estrogen and glucocorticoid effects on lipocalin 2 expression in human adipose tissue: A role of ER β pathway in insulin resistance?

P.G. Kamble, M.J. Pereira, G.J. Boersma, K.E. Almby, J.W. Eriksson, Sweden

600 Differences in extracellular matrix expression in pancreatic fat cells of non-diabetic, pre-diabetic and diabetic individuals

D. Siegel-Axel, F. Gerst, S. Ullrich, N. Stefan, B. Sipos, S. Haen, F. Fend, A. Koenigsrainer, E. Schleicher, H.-U. Haering, Germany

Poster Event A, Tuesday, 12:00 - 13:00

PS 043 Weight regulation and obesity in humans and rodent models

Chair: U. Risérus, Sweden

601 The association between BMI and mortality in type 1 diabetes is modified by gender, age at diabetes onset and diabetic kidney disease

E.H. Dahlström, N. Sandholm, C. Forsblom, L. Thorn, V. Harjutsalo, F.J. Jansson, P.-H. Groop, The FinnDiane Study group, Finland

602 The role of weight in modulating metabolic parameters and vascular complications in patients with type 1 diabetes

R.J. Helliwell, H.L. Warnes, R.J. King, R.A. Ajjan, UK

603 Effects of irisin on leptin and ghrelin secretion and expression of the major appetite regulators in mouse brain

N. Marrano, A. Natalicchio, R. Spagnuolo, L. Dipaola, G. Biondi, A. Cignarelli, S. Perrini, L. Laviola, F. Giorgino, Italy

604 Effect of ARHGAP21 reduction upon energy homeostasis of diet-induced obese mice

G.M. Soares, L. Zangerolamo, S.T. Saad, A.C. Boschero, H.C. Barbosa-Sampaio, Brazil

605 Medi0382, a GLP-1/glucagon receptor dual agonist, reduces weight and improves metabolism via central and peripheral actions

D. Baker, S. Oldham, S. Will, C. Church, G. Davies, L. Burke, L. Brown, M. Sulikowski, J.-M. Lapointe, A. Lewis, H. Jouihan, P. Barkholt, R. Veggerby Grønlund, C. Rhodes, J. Trevaskis, UK, USA, Denmark

606 ICA6150349, a highly selective glucagon agonist, in combination with exenatide significantly reduces weight and glucose in obese and diabetic rats

M. Paulik, T. Tlustý, M. Grizzle, M. Copeland, S. Weng, W. Blackwell, V. Srivastava, J. Way, S. Roller, D. Zane, R. Hodge, A. Young, P. Feldman, USA

607 ATG7-expression and chemerin secretion are co-regulated in adipocytes

S. Heinitz, C. Gebhardt, P. Piaggi, J. Krüger, H. Heyne, J. Weiner, J. Heiker, M. Stumvoll, M. Blüher, L. Baier, A. Rudich, P. Kovacs, A. Tönjes, Germany, USA, Israel

608 Plasma lipidomics are associated with cardiometabolic risk factors in overweight or obese non-diabetic adults

B. De Courten, A. Mousa, N. Naderpoor, J. Johnson, N. Mellett, P. Meikle, Australia

Poster Event B, Tuesday, 13:15 - 14:15

PS 044 Are SGLT2 inhibitors effective and safe in type 1 diabetes?

Chair: B.E. De Galan, Netherlands

609 The inTandem1 study: 52-week efficacy and safety of sotagliflozin, a dual SGLT1 and SGLT2 inhibitor, as adjunct therapy to insulin in adults with type 1 diabetes

S.K. Garg, J. Buse, J. Rosenstock, T. Bailey, P. Banks, B.W. Bode, T. Danne, J.A. Kushner, W.S. Lane, P. Lapuerta, D.K. McGuire, A. Peters, J. Reed, S. Sawhney, P. Strumph, USA, Germany

610 inTandem1 and inTandem2: increased time in range with sotagliflozin as adjunct therapy to insulin in adults with type 1 diabetes by 24-week continuous glucose monitoring

T. Danne, B. Cariou, J.B. Buse, S.K. Garg, J. Rosenstock, P. Banks, J.A. Kushner, D.K. McGuire, A.L. Peters, S. Sawhney, P. Strumph, Germany, France, USA

611 Sotagliflozin in combination with optimised insulin therapy reduced HbA_{1c} levels with a decreased daily insulin requirement after 52 weeks in adults with type 1 diabetes

J. Pettus, S. Weinzimer, R. McCrimmon, F. Ampudia-Blasco, J. Stewart, P. Strumph, J. Oliveira, P. Lapuerta, R. Castro, USA, UK, Spain, Canada

612 Pooled data analysis of composite endpoints from the DEPICT-1 and DEPICT-2 studies using dapagliflozin compared to placebo added to adjustable insulin in type 1 diabetes

P. Dandona, F. Thorén, A.M. Langkilde, L. Hansen, J. Xu, C. Mathieu, USA, Sweden, Belgium

613 Pooled analysis of the duration of type 1 diabetes in dapagliflozin vs placebo on adjustable insulin therapy from DEPICT 1 and 2: effects on glycaemia, weight and insulin dosage

J. Lüdemann, T. Schaum, C. Mathieu, J. Xu, F. Thorén, Germany, Belgium, USA, Sweden

614 Sotagliflozin further improves percentage of patients achieving HbA_{1c} goal without weight gain in adults with type 1 diabetes after insulin therapy optimisation

R. Henry, H. Rodbard, A. Giaccari, R. Lajara, J. Stewart, P. Strumph, J. Oliveira, P. Lapuerta, R. Castro, USA, Italy

615 Patients with type 1 diabetes value increased glucose stability and associate it with improved well-being: exit interviews from Sotagliflozin Phase 3 study

P. Lapuerta, V.N. Joish, C. Ervin, E. Evans, M. Reaney, R. Preblich, B. De Fanti, R. Castro, D. DiBenedetti, USA

616 Off-label use of SGLT-2 inhibitors in type 1 diabetes: a German/Austrian DPV multicentre analysis of 119,819 patients

B. Bohn, J. Seufert, T. Danne, H. Kalscheuer, F. Kopp, S. Kress, P. Fasching, R.W. Holl, on behalf of the DPV-initiative, Germany, Austria

Poster Event C, Wednesday, 12:00 - 13:00

PS 045 Microvascular effects of SGLT2 inhibitors: focus on kidneys and eyes

Chair: F. Persson, Denmark

617 Dapagliflozin preserves renal function in patients with type 2 diabetes: a longitudinal meta-analysis of eGFR across clinical trials

S. Johansson, B. Hamrén, M. Åstrand, R. Penland, D. Boulton, Sweden, USA

618 SGLT2 inhibitor dapagliflozin is renoprotective via mitigation of protein O-GlcNAcylation in streptozotocin-induced diabetes

D.B. Balogh, J. Hodrea, L. Lenart, A. Hosszu, C.K. Mezei, A. Vannay, L.J. Wagner, A.J. Szabo, A. Fekete, Hungary

619 Effect of dapagliflozin on renal and cardiac function in patients with type 2 diabetes and albuminuria: a randomised study

M.K. Eickhoff, F.J. Olsen, M. Frimodt-Møller, L.J. Diaz, M.T. Jensen, P. Rossing, F. Persson, Denmark

620 Composite retinopathy outcome in patients treated with empagliflozin versus placebo in the EMPA-REG OUTCOME trial

S.E. Inzucchi, C. Wanner, U. Hehnke, J. Lee, S. Kaspers, D. Clark, J.T. George, B. Zinman, USA, Germany, Canada

621 Assessment of adverse renal effects in patients with type 2 diabetes receiving ertugliflozin

S.G. Terra, S. Patel, A. Hickman, R. Frederich, B. Lauring, S. Johnson, S. Huyck, J.P. Mancuso, USA

622 Effect of dapagliflozin (DAPA) on cardiovascular and renal risk factors in patients with type 2 diabetes treated with or without renin-angiotensin system inhibitors (RASi)

D.H. Van Raalte, R. Correa-Rotter, R. Toto, H.J. Heerspink, V. Cain, B.V. Stefansson, C.D. Sjöström, P. Sartipy, Netherlands, Mexico, USA, Sweden

623 Acute renal outcomes with sodium glucose co-transporter 2 inhibitors: real world data analysis

C. Melzer Cohen, A. Cahn, R. Pollack, V. Shalev, G. Chodick, Israel

624 Effect of sotagliflozin on renal threshold for glucose reabsorption and on gastrointestinal glucose absorption in subjects with type 2 diabetes: a model based quantification

H.-C. Schneider, A. Strougo, B. Göbel, T. Klabunde, R. Dahmen, M. Riz, Germany

Poster Event D, Wednesday, 13:15 - 14:15

PS 046 Efficacy and safety of the SGLT2 inhibitor ertugliflozin

Chair: A. Solini, Italy

625 A pooled analysis of the efficacy and safety of ertugliflozin as add-on therapy to metformin

R.A. Calle, J. Liu, S. Huyck, L. Wu, A. Pong, J.P. Mancuso, S.G. Terra, B. Lauring, USA

626 Long-term efficacy and safety of ertugliflozin in patients with type 2 diabetes inadequately controlled with metformin monotherapy: 104-week VERTIS MET Trial

S. Gallo, B. Charbonnel, A. Goldman, H. Shi, S. Huyck, A. Darekar, B. Lauring, S.G. Terra, Germany, France, USA, UK

627 Safety and efficacy of ertugliflozin compared with glimepiride after 104 weeks in patients with type 2 diabetes inadequately controlled on metformin: VERTIS SU extension

P. Hollander, J. Liu, J. Hill, J. Johnson, Z.W. Jiang, D. Wang, G. Golm, S. Huyck, S. Terra, J.P. Mancuso, S.S. Engel, B. Lauring, USA, China

628 Effects of ertugliflozin monotherapy or combination therapy on glycaemic control, body weight, and blood pressure in patients with type 2 diabetes: a pooled analysis

B. Lauring, J. Liu, L. Tarasenko, S.G. Terra, S. Huyck, L. Wu, A. Pong, R.A. Calle, S. Gallo, A. Darekar, J.P. Mancuso, USA, Germany, UK

629 Design and baseline characteristics of the eValuation of ERTugliflozin efficacy and Safety CardioVascular outcomes trial (VERTIS-CV)

D.K. McGuire, C.P. Cannon, R. Pratley, S. Dagogo-Jack, J. Mancuso, S. Huyck, B. Charbonnel, W.J. Shih, S. Gallo, U. Masiukiewicz, G. Golm, F. Cosentino, B. Lauring, S.G. Terra, USA, France, Germany, Sweden

630 Incidence of urinary tract infections in patients with type 2 diabetes receiving ertugliflozin, placebo or active comparator

M.A. Hickman, S. Patel, B. Lauring, S.G. Terra, S. Johnson, S. Huyck, J.P. Mancuso, USA

631 Evaluation of fractures, bone mineral density and bone biomarkers in patients with type 2 diabetes receiving ertugliflozin

U. Masiukiewicz, A. Hickman, R. Frederich, S. Patel, S. Gallo, B. Lauring, S.G. Terra, S. Johnson, S. Huyck, J.P. Mancuso, USA, Germany

Poster Event E, Thursday, 12:00 - 13:00

PS 047 SGLT2 inhibitors around the world: evidence from clinical trials and registries

Chair: I. Raz, Israel

632 Safety and tolerability of empagliflozin in East Asian patients with type 2 diabetes: pooled analysis of phase I-III clinical trials

D. Yabe, A. Yasui, L. Ji, M.-K. Lee, R. Ma, T.-J. Chang, T. Okamura, C. Zeller, S. Kaspers, J. Lee, S. Kohler, Y. Seino, Japan, China, Korea, Republic of, Taiwan, Germany

633 Safety and efficacy of ertugliflozin in Asian patients with type 2 diabetes inadequately controlled with metformin monotherapy: VERTIS-Asia

M. Yang, L. Ji, Y. Liu, H. Miao, Y. Xie, W. Wang, Y. Mu, P. Yan, S. Pan, B. Lauring, S. Liu, S. Huyck, D. Wang, S.G. Terra, China, USA

634 Stroke safety with Sodium-Glucose Cotransporter-2 (SGLT-2) inhibitor use: a systematic review and meta-analysis

A.J. Roddick, S.L. Zheng, UK

635 Lower cardiovascular risk with SGLT-2 inhibitors vs other glucose-lowering drugs: real world data from Asia Pacific, North America, Europe and Middle East: the CVD-REAL study

M. Kosiborod, C.S. Lam, S. Kohsaka, D. Kim, A. Karasik, S.-Y. Goh, J. Shaw, N. Tangri, A. Norhammar, J. Franch-Nadal, M. Thuresson, F. Surmont, N. Hammar, P. Fenici, CVD-REAL Investigators and Study Group, USA, Singapore, Japan, Korea, Republic of, Israel, Australia, Canada, Sweden, Spain, UK

636 CANadian CANagliflozin REgistry (CanCARE): a prospective, observational, assessment of canagliflozin (CANA) treatment in type 2 diabetes; 12 month results

V. Woo, A. Bell, M. Clement, F. Camacho, N. Georgijev, J.B. Rose, W. Rapattoni, H.S. Bajaj, Canada

637 2 year metabolic outcomes in the ABCD nationwide canagliflozin audit

A. Puttanna, M. Yadagiri, P. Sen Gupta, I. Gallen, A. Bickerton, S. Phillips, A. Evans, D. Sennik, R. Ryder, UK

638 Temporal trends in the use of sodium-glucose cotransporter-2 inhibitors: the global DISCOVER study

L. Ji, H. Chen, J. Cid-Ruzafa, P. Fenici, M.B. Gomes, N. Hammar, K. Khunti, S. Pocock, M.V. Shestakova, I. Shimomura, F. Surmont, F. Tang, M. Kosiborod, China, USA, Spain, UK, Brazil, Sweden, Russian Federation, Japan

639 Economic evaluation of dapagliflozin as add-on to metformin in type 2 diabetes in the Israeli healthcare setting

S. Moshel, M. Hirsch Vexberg, O. Shavit, Y. Toledano, Israel

Poster Event F, Thursday, 13:15 - 14:15

PS 048 Glycaemic and metabolic effects of SGLT2 inhibitors

Chair: D.H. Van Raalte, Netherlands

640 DAPADream: improvement of time in range after SGLT2-add-on-medication in youth and young adults with type 1 diabetes during unannounced meals under full closed loop CSII

T. Biester, A.K. Nieswandt, S. Biester, K. Remus, I. Muller, E. Atlas, M. Philip, R. Nimri, T. Battelino, N. Bratina, K. Dovc, M.F. Scheerer, O. Kordonouri, T. Danne, Germany, Israel, Slovenia

641 Effect of combination therapy with liraglutide plus canagliflozin on HGP, plasma hormones and HbA_{1c} versus each therapy alone in type 2 diabetes

M. Abdul-Ghani, A. Ali, R. Martinez, J. Adams, E. Cersosimo, C. Triplitt, R.A. DeFronzo, USA

642 Individual and combined glucose-lowering effects of glucagon receptor antagonism and sodium-glucose cotransporter 2 inhibition

S. Haedersdal, A. Lund, H. Maagensen, E. Nielsen-Hannerup, J. Holst, F. Knop, T. Vilsbøll, Denmark

643 Continuous glucose monitoring glycaemic profiles are more favourable for dapagliflozin plus saxagliptin compared to glimepiride when added to metformin in type 2 diabetes

D.C. Simonson, M.A. Testa, J. Maaske, R. Garcia-Sanchez, E. Johnsson, M. Su, J.P. Frias, USA, Sweden

644 Head to head comparison of efficacy between dapagliflozin and canagliflozin in long standing type 2 diabetes

C. Mahesh Babu, India

645 Dose-ranging effects of SGLT2 inhibitors in patients with type 2 diabetes: a systematic review and meta-analysis

L.C. Pinto, D.R. Rados, L.R. Remonti, M.V. Viana, C.B. Leitão, J.L. Gross, Brazil

646 Comparison of ipragliflozin and metformin for visceral fat reduction in elderly patients with type 2 diabetes: a prospective, blinded-endpoint, randomised controlled study

M. Koshizaka, K. Ishikawa, R. Ishibashi, H. Yoko, K. Sakamoto, T. Ishikawa, Y. Maezawa, M. Takemoto, K. Yokote, PRIME-V Study Group, Japan

647 Dapagliflozin plus saxagliptin add-on to metformin reduces liver fat and adipose tissue volume in patients with type 2 diabetes

L. Johansson, P. Hockings, E.K. Johnsson, J. Maaske, R. Garcia-Sanchez, J.P. Wilding, Sweden, USA, UK

648 An inhibitor of sodium-glucose cotransporter 2 shows a rational effect for reducing body weight but not for lowering plasma glucose in type 2 diabetes with mild renal failure

S. Taneda, K. Tsuchida, H. Bando, S. Hagiwara, Y. Iljima, K. Misawa, M. Kikuchi, K. Ohta, H. Nakayama, N. Manda, Japan

Poster Event A, Tuesday, 12:00 - 13:00

PS 049 Novel aspects of SGLT2 inhibitors

Chair: D.Z. Cherney, Canada

649 Effects of sodium glucose cotransporter-2 inhibitors on circulating stem and progenitor cells in patients with type 2 diabetes

B. Bonora, R. Cappellari, A. Avogaro, G. Fadini, Italy

650 Dapagliflozin preserves renal vasodilating capacity in hypertensive patients with type 2 diabetes

R. Bruno, L. Giannini, A. Dardano, E. Biancalana, M. Seghieri, S. Taddei, L. Ghiadoni, A. Solini, Italy

651 Small increases in serum magnesium levels by dapagliflozin and normalisation of hypomagnesaemia in patients with type 2 diabetes

R. Toto, R. Goldenberg, G.M. Chertow, V. Cain, B.V. Stefansson, C.D. Sjöström, P. Sartipy, USA, Canada, Sweden

652 SGLT-2 inhibitors efficacy in type 2 diabetic patients with bariatric surgery

J.P. Valderas, Y. Preiss, M. Sepulveda, F. Crovari, C. Boza, Chile

653 Effects of dapagliflozin on urine and plasma metabolome in patients with type 2 diabetes: preliminary results

V. Tsimihodimos, E. Ferrannini, S. Filippas-Dekouan, E. Bletsas, A. Dimou, E. Bairaktari, M. Elisaf, Greece, Italy

654 Effects of SGLT2 inhibitors in cells (human myeloid angiogenic cells and platelets) pivotally involved in atherosclerotic plaque (in)stability/thrombosis

V. Spigoni, F. Fantuzzi, C. Carubbi, G. Pozzi, E. Masselli, D. Galli, G. Gobbi, P. Mirandola, M. Vitale, R.C. Bonadonna, A. Dei Cas, Italy

655 Determinants of the improved arterial stiffness observed after empagliflozin treatment

R.E. Schmieder, A. Bosch, S. Jung, K. Striepe, M.V. Karg, D. Kannenkeril, T. Dienemann, C. Ott, Germany

656 SGLT2 inhibitors effect on fatty liver disease in patients with Berardinelli-Seip lipodystrophy

E.B. Parente, V.R. Simoes, M.A. Medeiros, I.E. Bacha, E.R. Parisi, J.E. Salles, Brazil

657 Dapagliflozin improves liver dysfunction in parallel with a decrease in serum soluble DPP-4/CD26 level in type 2 diabetic patients with non-alcoholic fatty liver

H. Kishi, K. Suzuki, K. Kato, M. Shimizu, T. Jojima, T. Iijima, I. Usui, Y. Aso, Japan

658 Canagliflozin prevents development of hepatocellular carcinoma (HCC) from non-alcoholic steatohepatitis (NASH) in a novel mouse model of NASH-HCC under diabetic state

T. Jojima, H. Kishi, T. Iijima, I. Usui, Y. Aso, Japan

Poster Event B, Tuesday, 13:15 - 14:15

PS 050 SGLT2 inhibitors: What do the CVOTs tell us?

Chair: M.A. Cavender, USA

659 Improvements in blood pressure and markers of arterial stiffness with canagliflozin in the CANVAS Program

S. Genovese, R.R. Townsend, M. Dharmalingham, A. Steele, J. Arenas León, A. Slee, E. Fabbrini, K.W. Mahaffey, Italy, USA, India, Canada, Mexico

660 Effects of canagliflozin on HbA_{1c} and changes in antihyperglycaemic agents in the CANVAS Programme

G. Fulcher, M. Davies, M. Tsoukas, M. Desai, C. Wysham, Australia, UK, Canada, USA

661 Relatively consistent effects of canagliflozin on outcomes regardless of baseline HbA_{1c} in the CANVAS Program

D.R. Matthews, J. Rosenstock, G. Bantwal, J. Wilding, R. Dumas, G. González-Gálvez, A. Slee, F. Vercruysse, K.W. Mahaffey, D. De Zeeuw, G. Fulcher, UK, USA, India, Canada, Mexico, Belgium, Netherlands, Australia

662 Improved cardiovascular and renal outcomes in the CANVAS Program irrespective of baseline body mass index

L. Van Gaal, H. Bays, S.R. Aravind, N. Aggarwal, R. Violante, A. Slee, W. Shaw, K.W. Mahaffey, D. De Zeeuw, D. Matthews, Belgium, USA, India, Canada, Mexico, Netherlands, UK

663 Empagliflozin reduces mortality and hospitalisation for heart failure in patients with or without a history of myocardial infarction or stroke at baseline

S. Sambevschi, D. Fitchett, S.E. Inzucchi, S. Kaspers, E. Pfarr, J.T. George, B. Zinman, Germany, Canada, USA

664 Empagliflozin and kidney outcomes in patients with or without heart failure at baseline: insights from the EMPA-REG OUTCOME trial

J. Butler, F. Zannad, D. Fitchett, B. Zinman, A. Koitka-Weber, M. Von Eynatten, U. Hehnke, J. George, M. Brueckmann, A.K. Cheung, C. Wanner, USA, France, Canada, Germany, Australia

665 Design of the EMPERIAL trials of empagliflozin in patients with chronic heart failure with reduced or preserved ejection fraction

W.T. Abraham, S.D. Anker, A. Salsali, B. Peil, C. Zeller, M. Brun, H. Macesic, M. Brueckmann, J. Lindenfeld, P. Ponikowski, USA, Germany, France, Canada, Poland

666 Design and rationale of the EMPEROR trials of empagliflozin in patients with chronic heart failure with reduced or preserved ejection fraction

S.D. Anker, F. Zannad, J. Butler, G. Filippatos, A. Salsali, K. Kimura, J. Schnee, C. Zeller, S. Pocock, J.T. George, M. Brueckmann, M. Packer, Germany, France, USA, Greece, Canada, UK

667 Effect of empagliflozin on cardiovascular events including recurrent events in the EMPA-REG OUTCOME trial

S.S. Lund, D.K. McGuire, B. Zinman, S.E. Inzucchi, S.D. Anker, C. Wanner, S. Kaspers, J.T. George, U. Elsassner, H.J. Woerle, D. Fitchett, Germany, USA, Canada

Poster Event C, Wednesday, 12:00 - 13:00

PS 051 Tackling glucose and fat with novel agents

Chair: B. Ahrén, Sweden

668 Liver directed FGF21 gene therapy reverses obesity and insulin resistance

C. Jambrina, V. Jimenez, E. Casana, V. Sacristan, S. Muñoz, S. Darriba, J. Rodó, M. Garcia, S. Marco, A. Ribera, I. Elias, A. Casellas, I. Grass, J. Ruberte, F. Bosch, Spain

669 Efficacy and safety of HSG4112, a novel anti-obesity oral agent in diet-induced obesity (DIO) mice

K.-W. Lim, K. Kim, S.-K. Yoo, I. Jo, Korea, Republic of

670 Results of an interim analysis of a phase 2, randomised, double-blind, placebo-controlled clinical trial of ZGN-1061 in patients with obesity and type 2 diabetes

T. Kim, D. Zhuang, T.E. Hughes, D.D. Kim, K. Taylor, USA

671 ZGN-1061 improves metabolic parameters and hepatic pathology in an obese mouse model of diet-induced and biopsy-confirmed nonalcoholic steatohepatitis

J.E. Vath, M. Illemann, S.S. Veidal, M. Feigh, B.F. Burkey, T.E. Hughes, USA, Denmark

672 ZGN-1061, a novel MetAP2 inhibitor, and liraglutide combine to improve glycaemic control and reduce body weight in a rat model of diet-induced obesity

B.F. Burkey, P.G. Pedersen, T.X. Pedersen, M. Feigh, J.E. Vath, T.E. Hughes, USA, Denmark

673 Novel GPR40 agonist CPL207-280CA independently improves glycaemia and mitigates neuropathic pain in diabetic rodents

P. Buda, K. Bazydło, M. Mach, F. Stelmach, R. Dzida, K. Dubiel, J. Pieczykolan, M. Wiecek, Poland

674 6-amino-6-deoxy paramylon improved obesity and glucose metabolism in a diet-induced obesity mouse model

S. Suzuki, T. Hashimoto, K. Shibata, M. Nakano, N. Onaka, G. Tsubouchi, M. Takahashi, A. Akashi, N. Hirawa, Y. Toya, K. Ohashi, Y. Goshima, K. Tamura, Japan

675 Improvement of type 2 diabetes in hypogonadal men with long-term testosterone therapy (TTh) is sustained for up to 10 years compared to untreated controls

U. Wissinger, A. Haider, K.S. Haider, G. Doros, A. Traish, F. Saad, Germany, USA

676 A network meta-analysis for the best procedures of bariatric surgery for cure of diabetes

S. Kodama, K. Fujihara, C. Horikawa, D. Ishii, D. Ishiguro, M. Harada, Y. Matsubayashi, T. Yamada, S. Tanaka, H. Sone, Japan

677 Improved time-in-range on continuous glucose monitor with Technosphere insulin compared to insulin Aspart in adults with type 1 diabetes: Stat study per protocol analysis

J. Snell-Bergeon, H.K. Akturk, E.A. Beck, L.J. Klaff, B.W. Bode, A. Peters, T.S. Bailey, S.K. Garg, USA

Poster Event D, Wednesday, 13:15 - 14:15

PS 052 Quality of nutrients and meals: How important are they?

Chair: N. Katsilambros, Greece

678 Time of fat and carbohydrate intake affects substrate oxidation and adipokine secretion in subjects with impaired glucose metabolism

O. Pivovarova, K. Kessler, S. Hornemann, M. Markova, K.J. Petzke, M. Kemper, N. Rudovich, A. Kramer, A.F. Pfeiffer, Germany, Switzerland

679 Efficacy of low- and very-low-calorie diets in overweight and obese patients with type 2 diabetes: a meta-analysis of intervention studies

D.E. Kloecker, F. Zaccardi, M.J. Davies, M. Dario, K. Khunti, D.R. Webb, UK

680 Dietary patterns and non-alcoholic fatty liver disease in a Greek case-control study

I.P. Kalafati, D. Borsa, M. Dimitriou, K. Revenas, A. Kokkinos, G. Dedoussis, Greece

681 The effect of two energy- and macronutrient-matched meals on glucose metabolism and gastrointestinal hormones: a randomised crossover study

H. Kahleova, M. Klementova, L. Belinova, M. Haluzik, R. Pavlovicova, M. Hill, T. Pelikanova, Czech Republic

682 Dietary intake and glycaemia in individuals with type 1 diabetes

A.J. Ahola, C. Forsblom, M. Saraheimo, P.-H. Groop, Finland

683 The immediate clinical effects of a carbohydrate-reduced high-protein diet on glycaemic variability in well-controlled type 2 diabetes: a randomised controlled study

M.N. Thomsen, M.J. Skytte, A. Astrup, C.F. Deacon, J.J. Holst, S. Madsbad, T. Krarup, S.B. Haugaard, A. Samkani, Denmark

684 The effect of three different types of diet on glycaemic control assessed by continuous monitoring in patients with type 1 diabetes on multiple daily insulin treatment

C. Dimosthenopoulos, S. Liatis, A. Tentolouris, E. Athanasopoulou, S. Driva, K. Makrilakis, N. Tentolouris, A. Kokkinos, Greece

685 A carbohydrate-reduced high-protein diet significantly reduces HbA_{1c}, diurnal and prandial plasma glucose in weight stable subjects with type 2 diabetes

M.J. Skytte, A.A. Samkani, A.D. Petersen, M.N. Thomsen, A. Astrup, E. Chabanova, J. Frystyk, J.J. Holst, H. Thomsen, S. Madsbad, T.M. Larsen, S.B. Haugaard, T. Krarup, Denmark

Poster Event E, Thursday, 12:00 - 13:00**PS 053 Dietary supplements: Which is best?**

Chair: A. Rivellese, Italy

686 The common food additive carrageenan increases intestinal permeability without affecting whole-body insulin sensitivity in humans

R. Wagner, J. Buettner, M. Heni, L. Fritsche, S. Kullmann, M. Wagnmüller, A. Peter, J. Machann, U.-F. Pape, G. Van Hall, P.S. Plomgaard, R. Klein, H.-U. Häring, A. Fritsche, N. Stefan, Germany, Denmark

687 Why resveratrol is effective in some but not all individuals: a combined data-analyses

M. De Ligt, E. Phielix, B. Havekes, V.B. Schrauwen-Hinderling, P. Schrauwen, Netherlands

688 Spirulina liquid extract prevents glucose intolerance and NAFLD in mouse

M. Coué, J. Falewee, A. Tesse, L. Fizanne, M. Krempf, J.-M. Pommet, O. Lépine, K. Ouguerram, France

689 Impact of isoflavones on several primary outcomes associated with diabetes: a meta-analysis of randomised controlled human trials

R. Menezes, A.F. Raimundo, F. Félix, A. Raimundo, A. Rodriguez-Mateos, A. González-Sarrías, B. Wang, C.N. Santos, I. Cruz, J.V. Lopes, M. Schär, M.-T. García-Conesa, R. Andrade, R.T. Ribeiro, P. Pinto, Portugal, UK, Spain

690 Vitamin D supplementation and body weight status in overweight or obesity: a systematic review and meta-analysis

J. Sun, C. Wu, L. Li, China

691 Effects of glutamine on gastric emptying of low- and high-nutrient drinks in healthy young subjects: impact on glycaemia

Y.T. Du, D. Piscitelli, S. Ahmad, L.G. Trahair, J.R. Greenfield, D. Samocha-Bonet, C.K. Rayner, M. Horowitz, K.L. Jones, Australia

692 Short-term dietary restriction of branched-chain amino acids (BCAA) decreases insulin secretion in type 2 diabetes

Y. Karusheva, T. Van Gemert, M.-C. Simon, D. Markgraf, K. Strassburger, T. Jelenik, D. Schmoll, V. Burkart, K. Müssig, J. Szendroedi, M. Roden, Germany

693 Insulin influences mindset-induced brain response and behaviour on portion size selection for lunch

S. Kullmann, R. Veit, M. Heni, L. Horstman, M. Hege, P.J. Rogers, J.M. Brunstrom, H.-U. Häring, A. Fritsche, H. Preissl, Germany, UK

Poster Event F, Thursday, 13:15 - 14:15

PS 054 All what you need to know for a healthy diet

Chair: A. Gastaldelli, Italy

694 Coffee and tea consumption in relation to impaired glucose metabolism and diabetes

A.A. Berendsen, G. Abma, D. Sluik, E. Feskens, Netherlands

695 Snacks at post-dinner increases the mean amplitude of glycaemic excursion whereas snacks at mid-afternoon decreases it in young healthy women

S. Imai, S. Kajiyama, A. Nitta, T. Miyawaki, S. Matsumoto, Y. Hashimoto, M. Tanaka, S. Kajiyama, N. Ozasa, M. Fukui, Japan

696 Association between brown rice consumption and circulating microRNAs in Japanese subjects with prediabetes

H. Suzuki, R. Araki, K. Sasaki-Fukatsu, K. Fujie, M. Sekiya, Y. Nakagawa, T. Matsuzaka, Y. Nakata, N. Yahagi, K. Hashimoto, H. Shimano, Japan

697 Effect of meal composition on subsequent eating behaviour

G. Freckmann, D. Waldenmaier, S. Ulbrich, S. Pleus, C. Haug, Germany

698 Measurement of gastric emptying using scintigraphy and a ^{13}C -octanoic acid breath test with Wagner-Nelson analysis in type 2 diabetes

L.G. Trahair, M.A. Nauck, T. Wu, M.D. Buttfield, J.E. Stevens, S. Hatzinikolas, C.K. Rayner, J.J. Meier, M. Horowitz, K.L. Jones, Australia, Germany

699 Influence of dietary and haematobiochemical profile in patients with type 2 diabetes belong to Umbria clinic: "TOSCA.IT" study

A. Tantucci, A. Timi, G. Perriello, Italy

700 Orthodox religious fasting in practice: a comparative evaluation between Greek Orthodox general population fasters and Athonian monks

S.N. Karras, T. Koufakis, A. Petróczi, D. Folkerts, M. Kypraiou, H. Mulrooney, D.P. Naughton, P. Zebekakis, D. Skoutas, K. Kotsa, Greece, UK, Germany

701 Carbohydrate tolerance at near-normoglycaemia remission in obese African American patients with hyperglycaemic crises

P. Vellanki, D. Stefanovski, V. Narwani, I. Anzola, D.D. Smiley, L. Peng, G.E. Umperiez, USA

Poster Event A, Tuesday, 12:00 - 13:00

PS 055 New clues on metformin, sulfonylureas and insulin

Chair: J. Seufert, Germany

702 OCT1 is a target of metformin and regulates pancreatic stellate cell activity

C. Wu, S. Qiu, X. Zhu, L. Li, China

703 Metformin-induced alterations of transcriptome profile in healthy individuals

M. Ustinova, I. Silamiķelis, I. Elbere, I. Kalniņa, L. Zaharenko, I. Radoviča-Spalviņa, V. Rovite, I. Konrāde, V. Pirags, J. Klovins, Latvia

704 Physiological effects of pioglitazone and metformin in patients with ataxia-telangiectasia

L.J. McCreight, L. Coppin, N. Jackson, A.M. Umpleby, A. Mari, E.R. Pearson, UK, Italy

705 Distribution of dose and up-titration patterns for patients initiating metformin monotherapy in the UK

K. Iglay, B. Sawhney, A.Z. Fu, G. Fernandes, M. Crutchlow, S. Rajpathak, K. Khunti, USA, UK

706 Associations between metformin use and the risks of vitamin B₁₂ deficiency, anaemia and neuropathy in patients with diabetes: a meta-analysis

W. Yang, X. Cai, H. Wu, L. Ji, China

707 Trends in medication utilisation, glycaemic control and rate of severe hypoglycaemia among type 2 diabetes patients at a tertiary referral centre in Singapore from 2007 to 2017

Y.Z. Tan, M.H. Cheen, P.S. Lim, G.Y. Khee, J. Thumboo, S.-Y. Goh, Y.M. Bee, Singapore

708 Different sulfonylureas induce the apoptosis of proximal tubular epithelial cell differently via closing K_{ATP} channel

R. Zhang, X. Zhou, X. Shen, T. Xie, C. Xu, Z. Zou, J. Dong, L. Liao, China

709 Comparison of medical resources, costs, and health utilities among patients with CHD and impaired glucose tolerance in the Acarbose Cardiovascular Evaluation Trial (ACE)

L. Mc Morrow, F. Becker, J. Leal, A.M. Gray, R. Coleman, H.C. Gerstein, L. Rydén, R.R. Holman, UK, Canada, Sweden

710 HbA_{1c} is highly variable in people with type 2 diabetes on stable therapy in both trial and real-world settings: implications for clinical practice

A. McGovern, J. Dennis, B. Shields, E. Pearson, A. Hattersley, A. Jones, UK

711 Impact of proximal intestinal exclusion with EndoBarrier on key metabolic parameters and cardiovascular risk (UKPDS risk engine) in the first NHS-UK EndoBarrier service

E.N. Fogden, P. Sen Gupta, M. Yadagiri, S.P. Irwin, W. Burbridge, T. Bashir, R. Allden, J.P. Bleasdale, M.R. Anderson, R.E. Ryder, UK

Poster Event B, Tuesday, 13:15 - 14:15**PS 056 Metabolic effects of novel, dual and triple incretin agonists**

Chair: M. Stumvoll, Germany

712 Preclinical effects of efpeglenatide, a long-acting glucagon-like peptide-1 receptor agonist, compared with liraglutide and dulaglutide

M. Trautmann, I. Choi, J. Kim, C. Sorli, USA, Korea, Republic of

713 Oral semaglutide does not affect the bioavailability of the combined oral contraceptive, ethinylestradiol/levonorgestrel

A.B. Jordy, A. Breitschaft, E. Christiansen, C. Granhall, C.W. Hansen, A. Houshmand-Øregaard, T.A. Bækdal, Denmark, Germany

714 A trial to investigate the effect of oral semaglutide on the pharmacokinetics of furosemide and rosuvastatin in healthy subjects

T.A. Bækdal, M. Albayaty, E. Manigandan, T.W. Anderson, S. Skibsted, Denmark, UK, India

715 Withdrawn**716 Investigations into tissue distribution and inhibition of food consumption with efpeglenatide**

Y. Park, I. Choi, M. Trautmann, M. Hompesch, C. Sorli, Korea, Republic of, USA

717 Mono- and co-activation of the GIP and GLP-1 receptors inhibits bone resorption

N.C. Bergmann, A. Lund, S.M. Heimbürger, L.S. Gasbjerg, N.R. Jørgensen, L. Jessen, B. Hartmann, J.J. Holst, M.B. Christensen, T. Vilsbøll, F.K. Knop, Denmark

718 MEDI0382, a glucagon-like peptide/glucagon receptor dual agonist, in patients with type 2 diabetes: a multiple-ascending-dose study

D. Robertson, M. Stumvoll, M. Posch, T. Heise, L. Plum-Moerschel, G. Klein, L.-F. Tsai, M. Petrone, B. Hirshberg, C. Rondinone, V. Parker, L. Jermutus, P. Ambery, UK, Germany, USA

719 A novel combination of a long-acting GLP-1/GIP/Glucagon triple agonist and once weekly basal insulin offers improved glucose lowering and weight loss in diabetic animal model

J. Lee, J. Kim, J. Choi, S. Jung, S. Lee, I. Choi, S. Kim, Korea, Republic of

Poster Event C, Wednesday, 12:00 - 13:00

PS 057 Lipids and fatty liver: What GLP1 receptor agonists can do

Chair: M.E. Trautmann, Germany

720 The effect of liraglutide treatment on postprandial remnant particles, apoCIII, liver fat and de novo lipogenesis in adequately controlled type 2 diabetes

N. Matikainen, S. Söderlund, K.H. Pietiläinen, E. Björnson, A. Hakkarainen, N. Lundbom, J. Borén, M.-R. Taskinen, Finland, Sweden

721 Effect of the exenatide plus dapagliflozin combination on fatty liver index and insulin resistance in type 2 diabetes patients: the DURATION-8 trial

C. Guja, E. Repetto, J. Han, E. Hardy, S.A. Jabbour, Romania, USA

722 Liraglutide in combination with metformin reduces lipolysis and lipid oxidation in patients with well controlled type 2 diabetes and ischaemic heart disease

C. Anholm, P. Kumarathurai, L.R. Pedersen, A. Samkani, O.P. Kristiansen, O.W. Nielsen, M. Fenger, S. Madsbad, A. Sajadieh, R.C. Boston, S.B. Haugaard, Denmark, USA

723 The effect of efpeglenatide on lipid profiles and overall metabolism in patients with type 2 diabetes and obese patients without diabetes

K.-H. Yoon, J. Kang, I. Choi, M. Trautmann, M. Hompesch, C. Sorli, R. Pratley, Korea, Republic of, USA

724 Liraglutide and metformin may rock and roll the most atherogenic LDL fraction in patients with diabetes and ischaemic heart disease on stable statin therapy: a randomised trial

S.B. Haugaard, C. Anholm, P. Kumarathurai, L.R. Pedersen, A. Samkani, R.L. Walzem, O.P. Kristiansen, O.W. Nielsen, M. Fenger, S. Madsbad, A. Sajadieh, Denmark, USA

725 Effects of liraglutide versus placebo on gallbladder events: results from the LEADER trial

M.A. Nauck, H.A. Sævereid, M.L. Ghorbani, E. Kreiner, J. Buse, LEADER Publication Committee on behalf of the LEADER Trial Investigators, Germany, Denmark, USA

726 HbA_{1c} changes in subjects with obesity without diabetes receiving semaglutide for weight management

O. Mosenzon, J. Wilding, A.L. Birkenfeld, B. McGowan, S.D. Pedersen, S. Wharton, P. Auerbach, L. Endahl, C.G. Carson, P.M. O'Neil, Israel, UK, Germany, Canada, Denmark, USA

727 MEDI0382, a glucagon-like peptide 1/glucagon receptor dual agonist, significantly reduces hepatic fat content in subjects with type 2 diabetes

M. Jain, L.-F. Tsai, D. Robertson, B. Hirshberg, P. Hockings, L. Johansson, P. Ambery, UK, USA, Sweden

Poster Event D, Wednesday, 13:15 - 14:15

PS 058 More on GLP1 receptor agonists and diabetes complications

Chair: G. Gruden, Italy

728 Effect of GLP-1 receptor agonists on microvascular endpoints in type 2 diabetes: a systematic review and meta-analysis

I. Avgerinos, T. Karagiannis, K. Malandris, A. Liakos, M. Mainou, P. Andreadis, E. Bekiari, D.R. Matthews, A. Tsapas, Greece, UK

729 The effect of DPP-4 protected GLP-1 (7-36) on coronary microcirculation in obese adults

M. Nilsson, K. Bové, E. Suhrs, T. Hermann, S. Madsbad, J.J. Holst, E. Prescott, M. Zander, Denmark

730 Neuroprotective property of liraglutide

A. Simanenkova, M. Makarova, L. Vasina, T. Vlasov, E. Shlyakhto, Russian Federation

731 Liraglutide treatment fails to show neuronal repair or neuroprotective effects in patients with type 1 diabetes and diabetic symmetric polyneuropathy

C. Brock, C.S. Hansen, J.S. Karmitsholt, H.J. Møller, A.H. Juhl, A.D. Farmer, A.M. Drewes, S. Riahi, H. Lervang, P. Jakobsen, B. Brock, Denmark, UK

732 Liraglutide with an effect on asymmetric dimethylarginine might be superior in nephroprotection compared to linagliptin and vildagliptin

A. Piljac, A. Jazbec, L. Duvnjak, S. Ljubic, Croatia

733 Liraglutide reduces cardiovascular events and mortality in type 2 diabetes independent of LDL cholesterol and statin use: results of the LEADER trial

L.A. Leiter, S. Verma, C. Mazer, S.C. Bain, J. Buse, S. Marso, M.A. Nauck, B. Zinman, H. Bosch-Traberg, H. Frimer-Larsen, M.M. Michelsen, D.L. Bhatt, LEADER Publication Committee on behalf of the LEADER Trial Investigators, Canada, UK, USA, Germany, Denmark

734 Semaglutide consistently reduces cardiovascular events in both male and female subjects with type 2 diabetes

I. Hramiak, C. DeSouza, J. Seufert, T. Hansen, J. Pettersson, D. Thielke, I. Lingvay, Canada, USA, Germany, Denmark

735 Effect of liraglutide on ambulatory blood pressure in hypertensive patients with type 2 diabetes: randomised, double blind, placebo controlled trial

A. Liakos, K. Balampanis, E. Barmapa, E. Angeloudi, A. Katsoula, E. Athanasiadou, S. Gerou, V. Lampadiari, A. Bargiota, I. Avramidis, K. Kotsa, N. Tentolouris, E. Bekiari, A. Tsapas, Greece, UK

Poster Event E, Thursday, 12:00 - 13:00

PS 059 On the efficacy of GLP1 receptor agonists

Chair: M.J. Davies, UK

736 ITCA 650 provides consistent efficacy in type 2 diabetes irrespective of baseline characteristics: results of a pooled subgroup analysis

B. Schwartz, P. Prabhakar, L. Kjems, H. Huang, M. Baron, USA

737 Efficacy and safety with exenatide once weekly: clinical trial results from 10 randomised trials (the DURATION programme)

O. Motawakel, P.S. Leigh, E. Hardy, USA, UK

738 More subjects achieved composite reductions of $\geq 1\%$ HbA_{1c}, $\geq 5\%$ body weight and ≥ 5 mmHg SBP with semaglutide vs comparators across the SUSTAIN 1-5 and 7 trials

K.M. Dungan, V.R. Aroda, F.K. Knop, L.A. Leiter, N.L. Lausvig, S. Lindberg, J. Ferløv Schwensen, J.J. Meier, USA, Denmark, Canada, Germany

739 Efficacy and safety of ITCA 650, an injection-free GLP-1 RA, in patients with type 2 diabetes: a pooled analysis of phase 3 studies

M. Baron, L. Kjems, P. Prabhakar, B. Schwartz, H. Huang, USA

740 Consistent HbA_{1c} and body weight reduction with semaglutide independent of diabetes duration: SUSTAIN 1-5 and 7 patient-level meta-analysis

S. Madsbad, S.C. Bain, L. Chaykin, J. Lüdemann, J. Kjærulff Furberg, J. Rask Larsen, E. Yildirim, J. Rosenstock, Denmark, UK, USA, Germany

741 Predictors of glucose-lowering response to treatment with glucagon-like peptide-1 receptor agonists in patients with diabetes and obesity

M.V. Amosova, O.Y. Gurova, V.V. Fadeev, Russian Federation

742 Comparison of the efficacy of insulin degludec/liraglutide (IDdegLira) and insulin glargine/lixisenatide (iGlarLixi) fix combinations: a meta-analysis

B.A. Domján, M.M. Svébis, B.D. Lovász, A.G. Tabák, Hungary, UK

743 Robust glucose control and weight loss after 6 weeks of treatment with MEDI0382, a balanced GLP-1/Glucagon receptor dual agonist, in patients with type 2 diabetes

P. Ambery, M. Stumvoll, M. Posch, T. Heise, L. Plum-Moerschel, L.-F. Tsai, D. Robertson, M. Petrone, C. Rondinone, V. Parker, B. Hirshberg, L. Jermutus, UK, Germany, USA

Poster Event F, Thursday, 13:15 - 14:15

PS 060 GLP1 receptor agonists: How good are they in real practice?

Chair: S.C. Bain, UK

744 Effectiveness of the switch from insulin to incretin therapy in patients with long-lasting type 2 diabetes: a 6-month longitudinal, real-life study

R. Citarrella, M. Di Vittorio, A. Bonfiglio, S. Speciale, D. Ruggirello, G. Castellino, R. Chianetta, D. Nikolic, C. Mannina, G. Montalto, Italy

745 Comparative glycaemic effectiveness of dulaglutide vs liraglutide and exenatide once weekly in a US real-world setting

R. Mody, Q. Huang, M. Yu, H. Patel, R. Zhao, M. Grabner, L. Fernández Landó, USA, Canada

746 Time to treatment intensification with GLP-1 receptor agonists for patients with type 2 diabetes in the UK: medical record review study

K. Norrbacka, D. Stein, L.S. Matza, J.B. Jordan, L.-E. García-Pérez, S.W. Hassan, K.S. Boye, Finland, UK, USA

747 Early impact of liraglutide in routine clinical use (ABCD nationwide liraglutide audit) on cardiovascular risk (UKPDS risk engine)

C. Walton, S. Kassim, R. Harper, P. McDonald, U. Brennan, J. Harding, T. Htay, R. Nayar, A. Pernet, S. Rowles, K. Adamson, K.Y. Thong, R.E. Ryder, ABCD nationwide liraglutide audit contributors, UK, Australia

748 COMBINATION study: COMbined Behavioural/INcretin Action sTudy In Obese/diabetic persoNs

L. Montesi, A. Mazzotti, L. Brodosi, M.T. Caletti, F.A. Barbanti, P. Di Bartolo, G. Marchesini, Italy

749 GLP-1 RA treatment: a benefit-risk analysis from a retrospective cohort study

E. Konstantara, A.P. McGovern, W. Hinton, R. Coyle, M. Feher, N. Munro, S. De Lusignan, UK

750 Lifetime cost-effectiveness simulation of exenatide once-weekly in type 2 diabetes: evidence from the EXSCEL trial

F. Becker, H. Dakin, S.D. Reed, Y. Li, J. Leal, S.M. Gustavson, B. Kartman, E. Wittbrodt, A.M. Gray, A.F. Hernandez, R.R. Holman, UK, USA, Sweden

Poster Event A, Tuesday, 12:00 - 13:00

PS 061 GLP1 receptor agonists: Do age and ethnicity matter?

Chair: C.J. Tack, Netherlands

751 Efficacy and safety of semaglutide in elderly subjects with type 2 diabetes: a post hoc analysis of the SUSTAIN 7 trial

V.R. Aroda, D. Sugimoto, D. Trachtenbarg, M. Warren, A. Navarria, G. Nayak, M. Abildlund Nielsen, V. Woo, USA, Denmark, Canada

752 Efficacy and safety of lixisenatide as add-on in patients with type 2 diabetes aged ≥ 70 years uncontrolled on basal insulin in the GetGoal-O study

G. Dailey, T. Dex, M. Roberts, G. Meneilly, USA, Canada

753 Dulaglutide has favourable outcomes in elderly or renal impairment patients with type 2 diabetes

M. Kadoya, Y. Ueda, Y. Tahara, S. Kaneko, Japan

754 Effect of liraglutide on cardiovascular outcomes in elderly patients in the LEADER trial

M.P. Gilbert, S.C. Bain, E. Franek, E. Jodar-Gimeno, M.A. Nauck, R.E. Pratley, R. Réa, J. Saraiva, S. Rasmussen, K. Tornøe, B. Von Scholten, J. Buse, LEADER Publication Committee on behalf of the LEADER Trial Investigators, USA, UK, Poland, Spain, Germany, Brazil, Denmark

755 Efficacy and safety of semaglutide in subjects with type 2 diabetes by race and ethnicity: a post hoc analysis of the SUSTAIN trials

C. Desouza, S. Garg, B. Cariou, J.K. Furberg, A. Navarria, G. Nayak, V. Fonseca, USA, France, Denmark

756 Relationship between HbA_{1c} reduction and postprandial glucose change with once weekly dulaglutide in Chinese patients with type 2 diabetes

T. Hong, X. Liu, W. Zhao, F. Wang, L. Gu, China

757 Safety and efficacy of lixisenatide vs sulfonylurea added to basal insulin in patients with type 2 diabetes who fast during Ramadan (LixiRam): a randomised controlled trial

M.M. Hassanein, K. Hafidh, N. Shehadeh, S. Azar, W. Hanif, H. Li, K. Djaballah, R. Sahay, United Arab Emirates, Israel, Lebanon, UK, China, France, India

758 Physicians' intention and actual pattern of treatment in drug-naïve patients with type 2 diabetes in the real-world setting in Japan

H. Murayama, K. Imai, M. Bauer, M. Odawara, Japan, Ireland

Poster Event B, Tuesday, 13:15 - 14:15

PS 062 Incretin-based therapies: adherence and tolerability

Chair: J. Rosenstock, USA

759 Patient reported outcomes following initiation of glucagon-like peptide-1 receptor agonists (GLP-1 RA) in patients with type 2 diabetes: PROGRESS-DIABETES study

R.E. Brown, A. Abitbol, H.S. Bajaj, H. Khandwala, R. Goldenberg, S. Abdel-Salam, R. Aronson, Canada

760 Dulaglutide has higher adherence and persistence than liraglutide and exenatide QW: 1-year follow-up from US real-world data

L. Fernández Landó, R. Mody, Q. Huang, M. Yu, R. Zhao, H. Patel, M. Grabner, USA, Canada

761 Semaglutide improves health-related quality of life vs placebo when added to standard-of care in patients with type 2 diabetes at high risk (SUSTAIN 6)

E. Jódar, W. Polonsky, R. Réa, M. Warren, T. Vilsbøll, J. Håkan-Bloch, H. Vrazic, S. Lindberg, S.C. Bain, Spain, USA, Brazil, Denmark, UK

762 Exploring two dose regimens of ITCA 650 to switch from stable liraglutide therapy in patients with type 2 diabetes

N. Rasouli, J. Rosenstock, S. Nakhle, B. Schwartz, P. Prabhakar, S. Kruger, H. Huang, M. Baron, USA

763 Evaluating clinical outcomes of changing type 2 diabetes patients from other DPP-4 inhibitor therapy to alogliptin in a primary care setting

W.D. Strain, P. McEwan, H. Howitt, S.B. Meadowcroft, UK

764 Comparison of the incidence of hospital admissions for severe hypoglycaemia in type 2 diabetes patients treated with different dipeptidyl peptidase-4 inhibitors

C.-M. Chang, J. Wang, K.-L. Chien, J.-F. Chen, Taiwan

765 Minimal contribution of nausea or vomiting to superior semaglutide-mediated weight loss vs exenatide and dulaglutide in type 2 diabetes

I. Lingvay, R. De la Rosa, M. Marre, M. Nauck, V. Woo, T. Hansen, J.R. Larsen, E. Yildirim, J. Wilding, USA, France, Germany, Canada, Denmark, UK

766 Changes in serum calcitonin concentrations and incidence of adjudicated medullary thyroid carcinoma in the EXenatide Study of Cardiovascular Event Lowering (EXSCEL)

B. Katona, M.A. Bethel, R. Patel, V.P. Thompson, S.M. Gustavson, P. Ohman, N. Iqbal, J.B. Buse, A.F. Hernandez, R.R. Holman, for the EXSCEL Study Group, USA, UK

Poster Event C, Wednesday, 12:00 - 13:00

PS 063 DPP4 inhibitors: new regimens and new comparisons

Chair: L.A. Leiter, Canada

767 A Comparative head-to-head study of the effect Of three different DPP-4 Inhibitors (CODI24) during 24h, in metformin-treated type 2 diabetes individuals

W. Alsalim, O. Göransson, B. Ahrén, Sweden

768 Comparative efficacy of saxagliptin combination therapy with acarbose, or gliclazide modified release, or metformin in drug naive patients with type 2 diabetes

X.P. Chen, H.M. Li, H.Y. Kuang, L. Chen, J.H. Ma, Q. Zhang, T.R. Pan, J. He, W.Y. Yang, China, USA

769 Glycaemic efficacy and safety of linagliptin compared to basal bolus insulin regimen in non-cardiac surgical patients with type 2 diabetes: Linagliptin-Surgery trial

G. Umpierrez, P. Vellanki, N. Rasouli, D. Baldwin, S. Alexanian, I. Anzola, M. Urrutia, P. Gomez, S. Cardona, H. Wang, F. Pasquel, USA

770 Efficacy and safety of continuing sitagliptin when initiating insulin therapy in subjects with type 2 diabetes

R. Roussel, S. Duran-Garcia, Y. Zhang, S. Shah, C. Darmiento, R.R. Shankar, E.A. O'Neill, G.T. Golm, R.L. Lam, I. Gantz, K.D. Kaufman, S.S. Engel, France, Spain, USA

771 Efficacy and safety of linagliptin and metformin combination compared with metformin alone on stratified approach of type 2 diabetes treatment

Y. Shi, S.V. Walt, L. Miao, China, Germany

772 Early initiation of sitagliptin during metformin up-titration in treatment of patients with type 2 diabetes

J.P. Frias, Z. Zimmer, R.L. Lam, G. Amarin, C. Ntabadde, C. Iredale, E.A. O'Neill, S.S. Engel, K.D. Kaufman, H. Makimura, M.F. Crutchlow, USA

773 Efficacy and safety of saxagliptin and glimepiride in patients with type 2 diabetes inadequately controlled with metformin monotherapy: results from the SPECIFY study

T. Gu, L. Zhu, Q. Niu, C. Li, Y. Bi, D. Zhu, China

774 Safety and efficacy of sitagliptin compared with dapagliflozin in patients with type 2 diabetes, mild renal impairment, and inadequate glycaemic control on metformin +/- a sulfonylurea

A. Raji, R. Scott, J. Morgan, Z. Zimmer, R.L. Lam, E.A. O'Neill, K.D. Kaufman, S.S. Engel, USA, New Zealand

775 Efficacy of dapagliflozin plus saxagliptin vs insulin glargine at 52 weeks in patients with type 2 diabetes inadequately controlled by metformin with or without sulfonylurea

T. Vilsbøll, E. Ekholm, E. Johnsson, R. Garcia-Sanchez, N. Dronamraju, S.A. Jabbour, M. Lind, Denmark, Sweden, USA

Poster Event D, Wednesday, 13:15 - 14:15

PS 064 Incretin-based therapies: new mechanistic insights

Chair: F. Purrello, Italy

776 The reduction in postprandial glucose by sitagliptin is related to the rate of gastric emptying in type 2 diabetes

K.L. Jones, J.E. Stevens, M. Butfield, T. Wu, S. Hatzinikolas, H. Pham, K. Lange, C.K. Rayner, M. Horowitz, Australia

777 Effects of DPP-4 inhibitors on BNP, GLP-1, NPY, SP and global longitudinal strain measurements in type 2 diabetes patients

S. Güllü, E. Asfuroğlu Kalkan, B.I. Aydoğan, S. Canlar, A. Gökçay Canpolat, I. Dincer, Turkey

778 Effects of MEDI0382, a glucagon-like peptide 1/glucagon receptor dual agonist, on pancreatic and incretin hormones

L. Jermutus, L.-F. Tsai, D. Robertson, M. Petrone, C. Rondinone, H. Boaz, P. Ambery, V. Parker, UK, USA

779 Comparison of therapy in which incretin action compatibility was considered in basal insulin therapy using continuous glucose monitor: randomised triple crossover study

S. Takeishi, H. Tsuboi, S. Takekoshi, Japan

780 Urinary proteomics may unmask the renal potential of the dipeptidyl peptidase (DPP)-4 inhibitor linagliptin in patients with diabetic kidney disease (DKD)

J. Siwy, H. Mischak, T. Klein, M. Von Eynatten, Germany

781 DPP-4 inhibitor teneligliptin attenuates high glucose induced beta cell dysfunction via cAMP-Sirt1 pathway

S. Elumalai, U. Karunakaran, J. Moon, K. Won, Korea, Republic of

782 DPP-4 inhibitor reduces the risk of developing hypertrophic scars and keloids in diabetic patients: analysis using the National Database of Health Insurance Claims of Japan

H. Suwanai, R. Watanabe, M. Sato, H. Matsumura, Japan

783 Liraglutide treatment in obese diabetic patients modulates gut microbiota

S. Moffa, V. Tesori, V.A. Sun, T. Mezza, C.M. Cefalo, F. Impronta, F. Cinti, G.P. Sorice, F. Scaldaferri, G. Cammarota, A. Gasbarrini, A. Giaccari, Italy

Poster Event E, Thursday, 12:00 - 13:00

PS 065 Beta cell function and response to incretin-based therapies

Chair: E. Montanya Mias, Spain

784 Liraglutide and glimepiride in type 2 diabetic patients with failure to oral hypoglycaemic agents: effects on beta cell function

E. Salutini, S. Del Guerra, S. Barone, G. De Gennaro, S. Del Prato, C. Bianchi, Italy

785 HbA_{1c} target attainment in patients with type 2 diabetes receiving iGlarLixi who reach postprandial glucose and fasting plasma glucose targets in the LixiLan-L trial

J. Davidson, J. Chao, A. Saremi, T. Dex, L. Leiter, USA, Canada

786 Propensity-matched patient-level comparison of iGlarLixi and basal-bolus regimen in patients with type 2 diabetes

J. Meier, J. Anderson, C. Wysham, F.J. Tinahones, A. Saremi, P. Stella, M. Liu, A.G. Tabak, Germany, USA, Spain, Hungary

787 Impact of type 2 diabetes duration on response to iGlarLixi vs iGlar: a subanalysis of LixiLan-L

L. Blonde, L. Berard, A. Saremi, Y. Huang, V.R. Aroda, D. Raccah, USA, Canada, France

788 Effects of sustained treatment with lixisenatide on gastric emptying and glucose metabolism in type 2 diabetes

C.K. Rayner, L.E. Watson, L.K. Phillips, M.J. Bound, J. Grivell, T. Wu, K.L. Jones, M. Horowitz, E. Ferrannini, D. Trico, S. Frascerra, A. Mari, A. Natali, Australia, Italy

789 The effect of lixisenatide on post-prandial blood glucose and glucagon in type 1 diabetes

C. Ballav, A. Dhere, O. Agbaje, I. Kennedy, R.R. Holman, K.R. Owen, UK

790 In vitro studies to evaluate the receptor kinetics of efpeglenatide versus other glucagon-like peptide-1 receptor (GLP-1 R) agonists

I. Choi, M. Moon, M. Trautmann, M. Hompesch, C. Sorli, Korea, Republic of, USA

791 Effects of dulaglutide and trelagliptin on beta cell function in patients with type 2 diabetes: a randomised controlled study: DUET-beta study

Y. Kondo, S. Satoh, Y. Terauchi, Japan

792 Rescue therapy with linagliptin to improve glucose metabolism and pancreatic beta cell function in patients with prediabetes with no response to metformin

S. Salazar-Lopez, M. Alvarez-Canales, D. Farfan, L. Jimenez-Ceja, M. Montes de Oca, F. Angulo-Romero, M. Reyes-Escogido, E. Durán-Pérez, A. Aguilar-García, R. Guardado-Mendoza, Mexico

Poster Event F, Thursday, 13:15 - 14:15

PS 066 Multiple facets of continuous glucose monitoring

Chair: A. Mitrakou-Fanariotou, Greece

793 Real-time decoding of endogenous islet algorithms and their use in a type 1 diabetes simulator

M. Raoux, M. Jaffredo, L. Olçomendy, A. Pirog, B. Catargi, S. Renaud, J. Lang, France

794 New insight into evaluation of continuous glucose monitoring index using continuous wavelet transformation

Y. Nakamura, S. Furukawa, Japan

795 Avoidance of glucose excursions with predictive alerts in the Guardian™ Connect CGM system: real-world paediatric data

O. Cohen, S. Abraham, C. McMahon, P. Agrawal, Switzerland, USA

796 Accuracy assessment of the WaveForm Cascade CGM system versus FreeStyle Libre over 14 days

M. Rebec, E. Anderson, R. Dutt-Ballerstadt, A. Haidar, A. Singh, A. Janez, USA, Canada, Slovenia

797 Flash Glucose Monitoring is associated with improved glycaemic control and quality of life in people with type 1 diabetes: a large 'real-world' assessment

F.W. Gibb, R.H. Stimson, N.N. Zammitt, A.R. Dover, UK

798 Occurrence of severe hypoglycaemic events in the future: analysis of CGM data of the HypoDE study

N. Hermanns, D. Ehrmann, G. Freckmann, D. Waldenmaier, S. Pleus, G. Faber-Heinemann, L. Heinemann, Germany

799 The relationship between HbA_{1c} and hypoglycaemia in the Diamond trial

N. Oliver, M. Reddy, M. Gimenez, V. Moscardo, UK, Spain

800 A new formula to compute eA1c from 3-months average interstitial glucose measured by FreeStyle Libre in patients with type 1 diabetes

P. Oriot, M.P. Hermans, Belgium

801 Associations between HbA_{1c} and continuous glucose monitoring-derived glycaemic parameters

T.C. Walker, P. Calhoun, T.K. Johnson, J.B. Welsh, D.A. Price, USA

Poster Event A, Tuesday, 12:00 - 13:00

PS 067 Artificial insulin delivery and insulin pump therapy

Chair: M. Prázný, Czech Republic

802 The artificial pancreas ski camp: real-time monitoring and glucose control in youth with type 1 diabetes

D.R. Chernavsky, M. DeBoer, M. Breton, J. Pinnata, B. Kovatchev, USA

803 Real-world use of the MiniMed™ 670G system by patients with type 1 or type 2 diabetes

S.W. Lee, J. Shin, X. Chen, M.-H. Nguyen, T.L. Cordero, F.R. Kaufman, USA

804 Comparing patch vs pen bolus insulin delivery in type 2 diabetes using continuous glucose monitoring metrics and profiles

M.L. Johnson, D.M. Dreon, B.L. Levy, S. Richter, D. Mullen, R.M. Bergenstal, USA

805 Assessment of infusion set survival of the newly developed coated Lantern catheter in type 1 diabetes by glucose clamp technique

J.K. Mader, A. Ajsic, M.C. Krasser, R. Juliussen, P.K. Schondorff, M. Heschel, T. Pöttler, D. Schwarzenbacher, T. Augustin, T.R. Pieber, G. Treiber, Austria, Denmark

806 An assessment on insulin pump precision for artificial pancreas efficiency

S. Girardot, F. Mousin, S. Hardy, J.-P. Riveline, France

807 Fully closed-loop glucose control in haemodialysis patients with type 2 diabetes

L. Bally, H. Thabit, S. Hartnell, E. Anderegg, Y. Ruan, M.E. Wilinska, M.L. Evans, M. Semmo, B. Vogt, A.P. Coll, C. Stettler, R. Hovorka, Switzerland, UK

808 A comparative effectiveness analysis of real-world use of the MiniMed™ 640G and MiniMed™ 670G systems

J. Shin, S. Huang, X. Chen, M.-H. Nguyen, T.L. Cordero, S.W. Lee, F.R. Kaufman, USA

809 Optimising basal-bolus therapy in type 2 diabetes: a randomised, controlled trial comparing bolus insulin delivery using an insulin patch vs an insulin pen

S. Ramtoola, V.R. Aroda, T.S. Bailey, R.L. Brazg, D.M. Dreon, J.P. Frias, D.C. Klonoff, D.F. Kruger, B.L. Levy, M. Peyrot, J. Rosenstock, P. Serusclat, R.S. Weinstock, V. Zraick, R.M. Bergenstal, UK, USA, France

810 Insulin pump therapy with simple infusion scheme in insufficiently-controlled patients with type 2 diabetes on intensive injection therapy: a real life study

H.W. De Valk, B. Silvius, M.J. Kramer, BIDON-study group, Netherlands

Poster Event B, Tuesday, 13:15 - 14:15**PS 068 Faster acting insulins: state of the art**

Chair: R. Hovorka, UK

811 BioChaperone technology enables the development of pramlintide-prandial insulin combinations

R. Soula, G. Meiffren, A. Geissler, Y. Meyer, A. Ranson, C. Fortier, O. Soula, B. Alluis, R. Charvet, France

812 Glycaemic control with fast-acting insulin aspart according to dose adjustment method in type 1 diabetes: a post hoc analysis of onset 8

T.R. Pieber, J. Buse, L. Rose, A. Gorst-Rasmussen, T.W. Boesgaard, K. Buchholtz, O. Mosenzon, Austria, USA, Germany, Denmark, Israel

813 Improved post-prandial blood glucose excursions with Technosphere inhaled insulin compared to aspart in adult patients with type 1 diabetes: STAT study intention to treat analysis

H.K. Akturk, J.K. Snell-Bergeon, E.A. Beck, L.J. Klaff, B. Bode, A. Peters, T.S. Bailey, S.K. Garg, USA

814 Ultra rapid lispro (URLi) reduces postprandial glucose excursions vs lispro in patients with type 2 diabetes at multiple meal-to-dose timing intervals

C. Kapitza, J. Leohr, R. Liu, S.R. Reddy, M.A. Dellva, M. Matzopoulos, M.P. Knadler, M.T. Loh, T.A. Hardy, C. Kazda, Germany, USA, UK, Singapore

815 Pooled analysis of clinical trials investigating the pharmacokinetics (PK) of ultra-rapid insulin BioChaperone Lispro vs lispro in subjects with type 1 and type 2 diabetes

T. Heise, A. Ranson, M. Gaudier, O. Soula, B. Alluis, E. Zijlstra, S. Glezer, G. Meiffren, Germany, France

816 BioChaperone 222, the new excipient enabling the ultra-rapid BioChaperone Lispro formulation, is completely absorbed and rapidly excreted after subcutaneous injection

O. Soula, L. Plum-Mörschel, E. Anastassiadis, G. Andersen, S. Glezer, A. Ranson, B. Alluis, J. Correia, C. Seroussi, M. Gaudier, G. Meiffren, France, Germany

817 Ultra rapid lispro (URLi) shows faster insulin absorption vs lispro during insulin pump (CSII) use in patients with type 1 diabetes

C. Kazda, J. Leohr, R. Liu, T.A. Hardy, S. Reddy, S.P. Chua, X. Guo, U. Hovelmann, C. Kapitza, France, USA, Singapore, Germany

818 Better postprandial glucose control with BioChaperone Combo than with lispro Mix25 or separate glargine and lispro (G+L) administrations in subjects with type 2 diabetes

T. Herbrand, L. Plum-Mörschel, C. Mégret, T. Heise, V. Vacher, E. Anastassiadis, O. Klein, M. Gaudier, O. Soula, S. Glezer, B. Alluis, G. Meiffren, Germany, France

Poster Event C, Wednesday, 12:00 - 13:00

PS 069 Approaches to insulin titration

Chair: W.H. Herman, USA

819 Efficacy of advanced carbohydrate counting and automated insulin bolus calculators in type 2 diabetes: the BolusCal2 study, an open-label, randomised controlled trial

M.B. Christensen, N. Serifovski, A.M. Herz, S. Schmidt, P. Gaede, E. Hommel, L. Raimond, A. Gotfredsen, K. Nørgaard, Denmark

820 Therapy adjustments of patients with type 1 diabetes on multiple daily injections with an increased risk for hypoglycaemia using real-time continuous glucose monitoring (rtCGM)

D. Waldenmaier, G. Freckmann, L. Heinemann, N. Hermanns, S. Pleus, C. Haug, Germany

821 To compare the effectiveness of intravenous variable rate insulin compared to fixed rate weight based insulin infusion on the resolution of diabetic ketoacidosis

Y. Yap, T. Molyneux, C. Gadd, V. Stewart, S. Hammersley, UK

822 Smartphone triggered diabetes self-management education and support in insulin treated type 2 diabetes patients: results of the randomised TRIGGER study

A. Boels, R.C. Vos, L.-T. Dijkhorst-Oei, G.E. Rutten, Netherlands

823 Baseline nocturnal glucose change as a predictor of treatment effect of bolus intensification in insulin-treated type 2 diabetes

K. Salvesen-Sykes, A.L. Peters, M. Piletic, J. Snyder, K. Bowering, USA, Slovenia, Canada

824 Achievement of individual HbA_{1c} targets with self- vs physician-led titration of newly or recently initiated basal insulin in type 2 diabetes: DUNE real-world study results

L. Berard, D. Mauricio, K. Khunti, D.R. Franco, J. Westerbacka, C. Candelas, V. Pilorget, R. Perfetti, L. Meneghini, Canada, Spain, UK, Brazil, France, USA

825 Improved efficacy with self- vs physician-led titration of insulin glargine 300 or 100 U/ml in type 2 diabetes: comparison of TAKE CONTROL, AT.LANTUS and ATLAS

M. Davies, E. Boelle-Le Corfec, M. Bonnemaire, M. Odawara, L. Popescu, J. Sieber, D. Russell-Jones, K. Strojek, N. Tentolouris, UK, France, Japan, Romania, Germany, Poland, Greece

826 Daytime and nocturnal glucose checking and hypoglycaemia patterns from real-world flash continuous glucose monitoring use

Y. Xu, H. Pryor, E. Budiman, T. Dunn, USA, UK

827 Use of supportive tools and education enables self-titration with insulin glargine 300 or 100 U/ml in type 2 diabetes: results from TAKE CONTROL, INNOVATE and AUTOMATIX

M. Bonnemaire, M. Kvapil, H. Goyeau, N. Papanas, L. Popescu, B. Schultes, J. Sieber, L. Smircic Duvnjak, France, Czech Republic, Greece, Romania, Switzerland, Germany, Croatia

Poster Event D, Wednesday, 13:15 - 14:15**PS 070 Clinical outcomes in insulin treated patients**

Chair: A. Tsapas, Greece

828 The relationship between urinary albumin excretion, cardiovascular outcomes and total mortality among large cohort of insulin-treated patients with type 2 diabetes

R. Donnelly, U. Anyanwagu, I. Idris, UK

829 The association between insulin initiation and adverse outcomes after hospital discharge: a population-based cohort study

L.L. Lipscombe, Z. Lysy, H.D. Fischer, K. Fung, V. Giannakeas, C.M. Bell, Canada

830 Durability of improved patient-reported outcomes in type 2 diabetes patients treated with dapagliflozin plus saxagliptin vs insulin glargine

M.A. Testa, J.F. Hayes, M. Lind, T. Vilsbøll, S. Jabbour, E. Ekholm, E. Johnsson, D.C. Simonson, USA, Sweden, Denmark

831 Effects of dulaglutide vs glargine in patients with different baseline glycaemic patterns (high/low fasting or high/low postprandial glucose): AWARD-2 post hoc analysis

F. Giorgino, M. Yu, A. Haupt, Z. Milicevic, L.-E. García-Pérez, Italy, USA

832 Exploring clinical outcomes in diverse populations with uncontrolled type 2 diabetes switching to insulin Gla-300: first-stage analysis of the pooled European Gla-300 studies (REALI)

N. Freemantle, P. Gourdy, D. Mauricio, D. Müller-Wieland, R.C. Bonadonna, L. Pedrazzini, G. Bigot, C. Mauquoi, M. Bonnemaire, UK, France, Spain, Germany, Italy, Belgium

833 Lower pharmacokinetic and pharmacodynamic within-day variability of individual clinical doses of insulin glargine 300 U/ml vs glargine 100 U/ml in type 1 diabetes

C.G. Fanelli, P. Lucidi, P. Candeloro, P. Cioli, A. Marinelli Andreoli, G.B. Bolli, F. Porcellati, Italy

834 Long-acting insulin analogues versus human isophane insulin for type 2 diabetes: update of a Cochrane review

J. Engler, K. Horvath, T. Semlitsch, K. Jeitler, A. Berghold, A. Siebenhofer, Germany, Austria

Poster Event E, Thursday, 12:00 - 13:00

PS 071 Combination therapy with ultra-long-acting insulin

Chair: T. Vilsbøll, Denmark

835 Insulin degludec/insulin aspart (IDegAsp) twice daily (BID) vs biphasic insulin aspart 30 (BIAsp 30) BID: a randomised trial in Chinese patients with type 2 diabetes

J. Ma, W. Yang, T. Hong, M. Liu, H. Miao, Y. Peng, C. Wang, X. Xu, T. Yang, W. Liu, A. Moeller Nielsen, L. Pan, Z. Weigang, China, Denmark

836 Similar glycaemic control and less nocturnal hypoglycaemia with intensification of IDegAsp QD or BID vs glargine U100 QD + IAsp 1-3 in adults with type 2 diabetes

Y. Gupta, K. Astamirova, E. Fita, T. Demir, A. Haggag, D. Roula, B.A. Bak, A. Møller Nielsen, A. Tsimikas, India, Russian Federation, Denmark, Turkey, USA, Algeria

837 Effects of IDegLira (insulin degludec/liraglutide) in patients with poorly controlled type 2 diabetes with HbA_{1c} >9%: analyses from the DUAL programme

S. Bain, J. Frias, D. Gouet, R. Takács, T. Jia, P. Örsy, D. Sugimoto, UK, USA, France, Hungary, Denmark

838 Lower day-to-day fasting self-measured plasma glucose (SMPG) variability with insulin degludec/liraglutide (IDegLira) vs insulin glargine 100 units/ml (IGlar U100)

E. Jaeckel, A. Doshi, P. Garcia-Hernandez, J.F. Merino Torres, M. Rodacki, S. Eggert, R. Grøn, I. Lingvay, Germany, USA, Mexico, Spain, Brazil, Denmark

839 Patient-reported outcomes for insulin degludec/liraglutide vs insulin glargine as add-on to sodium-glucose co-transporter-2 inhibitor in type 2 diabetes: DUAL IX trial

M. Brod, L. Billings, R. Busch, S. Harris, C. Morales Portillo, R. Sahay, A. Busk, S. Eggert, N. Halladin, A. Philis-Tsimikas, USA, Canada, Spain, India, Denmark

840 Patients with type 2 diabetes on the maximum dose of insulin degludec/liraglutide (IDegLira) achieve glycaemic target: analyses from the DUAL programme

L. Meneghini, S. Linjawi, P. Serusclat, T. Vilsbøll, B.F. Agner, T. Hansen, L.A. Leiter, USA, Australia, France, Denmark, Canada

841 IDegLira improves glycaemic control in subjects with type 2 diabetes uncontrolled on basal insulin without deterioration despite discontinuing pre-trial sulphonylurea

A. Janez, R. Silver, T. Vilsbøll, R. Grøn, N. Halladin, P. Őrsy, S. Harris, Slovenia, USA, Denmark, Canada

842 Simplification of complex insulin regimens with preserving good glycaemic control in type 2 diabetes

Z. Taybani, B. Botyik, M. Katkó, Hungary

Poster Event F, Thursday, 13:15 - 14:15

PS 072 Clinical and patient reported outcomes

Chair: S. Gudbjörnsdottir, Sweden

843 User- and health care provider-reported outcomes for a wearable bolus insulin delivery patch

B.L. Levy, R.M. Bergenstal, D.M. Dreon, V. Zraick, V.R. Aroda, T.S. Bailey, R.L. Brazg, J.P. Frias, D.C. Klonoff, D.F. Kruger, S. Ramtoola, J. Rosenstock, P. Serusclat, R.S. Weinstock, M. Peyrot, USA, UK, France

844 Fast improvement of glycaemic control during transition of young adults with type 1 diabetes

A. Maurizi, S. Pieralice, R. Del Toro, D. Tuccinardi, A. Lauria Pantano, C. Guglielmi, E. Maddaloni, E. Fioriti, S. Manfrini, P. Pozzilli, Italy

845 Impairment of cognitive function in newly diagnosed type 2 diabetes, but not in type 1 diabetes

T. Van Gemert, W. Woelwer, K.S. Weber, A. Hoyer, K. Strassburger, N.T. Bohnau, M.A. Brueggen, K. Ovelgoenne, E.-M. Goessmann, V. Burkart, J. Szendroedi, M. Roden, K. Muessig, GDS Group, Germany

846 Individuals with stable glucose levels show improved longitudinal glycaemic outcomes: a worldwide observational study

R.A. Ajjan, S.R. Jangam, Y. Xu, G. Hayter, T. Dunn, UK, USA

847 Upper extremity impairments in type 1 diabetes is strongly related to low health related quality of life

K. Gutefeldt, C.A. Hedman, I.S. Thyberg, M. Bachrach-Lindström, H.J. Arnqvist, A. Spångaus, Sweden

848 Quality of life in diabetes: influence of glycaemic control and other associated psychological variables

M. Carreira, M.S. Ruiz de Adana, M. Domínguez-López, M.T. Anarte, Spain

849 No deterioration in quality of life, treatment satisfaction and wellbeing over 6 years of follow up in people with recently diagnosed type 2 diabetes

H.S. Oldershaw, R.A. Oram, J. Dennis, R.C. Andrews, UK

850 Patients' and clinicians' preferences on outcomes and medication attributes for type 2 diabetes: a mixed methods study

T. Karagiannis, I. Avgerinos, M. Toumpalidou, G. Dimitriadis, A. Bargiota, N. Papanas, I. Avramidis, A. Tentolouris, K. Kitsios, S. Giannakopoulos, S. Alexiadis, T. Chatziadamidou, A. Liakos, K. Malandris, A. Tsapas, Greece, UK

851 Glycaemia as a risk factor for falls in the hospital population

C. Berra, E. Azzolini, F. De Fazio, M. Mirani, G. Favacchio, M. Albini, F. Folli, Italy

Poster Event A, Tuesday, 12:00 - 13:00**PS 073 Diabetes control around the world**

Chair: G.E.H. Rutten, Netherlands

852 Poor glycaemic control in people with type 1 and type 2 diabetes: results from the International Diabetes Management Practices Study (IDMPS)

F. Lavalle, P. Aschner, J.J. Gagliardino, H. Ilkova, A. Ramachandran, G. Kaddaha, J.C. Mbanya, M. Shestakova, J.-M. Chantelot, J.C. Chan, Mexico, Colombia, Argentina, Turkey, India, United Arab Emirates, Cameroon, Russian Federation, France, China

853 Socioeconomic inequalities in glycaemic control in people with newly diagnosed type 1 and type 2 diabetes

E. Jacobs, K. Strassburger, A. Icks, O. Kuss, V. Burkhart, J. Szendrödi, K. Müssig, W. Rathmann, M. Roden, and the GDS Group, Germany

854 Global patterns of cardiovascular risk factor control in patients with type 2 diabetes: insights from the global DISCOVER study programme

M.B. Gomes, K.K. Patel, B. Charbonnel, H. Chen, J. Cid-Ruzafa, P. Fenici, N. Hammar, L. Ji, K.F. Kennedy, S. Pocok, M.V. Shestakova, I. Shimomura, H. Watada, Brazil, USA, France, Spain, UK, Sweden, China, Russian Federation, Japan

855 Cross-sectional study of annual glycaemic control between 2003 and 2015 in primary care: management of type 2 diabetic patients in the Nordic countries

S.T. Knudsen, J. Bodegard, K.I. Birkeland, K. Furuseth, M. Thuresson, A. Lindh, P.M. Nilsson, M. Alvarsson, M.E. Jørgensen, J. Søndergaard, F. Persson, Denmark, Norway, Sweden

856 The influences of ethnicity on the quality of type 2 diabetes care in Norwegian general practice

A.T. Tran, B. Gjelsvik, T.J. Berg, K. Nøkleby, J.G. Cooper, Å. Bakke, T. Claudi, S. Sandberg, G. Thue, A.K. Jenum, Norway

857 Management and achievement of glycaemic goal in people with diabetes in Africa: results from the International Diabetes Management Practices Study (IDMPS)

J.C. Mbanya, P. Aschner, J.J. Gagliardino, H. Ilkova, F. Lavalle, A. Ramachandran, G. Kaddaha, M. Shestakova, J.-M. Chantelot, J.C. Chan, Cameroon, Colombia, Argentina, Turkey, Mexico, India, United Arab Emirates, Russian Federation, France, China

858 Improved diabetic outcomes through a new value based commissioned service in England 2014-2017

J. Llewelyn, C. Neely, Y. Kyaw, M. Spring, UK

859 Screening patients of type 2 diabetes for probable hypoglycaemia using standford hypoglycaemia questionnaire in outpatient settings in north India

R. Awasthi, K. Chandra, A. Pande, M. Gupta, A. Tewari, V. Agarwal, N. Gupta, S. Chaubey, S. Chowdhary, S. Ansari, Lucknow Diabetes Study Group, India

Poster Event B, Tuesday, 13:15 - 14:15

PS 074 Cost effectiveness in diabetes therapies

Chair: S.J. Griffin, UK

860 Population based diabetes screening is associated with less insulin therapy compared to usual care

R.C. Vos, H. Den Ouden, L.A. Daamen, H.J. Bilo, P. Denig, G.E. Rutten, Netherlands

861 Impact of V-Go versus multiple daily injections on glycaemic control, insulin utilisation and diabetes medication costs among individuals with type 2 diabetes

A. Raval, M. Nguyen, S. Zhou, M. Grabner, J. Barron, R. Quimbo, USA

862 Long-term cost-effectiveness of sitagliptin and SGLT2i combination therapy for the management of type 2 diabetes in the UK

M. Pawaskar, P. Bilir, A. Graber-Naidich, C. Gonzalez, S. Rajpathak, G. Davies, USA

863 Cost-effectiveness analysis of empagliflozin in comparison to standard of care, sitagliptin and saxagliptin based on cardiovascular outcomes trials

M. Ramos, V. Foos, A. Ustyugova, N. Hau, P. Gandhi, M. Lamotte, Belgium, Germany, UK, USA

864 Impact of exenatide on medical costs and health utilities in type 2 diabetes: experience from EXSCEL

S.D. Reed, Y. Li, H. Dakin, F. Becker, J. Leal, S.M. Gustavson, B. Kartman, E. Wittbrodt, R.J. Mentz, N.J. Pagidipati, M.A. Bethel, A.M. Gray, R.R. Holman, A.F. Hernandez, USA, UK, Sweden

865 No availability, no uptake - exploring the reasons behind low uptake of insulin pump therapy in Irish adults with type 1 diabetes: findings from a national survey

K.A. Gajewska, S. Sreenan, K.E. Bennett, J. Gajewski, R. Biesma, Ireland

866 Once-weekly semaglutide provides better health outcomes compared to dulaglutide as dual therapy in the treatment of type 2 diabetes: a cost-effectiveness analysis

C.K. Tikkanen, P. Johansen, B. Hunt, S. Malkin, R.F. Pollock, Denmark, Switzerland

867 The importance of incorporating cardio-protective effects of once-weekly semaglutide in estimates of health benefits for patients with type 2 diabetes

L.M. Evans, P. Johansen, H. Vrazic, A. Pitcher, E. Falla, UK, Denmark

868 Real world practice level data analysis confirms link between variability within blood glucose monitoring strip and glycosylated haemoglobin in type 1 diabetes

M. Stedman, M. Lunt, M. Livingston, A. Fryer, G. Moreno, S. Anderson, R. Gadsby, I. Laing, R. Young, A. Heald, UK, Mexico

Poster Event C, Wednesday, 12:00 - 13:00**PS 075 Psychosocial aspects in diabetes**

Chair: A. Nouwen, UK

869 Changed amygdala functional network in type 2 diabetes with major depression disorder

L. Gao, China

870 Depression as an independent predictor for type 2 diabetes incidence in adults: result from Qingdao Diabetes Prevention programme

F. Ning, D. Zhang, L. Zhang, Z. Pang, Q. Qiao, Standing for Qingdao Diabetes Prevention Program, China, Finland

871 Depression in type 1 diabetes was associated with high levels of circulating galectin-3

E.O. Melin, J. Dereke, M. Thunander, M. Hillman, Sweden

872 Illness perception moderates the relationship between diabetes distress and depressive symptoms

A.S. Mocan, A. Nouwen, D.E. Dumitraş, S.S. Iancu, A.S. Baban, Romania, UK

873 Psychological burden and self-reported foot care among participants with or without diabetic foot ulcer

P.T. Murphy, B. McGuire, S. Conneely, J. Bogue, M. Pilch, A. O'Loughlin, S. Dinneen, A. Doherty, A. Liew, Ireland

874 Mediating role of ventral striatum network in the relationship between the diabetes risk multilocus genetic profile and major depressive disorder

C. He, China

875 Perceptions of diabetes control among physicians and people with type 2 diabetes on basal insulin in Italy

K. Vaccaro, S. Frontoni, M. Comaschi, G. Lastoria, A. Nicolucci, Italy

876 A machine learning algorithm can identify clusters of patients with favourable glycaemic outcomes in a pooled European Gla-300 studies (REALI): Novel signposts for clinicians?

M. Rollot, M. Bonnemaire, C. Brulle-Wohlhueter, L. Pedrazzini, E. Boëlle-Le Corfec, G. Bigot, M. Didac, R. Bonadonna, P. Gourdy, D. Müller-Wieland, O. Hacman, A. Chiorean, N. Freemantle, France, Spain, Italy, Germany, UK

Poster Event D, Wednesday, 13:15 - 14:15

PS 076 Education and patient / provider perceptions

Chair: F. Toti, Albania

877 An interest of people with diabetes and their relatives in diabetes social media communities

L. Chernilova, M. Dunicheva, E. Patrakeeva, J. Zakharchenko, E. Shilova, Russian Federation

878 Key components and mechanisms in the integration of self-management education in routine care of people with type 2 diabetes

C. Huber, C. Montreuil, A. Forbes, UK, Switzerland

879 Comparison of two therapeutic education methods in diabetic patients: a randomised controlled trial

N. Lanasri, N.W. Nibouche, L. Atif, L. Makhoul, F. Zeraoulia, F. Hansal, L. Benaoua, K. Zouai, S. Ouadah, K. Messous, A. Chibane, A. Biad, Algeria

880 Effectiveness evaluation of diabetes Ramadan conversation map intervention for managing type 2 diabetes during Ramadan

E. Srulovici, M. Leventer-Roberts, M. Hoshen, A. Bachrach, M. Rotem, E. Shadmi, C. Key, B. Feldman, Israel

881 Treatment of type 2 diabetes: learning from patients' preferences

G. Marchesini, the Italian DCE Study Group, Italy

882 Using structured self-monitoring of blood glucose to improve diabetes knowledge: the SMBG study

S.N. Parsons, S.D. Luzio, D.R. Owens, SMBG Study Group, UK

883 Seasonal trends in HbA_{1c} level in adult patients with type 1 diabetes treated with personal insulin pumps

B. Matejko, B. Kieć-Wilk, S. Mrozińska, T. Klupa, M. Malecki, Poland

884 Factors predictive of HbA_{1c} in insulin pump users in Galway University Hospital

C.E. Fang, E. O'Sullivan, Ireland

Poster Event E, Thursday, 12:00 - 13:00**PS 077 Therapeutic adherence and satisfaction**

Chair: J. Schmittdiel, USA

885 Outpatients' wait times and healthcare professionals' communication behaviours may influence on treatment satisfaction and the intention to drop out

S. Sato, T. Tosaki, C. Oshiro, A. Inagaki, M. Kondo, S. Tsunekawa, Y. Kato, H. Kamiya, J. Nakamura, Japan

886 A novel liquid chromatography tandem mass spectrometry method detects high non-adherence rates in people with diabetes

P. Gupta, A.A. Mohamed, P. Patel, A. Burns, M. Saeed, D. Lane, S. Seidu, K. Khunti, UK

887 Patient-level predictors of delay in insulin initiation and periods of insulin discontinuation among adults with type 2 diabetes

L. Fisher, W. Polonsky, D. Hessler, J.I. Ivanova, U. Desai, D. Cao, F.J. Snoek, M. Perez-Nieves, USA, Netherlands

888 On Time: an innovative online discussion tool to overcome barriers to insulin initiation

P. Filteau, J. Gilbert, G. MacNeill, E. Cooke, M. Vallis, M. Groleau, P. Javadi, C. Lebovics, Canada, France

889 Attitudes among adults with type 2 diabetes affecting insulin initiation and discontinuation

M. Perez-Nieves, W. Polonsky, L. Fisher, F. Snoek, I. Hadjiyianni, D. Cao, J. Ivanova, U. Desai, D. Hessler, USA, Netherlands, Germany

890 The impact of cardiovascular disease family history on drug adherence in patients with hypertension and type 2 diabetes

B.D. Schaan, L.G. Bottino, G.H. Telo, Brazil

891 Storage conditions of insulin in domestic refrigerators and carried by patients: insulin is often stored outside recommended temperature range

K. Braune, L.A. Kraemer, A. Zayani, J. Weinstein, L. Heinemann, Germany, Netherlands

892 Do patients with type 1 diabetes and type 2 diabetes understand the medical terms related to their disease?

N. Novoselova, A. Mosikian, O. Martyanova, E. Patrakeeva, A. Zalevskaya, Russian Federation

Poster Event F, Thursday, 13:15 - 14:15

PS 078 Hypoglycaemia rates with basal insulin

Chair: T.R. Pieber, Austria

893 Similar variability of fasting and 24-hr self-measured plasma glucose with Gla-300 vs IDeg-100 in insulin-naïve adults with type 2 diabetes: the randomised BRIGHT trial

R. Ritzel, A. Cheng, Z. Bosnyak, E. Boëlle-Le Corfec, A.M. Cali, X. Wang, J. Frias, R. Roussel, G.B. Bolli, Germany, Canada, France, Japan, China, USA, Italy

894 Switching to insulin glargine 300 U/ml in patients with type 2 diabetes on basal insulin supported oral therapy (BOT) improves glycaemic control

J. Seufert, A. Fritsche, H. Anderten, K. Pegelow, S. Pscherer, M. Pfohl, Germany

895 Basal insulin initiation on the top of metformin improves glycaemic control and safety in Chinese insulin-naïve patients with type 2 diabetes

H. Zhang, P. Zhang, Y. Luo, D. Zhu, X. Li, J. Ji, L. Ji, China

896 Lower hypoglycaemia rates with insulin glargine 300 U/ml vs insulin degludec 100 U/ml in insulin-naïve adults with type 2 diabetes: the BRIGHT randomised trial

G.B. Bolli, A. Cheng, Z. Bosnyak, E. Boëlle-Le Corfec, A.M. Cali, X. Wang, J. Frias, R. Roussel, J. Rosenstock, Italy, Canada, France, Japan, China, USA

897 The risk of total hypoglycaemia in patients with type 2 diabetes self-titrating insulin glargine U-100

J. Kiljanski, E. Spaepen, C. Harris, USA

898 Improved or comparable efficacy without increased hypoglycaemia with self- vs physician-led titration of insulin glargine 300 U/ml in age groups <65 or ≥65 years: TAKE CONTROL

K. Strojek, G. Bigot, M. Bonnemaire, E. Delgado, V. Donicova, M. Kvapil, N. Papanas, L. Popescu, R. Ritzel, B. Schultes, L. Smircic Duvnjak, Poland, France, Spain, Slovakia, Czech Republic, Greece, Romania, Germany, Switzerland, Croatia

899 Similar or lower severe hypoglycaemia rates with Gla-300 vs Gla-100, IDet and IDeg in 112,626 people with type 2 diabetes: predictive modelling using real-world data: Lightning

R. Berria, J.H. Pettus, T. Bailey, F.L. Zhou, Z. Bosnyak, J. Westerbacka, J. Jimenez, I. Hramiak, L. Meneghini, USA, France, Canada

900 Relationship between HbA_{1c} and hypoglycaemia risk in individual patients comparing insulin degludec with insulin glargine U100

U. Pedersen-Bjergaard, A. Philis-Tsimikas, W. Lane, C. Wysham, L. Bardtrum, S. Østoft, S. Heller, Denmark, USA, UK

Poster Event A, Tuesday, 12:00 - 13:00

PS 079 Clinical pathophysiology of insulin and hypoglycaemia

Chair: A. Giaccari, Italy

901 Early menopause and primary ovarian failure are associated with increased risk of type 2 diabetes: a systematic review and meta-analysis

P. Anagnostis, K. Christou, A.-M. Artzouchaltzi, S.A. Paschou, M. Potoupnis, E. Tsiridis, I. Lambrinoudaki, D.G. Goulis, Greece

902 Left ventricular systolic and diastolic function in type 1 diabetic adults with different glucose control

K. Moshenets, N. Pertseva, Ukraine

903 The role of hyperglycaemia in the appearance of tachyarrhythmia in patients with type 2 diabetes, paroxysmal atrial fibrillation (pAfib) and ischaemic stroke

A. Sianni, I. Matsoukis, T. Athanasopoulou, A. Ganotopoulou, K. Kanellopoulou, X. Triantafillopoulou, L. Skorda, A. Masgala, Greece

904 Acute hypoglycaemia results in increased activation of responses to an inflammatory challenge induced 48 hours later in human subjects

A. Iqbal, L. Prince, P. Novodvorsky, A. Bernjak, M. Thomas, L. Birch, D. Lambert, L. Kay, F. Wright, R. Jacques, R. Storey, R. McCrimmon, S. Francis, I. Sabroe, S. Heller, UK

905 Peripheral infusion of a hepato-preferential insulin analogue mimics the hypoglycaemia-sparing effect of portal vein human insulin infusion in dogs

G. Kraft, M. Scott, M. Smith, J. Hastings, C.L. Brand, C. Fledelius, P. Madsen, T. Kjeldsen, S. Hostrup, E. Nishimura, A.D. Cherrington, J.M. Gregory, USA, Denmark

906 Improved skeletal muscle energy metabolism relates to the recovery of beta cell function by early insulin intensive therapy in drug naive type 2 diabetes

W. Tang, Y. Bi, H. Wang, B. Zhang, D. Zhu, China

907 Circulating dipeptidyl peptidase-4 activity is decreased by short-term intensive insulin therapy in patients with newly diagnosed type 2 diabetes

L. Lihua, W. Ke, H. Li, J. Liu, X. He, J. Chen, Y. Li, China

908 Intraperitoneal insulin does not result in less systemic oxidative stress

H. Van Goor, A. Pasch, N. Kleefstra, S.J. Logtenberg, K.H. Groenier, T.M. Vriesendorp, F. Waanders, H.J. Bilo, P.R. Van Dijk, Netherlands, Switzerland

Poster Event B, Tuesday, 13:15 - 14:15**PS 080 Causes and consequences of hypoglycaemia**

Chair: B.M. Frier, UK

909 Moderate to vigorous physical activity is not associated with increased hypoglycaemia or glycaemic variability in individuals with type 1 diabetes

G.S. Taylor, R.J. Stefanetti, S. Cassidy, A.J. Flatt, A.S. Bashir, M.D. Campbell, E.J. Stevenson, J.A. Shaw, D.J. West, UK

910 Relationship between severe hypoglycaemia, impaired awareness of hypoglycaemia, psychological distress, quality of life and cognition in type 1 diabetes

E. Sepulveda, D. Carvalho, D. Seixas, S.A. Amiel, S.G. Vicente, Portugal, UK

911 Reducing glycaemic variability decreases time in hypoglycaemia independent of mean glucose: data from real-world continuous glucose monitoring in type 1 diabetes patients

R. Bergenstal, E. Hachmann-Nielsen, A. Kaas, K. Kvist, USA, Denmark

912 Common yet overlooked: non-severe hypoglycaemia and its risk indicators in type 2 diabetes (InHypo-DM Study)

N.H. Au, A. Ratzki-Leewing, B.L. Ryan, S. Mequanint, J.E. Black, S. Reichert, J.B. Brown, S. Harris, Canada

913 Hypoglycaemia and risk of all-cause mortality in people with dementia and diabetes: a cohort study

K. Mattishent, K. Richardson, G. Savva, K. Dhatariya, C. Fox, Y. Loke, UK

914 Alexithymia, perfectionism, and attachment insecurities in type 1 diabetes patients with impaired awareness of hypoglycaemia: a pilot study

A. Naito, M. Nwokolo, E. Smith, N. De Zoysa, C. Garrett, P. Choudhary, S.A. Amiel, UK

915 Risk factors for severe hypoglycaemia in community-based patients with type 2 diabetes: the Fremantle Diabetes Study Phase II

T.M. Davis, W.A. Davis, Australia

Poster Event C, Wednesday, 12:00 - 13:00

PS 081 Sweet mothers - big babies

Chair: A. Tabák, Hungary

916 Maternal and foetal complications in women with gestational and pre-gestational diabetes: a population study

G. Di Cianni, E. Gualdani, C. Lencioni, E. Lacaria, P. Francesconi, G. Seghieri, Italy

917 Gestational diabetes (GDM<24 weeks) is associated with worse pregnancy outcomes despite early treatment, when compared with GDM diagnosed at 24-28 weeks gestation

M. Mustafa, A. Khattak, D. Bogdanet, L. Mcknenna, L.A. Carmody, B. Kirwan, G. Gaffney, P. O'Shea, F. Dunne, Ireland

918 The effect of baseline maternal weight and weight gain on pregnancy outcome in women with untreated, mild gestational diabetes

Z. Szili-Janicssek, T. Tanczer, E. Szabó, B. Domján, V. Ferencz, Z. Kerényi, A. Péterfalvi, Á.G. Tabák, Hungary, UK

919 Foetal abdominal overgrowth already affected at diagnosis of gestational diabetes (GDM) in elderly and obese women persists until delivery despite of treatment

Y. Kim, W. Kim, W. Park, J. Kim, S. Park, Korea, Republic of, USA

920 What is the impact of weight gain less than that recommended by IOM on pregnancy outcome for women with GDM and BMI ≥ 30

D. Bogdanet, A. Khattak, M. Mustafa, L. Carmody, B. Kirwan, P. O'Shea, G. Gaffney, F. Dunne, Ireland

921 Heterogeneity in insulin sensitivity and insulin secretion in gestational diabetes relates to differences in pregnancy outcomes

L.R. Madsen, K. Gibbons, D. McIntyre, Denmark, Australia

922 Preconceptional care in diabetes: results from a single reference centre

A. González Lleó, B. Vega-Guedes, A. López-Alonso, M. Alberiche, A. Arencibia, O. Ramírez, L. Maya, A. Wägner, Spain

923 When is HbA_{1c} during pregnancy correlated with macrosomia of the newborn in women with type 1 diabetes?

P. Kazakou, P. Antsaklis, P. Kontou, M. Mitropoulou, V. Sarantopoulou, G. Daskalakis, E. Anastasiou, Greece

Poster Event D, Wednesday, 13:15 - 14:15

PS 082 From pregnancy to breastfeeding

Chair: H. De Valk, Netherlands

924 Sensitivity and specificity of the glucose challenge test for gestational diabetes using the 2013 World Health Organization criteria

K. Benhalima, P. Van Crombrugge, C. Moyson, J. Verhaeghe, S. Vandeginste, H. Verlaenen, C. Vercammen, T. Maes, E. Dufraimont, C. Debblock, Y. Jacquemyn, K. De Clippel, A. Loccufier, R. Devlieger, C. Mathieu, Belgium

925 When timely gestational diabetes screening should occur in in vitro fertilisation pregnancies and how important is intensive glucose management?

P. Thomakos, O. Kepaptsoglou, A. Trouva, A. Sklavounos, E. Kapetanakis, A. Korantzis, D. Trouvas, P. Karantzis, C. Barreto, I. Taraoune, I. Sklavounos, C.S. Zoupas, Greece

926 Screening for early gestational diabetes is not associated with a better pregnancy prognosis than no early screening: an observational study including 9975 women

E. Cosson, D. Sandre-Banon, F. Gary, I. Pharisien, J.-J. Portal, I. Banu, L. Bianchi, C. Cussac-Pillegand, S. Chiheb, E. Vicaut, P. Valensi, L. Carbillon, France

927 Effect of probiotics on glucose and lipid metabolism in pregnant women: a systematic review and meta-analysis

M.M. Han, J.F. Sun, C.H. Wu, X.Y. Zhu, L. Li, China

928 The prevalence of microvascular complications during the third trimester in women with gestational diabetes

B.R. Shah, D.Z. Cherney, D.S. Feig, E. Herer, M.A. Hladunewich, A. Kiss, R.P. Kohly, L.L. Lipscombe, Canada

929 Gestational diabetes is associated with increased risk of non-alcoholic fatty liver disease: a population-based cohort study

A. Lavrentaki, A. Subramanian, N. Thomas, G. Valsamakis, K. Toulis, B. Daly, G. Mastorakos, A.A. Tahrani, K. Nirantharakumar, UK, Greece, New Zealand

930 Comparison of diagnostic value and cost-effectiveness in screening approaches for postpartum pre-diabetes and diabetes among women with history of gestational diabetes

L.-J. Li, I.M. Aris, Y. Chong, P. Gluckman, S. Ang, K. Tan, Singapore

931 Breastfeeding at night is rarely followed by hypoglycaemia in women with type 1 diabetes using carbohydrate counting and modern insulin therapy

L. Ringholm, A.B. Roskjær, S. Engberg, H.U. Andersen, A.L. Secher, P. Damm, E.R. Mathiesen, Denmark

Poster Event E, Thursday, 12:00 - 13:00

PS 083 Diabetic pregnancy: experimental work

Chair: A. El-Osta, Australia

932 Diagnosis of gestational diabetes in fasting serum samples - biomarkers detected by GC-MS based metabolomics

B.A. Raczkowska, D. Rojo, B. Telejko, M. Paczkowska-Abdulsalam, J. Hryniewicka, A. Zielinska, M. Szelachowska, M. Gorska, M. Ciborowski, C. Barbas, A. Kretowski, Poland, Spain

933 Effect of gestational diabetic blood soluble factors on beta cell function: in vitro physiological analysis combined with proteomics approach

H. Kenar, C.Y. Ozdogan, H. Keskin, E.E. Islek, E. Doger, A. Nalla, I. Tarkun, J.H. Nielsen, M. Kasap, Turkey, Denmark

934 The long-term maternal impact of impaired glucose tolerance during pregnancy: a role for placental kisspeptin signalling

L.I. Smith, T.G. Hill, S.J. Simpson, J.E. Bowe, P.M. Jones, UK

935 Association of gestational diabetes with low-grade inflammation and lymphocyte populations in subcutaneous and visceral adipose tissue

A. Cinkajzlova, K. Anderlova, P. Simjak, Z. Lacinova, J. Klouckova, H. Kratochvilova, H. Krejci, A. Parizek, M. Mraz, M. Krsek, M. Haluzik, Czech Republic

936 Polyphenols as preventatives for gestational diabetes

C. Nguyen-Ngo, S. Liong, R. Lim, M. Lappas, Australia

937 Inflammation markers and insulin like growth factor binding protein 1 in women with gestational diabetes treated with metformin or insulin

M. Huhtala, K. Tertti, T. Rönnemaa, Finland

938 Association of nuclear-mitochondrial epistasis with BMI in type 1 diabetic patients

A.H. Ludwig-Slomczynska, M.T. Seweryn, P. Kapusta, E. Pitera, K. Cyganek, U. Mantaj, L. Dobrucka, E. Wender-Ożegowska, M.T. Malecki, P. Wolkow, Poland

Poster Event F, Thursday, 13:15 - 14:15

PS 084 Neuropathy: prevalence and clinical impact

Chair: S. Tesfaye, UK

939 Prevalence of and risk factors associated with distal symmetric diabetic polyneuropathy in the SDRNT1BIO cohort

A. Jeyam, A. Ochs, S.J. McGurnaghan, L.A. Blackbourn, P.M. McKeigue, H.M. Colhoun, on behalf of the SDRNT1BIO Investigators, UK

940 Contemporary prevalence of diabetic neuropathy in type 1 diabetes: findings from the T1D Exchange

R. Pop-Busui, C. Boyle, V. Shah, G. Aleppo, J. McGill, R. Pratley, E. Toshchi, L. Ang, K. Mizokami-Stout, USA

941 Sex differences in neuropathy and neuropathic pain in longstanding diabetes: results from the Canadian study of Longevity in type 1 diabetes

N. Cardinez, L.E. Lovblom, J.-W. Bai, A. Abraham, E. Lewis, J.A. Lovshin, A. Orszag, A. Weisman, H. Keenan, M. Brent, N. Paul, V. Bril, D. Cherney, B. Perkins, Canada, Israel, USA

942 Clinical and genetic factors contributing to protection from neuropathy in extreme duration patients with type 1 diabetes

S. Azmi, M. Ferdousi, R. Donn, J. O'Sullivan, I. Petropoulos, G. Ponirakis, U. Alam, A. Marshall, A. Sankar, O. Asghar, A.J. Boulton, H. Soran, N. Efron, R.A. Malik, UK, Qatar, Australia

943 Looking for an early marker of diabetic neuropathy in type 1 diabetes

S. Frontoni, F. Picconi, M. Parravano, D. Schiano Lomoriello, L. Ziccardi, G. Mataluni, P. Pasqualetti, D. Ylli, L. Chioma, I. Malandrucchio, G. Marfia, Italy, Albania

944 Independent correlations between the presence of retinopathy and kidney disease in diabetes and measures of both metabolic control and neuropathy

D. Tesic, M. Mitrovic, J. Ljekar, D. Popovic, D. Tesic, M. Tomic, B. Vukovic, Serbia

945 Assessment of diabetic peripheral neuropathy in patients with prediabetes, type 1 and type 2 diabetes using corneal confocal microscopy

M. Ferdousi, S. Azmi, A. Kalteniece, I.N. Petropoulos, G. Ponirakis, U. Alam, O. Asghar, A. Marshall, W. Jones, M. Jeziorska, H. Soran, N. Efron, A.J. Boulton, R.A. Malik, UK, Qatar, Australia

946 Physical and psychological determinants of fall risk in patients with diabetic neuropathy: a prospective investigation

S.J. Brown, L. Vileikyte, A.J. Boulton, N.D. Reeves, UK

Poster Event A, Tuesday, 12:00 - 13:00

PS 085 Neuropathy: markers and remedies

Chair: D. Ziegler, Germany

947 A systemic inflammatory signature reflecting crosstalk between innate and adaptive immunity is associated with polyneuropathy: KORA F4/FF4 Study

C. Herder, J.M. Kannenberg, M. Carstensen-Kirberg, A. Strom, G.J. Bönhof, W. Rathmann, C. Huth, W. Koenig, M. Heier, J. Krumsiek, A. Peters, C. Meisinger, M. Roden, B. Thorand, D. Ziegler, Germany

948 Acute hyperoxia deteriorates nerve conduction velocity in type 1 diabetes: A possible effect on oxidative stress?

J.C. Laursen, C. Stevns Hansen, M. Bordino, E. Hein Zobel, S. Abitz Winther, P.-H. Groop, M. Frimodt-Møller, L. Bernardi, P. Rossing, Denmark, Finland

949 Associations between vitamin D and diabetic neuropathy in adolescents with type 1 diabetes

A. Heinesen, M.M. Christensen, J. Fleisher, M.E. Jørgensen, E.E. Hommel, C.S. Hansen, Denmark

950 Glycaemic variability and diabetic neuropathy in adolescents with type 1 diabetes

M.M. Christensen, E.E. Hommel, M.E. Jørgensen, J. Fleischer, C.S. Hansen, Denmark

951 Relation of oxidative stress and glycaemic variability with in vivo corneal confocal microscopy parameters in type 1 diabetes

F. Picconi, R. Squitti, M. Siotto, D. Schiano Lomoriello, M. Parravano, P. Pasqualetti, D. Ylli, L. Chioma, I. Malandrucchio, S. Frontoni, Italy, Albania

952 A novel method for measuring vibration perception thresholds (VPTs) shows an improvement in VPTs in type 1 diabetic patients with improved metabolic control

E. Lindholm, T. Elgzyri, M. Löndahl, L.B. Dahlin, Sweden

953 Impact of normoglycaemia in reducing microvascular complications in patients with type 2 diabetes

M. Tavakoli, F. Ishibashi, UK, Japan

954 Effects of methylcobalamin on diabetic peripheral neuropathy: a meta-analysis of randomised controlled trial

Q. Li, H. Wu, China

Poster Event B, Tuesday, 13:15 - 14:15

PS 086 Autonomic neuropathy

Chair: M.M. Zanone, Italy

955 Effect of slow breathing and apnoea on arterial stiffness in type 2 diabetic and obese patients

P. Valensi, S. Chiheb, I. Banu, A. Rezki, E. Cosson, L. Bernardi, L. Bianchi, France, Finland

956 The impact of the interaction between obstructive sleep apnoea and cardiac autonomic neuropathy on eGFR decline in patients with type 2 diabetes: a longitudinal study

A. Tahrani, Q.-A. Altaf, UK

957 The effect of autonomic and sensory neuropathy on all-cause mortality: a retrospective cohort study

M.M. Svebis, V.J. Horváth, A.E. Körei, P. Fadgyas-Freyler, G. Korponai, T. Tanczer, B.A. Domján, P. Kempler, A.G. Tabák, Hungary, UK

958 Effects of ivabradine, a selective I_{funny} channels blocker, on erectile function in streptozotocin-induced diabetic rats

S. Gur, D. Yilmaz-Oral, G. Koroglu, A. Onder, A. Gulpinar, Turkey

959 Carotid baroreceptor magnetic activation increases heart rate variability in human, implications to treat type 2 diabetes

J. Gmitrov, Slovakia

960 Saliva-derived extracellular vesicles carry distinct miRNAs in type 1 diabetic patients with altered cardiovascular tests

E. Favaro, T. Lopatina, C. Deregibus, C. Gai, M. Pomatto, S. Valerio, P. Passera, M. Porta, G. Camussi, M. Zanone, Italy

961 The influence of clinically diagnosed neuropathy on respiratory muscle strength in type 2 diabetes

B.L. Van Eetvelde, D. Cambier, B. Celie, P. Calders, Belgium

Poster Event C, Wednesday, 12:00 - 13:00

PS 087 Foot ulcers: morbidity and mortality

Chair: S. Kopf, Germany

962 Developing a foot ulcer risk algorithm: the reality of doing this in a real world primary care setting

G. Dunn, M. Lunt, M. Rutter, G. Moreno, M. Edmonds, E. Jude, A. Heald, A. Boulton, UK, Mexico

963 Uncensored incidence of diabetic foot ulcers to patients in remission

L. Lavery, J. Bloom, B. Petersen, G. Rothenberg, USA

964 A risk prediction score for early-onset lower extremity arterial disease in Chinese type 2 diabetes

X. Zhang, X. Ran, Z. Xu, L. Ji, China

965 Incidence and clinical features of new onset diabetic foot ulcer post simultaneous pancreas-kidney transplantation

A. Sharma, S. Cohen, S. Thomas, T. Patel, J. Karalliedde, P. Vas, UK

966 Years of life lost due to diabetic foot complications during a 20-year follow-up

K. Ogurtsova, S. Morbach, G. Rümenapf, D. Ziegler, A. Icks, Germany

967 Perioperative and long term mortality after lower limb amputation in patients with diabetes

M. López Valverde, J. Aragón Sánchez, V. Guerrero Cedeño, R. Tejedor Méndez, G. Viquez Molina, Spain, Costa Rica

968 Presence, characterisation and clinical impact of anaemia in diabetic foot ulceration: a cross sectional study with longitudinal follow up of ulcer outcomes

M. Anson, J. Karalliedde, I. Alejandro, M. Bates, C. Manu, M. Edmonds, I. Macdougall, P. Vas, UK

969 Non-neuronal control of proliferation and migration of keratinocytes on site of ulceration

E. Artemova, Z. Abdulvapova, E. Ivanov, A. Gorbacheva, S. Gavrilova, A. Tokmakova, G. Galstyan, Russian Federation

Poster Event D, Wednesday, 13:15 - 14:15

PS 088 Diabetic foot ulcers: How to prevent and how to treat

Chair: F. Game, UK

970 Arterial disease below the ankle in the diabetic foot: the final frontier

C.A. Manu, N.L. Petrova, P.J. Vas, K. Winkley, H. Rashid, M.E. Edmonds, UK

971 Post-exercise transcutaneous tissue oxygen tension in the detection of latent peripheral arterial disease in patients with diabetic foot

V. Fejfarova, J. Matuška, P. Pitřhová, M. Flekač, J. Venerová, K. Roztočil, V. Wosková, M. Dubský, R. Bém, A. Němcová, A. Jirkovská, V. Lánská, Czech Republic

972 Neurovascular response to pressure: a new potential predictive marker of diabetic foot ulcer

J. Vouillarmet, A. Josset-Lamaugarny, J. Saumet, P. Michon, P. Abraham, B. Fromy, D. Sigauco-Roussel, France

973 Efficacy of long-term remote ischaemic conditioning on vascular and neuronal function in type 2 diabetes patients with peripheral arterial disease

C. Hansen, M.E. Jørgense, J. Fleischer, H. Bøtker, P. Rossing, Denmark

974 The efficacy of sucrose-octasulphate dressing in neuro-ischaemic DFU considering factors influencing wound closure rate: a post-hoc analysis of the Explorer RCT

G. Rayman, M. Edmonds, R. Lobmann, J. Lázaro-Martínez, J. Martini, J.-M. Petit, A. Piaggese, UK, Germany, Spain, Guadeloupe, France, Italy

975 Real life experience of VACOped boots in the management of diabetic foot ulcers

W.T. Lim, H. Robinson, S. Rajbhandari, UK

976 Severe diabetic foot infection and osteomyelitis can be successfully treated with outpatient parenteral antimicrobial therapy

S. Rajbhandari, A. Muir, J. Purcell, J. Orton, UK

977 Bedside Blind Bone Biopsy (B4) for suspected diabetic foot osteitis: A reliable tool to manage medical treatment?

F. Féron, D.-C. Gauthier, M. Laloi-Michelin, A.-L. Munier, L. Salle-Teyssières, G. Pean-de-Ponfilly, E. Lecorche, F. Mougari, H. Jacquier, P.-O. Sellier, J.-D. Laredo, J.-P. Riveline, J.-F. Gautier, J.-P. Kevorkian, France

978 Ten years outcome of diabetic foot ulcer with osteomyelitis in Egypt

H. Gawish, F. Kyrillos, A. Albehairy, M. Elsayed, M. Sherif, M. El-Nahas, O. State, M. Tarshoby, Egypt

Poster Event E, Thursday, 12:00 - 13:00

PS 089 The impact of retinopathy

Chair: C. Schalkwijk, Netherlands

979 Decreased occurrence of early diabetic retinopathy in lifestyle intervention group of the Finnish Diabetes Prevention Study

M. Uusitupa, A. Aro, A. Kauppinen, P. Summanen, G. Von Wendt, N. Kivinen, T. Selander, K. Kinnunen, J. Tuomilehto, S. Keinänen-Kiukaanniemi, J. Lindström, K. Kaarniranta, Finland, Kuwait

980 Frequent physical activity is associated with reduced incidence of severe retinopathy in type 1 diabetes: a prospective FinnDiane Study

H. Tikkanen-Dolenc, J. Wadén, C. Forsblom, V. Harjutsalo, L.M. Thorn, M. Saraheimo, N. Elonen, K. Hietala, P. Summanen, H.O. Tikkanen, P.-H. Groop, Finland

981 Prevalence of diabetic retinopathy in China: a nationwide survey by AI-based automatic screening system

Z. Sun, J. Kuang, J. Liu, F. Wang, N. Wang, R. Wang, X. Liu, Z. Wang, Y. Luo, China

982 Screening for retinopathy in Danish children with type 1 diabetes

C. Herskin, B. Olsen, M. Madsen, P. Kjaersgaard, S. Fredheim, A. Johansen, K. Kristensen, N.H. Birkebaek, J. Svensson, K.A. Pilgaard, J. Johannesen, Denmark

983 Diabetic retinopathy in children and young people with type 1 diabetes in Wales

R.L. Thomas, J.M. Rafferty, S.D. Luzio, D.R. Owens, UK

984 Incidence of diabetic retinopathy in newly diagnosed subjects with type 2 diabetes over 5 years: contribution of beta cell function

S. Roy Chowdhury, R.L. Thomas, G.J. Dunseath, S. Luzio, F.S. Wong, D.R. Owens, UK

985 The association between C-peptide levels and the transition to referable retinopathy in patients with type 1 diabetes

A. Ochs, S.J. McGurnaghan, L.A. Blackbourn, P.M. McKeigue, H.M. Colhoun, on behalf of the SDRNT1BIO Investigators, UK

986 Neuroretinal versus vascular changes in patients with type 2 diabetes compared to healthy controls

S. Jung, A. Bosch, N. Kohler, C. Ott, D. Kannenkeril, T. Dienemann, J.M. Harazny, G. Michelson, R.E. Schmieder, Germany, Poland

Poster Event F, Thursday, 13:15 - 14:15

PS 090 Retinopathy: there is more than hits the eye

Chair: H.-P. Hammes, Germany

987 Functional analysis of miRNAs shuttled by extracellular vesicles from diabetic subjects reveals their role in diabetic retinopathy

A. Mazzeo, E. Beltramo, C. Gai, T. Lopatina, M. Trento, M. Porta, Italy

988 The SRPK1 inhibitor SPHINX31 stabilises retinal permeability in models of diabetes

K.P. Arkill, N. Malhi, C.L. Allen, K. Horton, J. Batson, D.O. Bates, UK

989 Thiamine transporter-2 is involved in high glucose-induced damage and altered thiamine metabolism in cell models of diabetic retinopathy

E. Beltramo, A. Mazzeo, M. Porta, Italy

990 Effects of topical administration of SOCS1-derived peptide on retinal neuroinflammation and vascular leakage in experimental diabetes

C. Hernández, P. Bogdanov, C. Gómez-Guerrero, J. Sampedro, C. Solà-Adell, M. García-Ramírez, J. Egido, R. Simó, Spain

991 δ opioid receptor agonism preserves the outer retina barrier in an experimental model of diabetic retinopathy: a novel therapeutic approach to treat diabetic macular edema

D.A. Duarte, R. Simó, M. García-Ramírez, J.B. Lopes de Faria, J.M. Lopes de Faria, Brazil, Spain

992 Glucosamine is neuroprotective in diabetic retina

R. Eshwaran, M. Kolibabka, K. Kohl, H.-P. Hammes, T. Wieland, Y. Feng, Germany

993 H3K36me3 associated pericyte loss in early diabetic retinopathy

K. Kohl, M. Kolibabka, P. Friedrichs, H.-P. Hammes, Germany

994 Exposure of embryonic retinal cultures to starvation unravels early neurovascular mechanisms responsible for later effects in diabetic retinopathy

R. Jain, T. Özgümüş, A. Fedotkina, A. Zhydenko, I. Artner, V. Lyssenko, Sweden, Norway, Ukraine

Poster Event A, Tuesday, 12:00 - 13:00

PS 091 Biomarkers of nephropathy

Chair: P. Rossing, Denmark

995 Biomarkers associated with early stages of kidney disease in adolescents with type 1 diabetes

M.L. Marcovecchio, M. Colombo, R.N. Dalton, P.M. McKeigue, H.M. Colhoun, D.B. Dunger, UK

996 Urinary exosomal CCL21 mRNA as biomarker of diabetic nephropathy

Y. Feng, L. Lv, W. Wu, X. Zhong, B. Liu, China

997 Differential expression of urinary exosomal microRNAs in type 2 diabetic kidney disease

J. Zang, D.A. Simpson, A.P. Maxwell, G.J. McKay, UK

998 Serum mitochondrial inhibition activity is an independent risk factor for rapid decline of renal function: a Korean Genome Epidemiologic Study

H. Lee, S. Lee, J. Kim, H. Choi, Y.K. Pak, Korea, Republic of

999 Markers of collagen formation and degradation reflect renal function and predict adverse outcome in type 1 diabetes

S. Pilemann-Lyberg, T.W. Hansen, N. Tofte, S.A. Winther, S. Theilade, D.G. Rasmussen, S.H. Nielsen, M.A. Karsdal, F. Genovese, P. Rossing, Denmark

1000 HDL-cholesterol but not triacylglycerol variability is associated with progression of diabetic nephropathy in type 1 diabetes

F.J. Jansson, C. Forsblom, E.H. Dahlström, L.M. Thorn, V. Harjutsalo, N. Elonen, N. Sandholm, P.-H. Groop, The FinnDiane Study Group, Finland

1001 Collagen type III degradation is associated with deterioration of kidney function in patients with type 2 diabetes with microalbuminuria

M. Frimodt-Møller, F. Genovese, T.W. Hansen, D.G. Rasmussen, S.H. Nielsen, H. Reinhard, B. Von Scholten, F. Persson, P.K. Jacobsen, H.-H. Parving, M.A. Karsdal, P. Rossing, Denmark

1002 C-type natriuretic peptide as a candidate marker of diabetic kidney disease

H. Lunt, T. Prickett, J. Warwick, H. Heenan, E. Espiner, New Zealand

Poster Event B, Tuesday, 13:15 - 14:15

PS 092 Diabetic nephropathy: Predictions are hard to make

Chair: M. Marre, France

1003 Prediction models for the risk of developing nephropathy in people with type 2 diabetes. A systematic review

A.A. Van der Heijden, M. Gort, P.J. Elders, G. Nijpels, J.W. Beulens, Netherlands

1004 Blood pressure response to RAAS inhibition predicts all-cause mortality for individuals with type 1 diabetes and albuminuria

R. Lithovius, S. Mutter, V.-P. Mäkinen, P.-H. Groop, Finland, Australia

1005 Sex differences in outcomes in treated diabetic kidney disease

B. Fernandez-Fernandez, M. Sanchez-Niño, A. Ortiz, Spain

1006 Insulin resistance predicts incident hypertension and increasing systolic blood pressure in a Swedish cohort study

B. Daka, K. Ottarsdottir, L. Råstam, M.I. Hellgren, U. Lindblad, Sweden

1007 Insulin resistance prognosticate kidney disease in individuals without diabetes

M.I. Hellgren, B. Daka, U. Lindblad, Sweden

1008 Renal resistive index predicts post-bariatric surgery renal outcome in severely obese non diabetic individuals

L. Giannini, M. Seghieri, E. Santini, F. Parolini, S. Taddei, R. Bruno, A. Solini, Italy

1009 Higher pulse pressure predicts initiation of dialysis in Japanese patients with diabetes: analysis using a nationwide claim database

T. Osawa, K. Fujihara, M. Yamamoto, M. Harada, M. Ishizawa, H. Seida, N. Yamanaka, Y. Matsubayashi, S. Matsunaga, T. Yamada, H. Sone, Japan

1010 Incidence, predictors, and clinical outcomes of new onset diabetic foot ulceration after renal transplantation

P.R. Vas, A. Sharma, S. Cohen, T. Patel, S. Thomas, J. Karalliedde, UK

Poster Event C, Wednesday, 12:00 - 13:00

PS 093 Nephropathy: from markers to real life

Chair: G. Pugliese, Italy

1011 Plasma lipids are associated with diabetic kidney disease: a study of plasma lipidomics in type 1 diabetes

N. Tofte, T. Suviola, L. Ahonen, S. Theilade, S.A. Winther, M. Frimodt-Møller, T.S. Ahluwalia, P. Rossing, Denmark

1012 Apolipoprotein C3 in diabetic nephropathy in type 1 diabetes and its role in cardiovascular disease

L. Stechemesser, C. Forsblom, N. Tolonen, M.-R. Taskinen, R. Weitgasser, P.-H. Groop, Austria, Finland

1013 Neutrophil elastase and myeloperoxidase mRNA levels are elevated in diabetic patients with overt nephropathy and are associated with albuminuria

S.K. Biswas, R.M. Rinta, F. Haider, M. Fariduddin, M.I. Arslan, Bangladesh

1014 Sleep disordered breathing during rapid eye movement sleep and diabetic kidney disease in patients with type 2 diabetes

A. Nishimura, T. Kasai, S. Ikeda, T. Uchida, S. Kikuno, K. Nagasawa, M. Okubo, K. Narui, Y. Mori, Japan

1015 The pathological mechanism of anaemia in diabetic patients with chronic kidney disease

K. Harada, Y. Yamaguchi, Y. Akai, Japan

1016 Elevated systemic iron levels aggravate diabetic nephropathy

S. Altamura, J. Schmidt, K. Schreckenberger, K. Müdder, V. Peters, A. Wagner, P. Nawroth, M. Muckenthaler, Germany

1017 Serum levels of angiopoietin-like protein 4 in relation to glomerular function and nephropathy severity in type 2 diabetic patients

Y. Feng, L. Yang, C. Yu, S. Yuan, Y. Wang, N. Zhang, D. Zhao, China

1018 Post transplantation diabetes in kidney transplant recipients: time of diagnosis, impact on graft function and infectious complications

D. Cieniawski, E. Ignacak, A. Prokop, P. Miarka, K. Krzanowska, M. Kuzniewski, W. Sulowicz, Poland

1019 Ramadan fasting effects on renal function in type 2 diabetic patients

M. Abushady, M. Samy, M. Bekhet, A. Abdullah, Egypt

Poster Event D, Wednesday, 13:15 - 14:15

PS 094 Animal studies on nephropathy

Chair: F. Barutta, Italy

1020 3D kidney imaging for assessment of glomerular number and size in a mouse model of diabetic nephropathy

J. Hecksher-Sørensen, K. Fabricius, T.X. Pedersen, T. Johansen, L.N. Fink, N. Vrang, J. Jelsing, T. Secher, Denmark

1021 Next generation of spontaneous diabetic model of FATZO mice with intact leptin signalling develop nephropathy after high fat and high sucrose induction

J. Gorski, G. Sun, G. Zhang, Y. Wang, USA

1022 A novel mechanism of prostaglandin E1 attenuating high glucose-induced apoptosis in renal tubular epithelial cells: a key role for the JNK/Bim pathway

Y. Zhang, Z. Zou, C. Guo, L. Liao, J. Dong, Z. Zhang, China

1023 Diabetic human carnosinase 1 transgenic BTBR^{ob/ob} mice have reduced renal carnosine concentrations and display a higher degree of glomerular filtration barrier impairment

J. Qiu, F. Siegerist, A.-N. Rodriguez, D.O. Pastene, N. Endlich, B.K. Krämer, B.A. Yard, Germany

1024 Apoptosis resistant modified endothelial progenitor cell (EPC) transplantation improves diabetic kidney disease (DKD)

N. Kundu, L. Asico, C. Domingues, P. Jose, S. Sen, USA

1025 Modulation of TIMP3-ADAM17 dyad limits the progression of diabetic nephropathy

R. Menghini, V. Casagrande, S. Menini, G. Iuliani, L. De Angelis, M. Mavilio, G. Pugliese, M. Federici, Italy

1026 Salidroside ameliorates diabetic albuminuria through inhibition of Bim-mediated mitochondrial apoptosis in renal tubular cells

C. Guo, L. Liao, China

1027 Metformin is nephroprotective in a progressive renal disease model

C. Borges, C.K. Fujihara, V.F. Ávila, D.A. Duarte, J.M. Lopes de Faria, J.B. Lopes de Faria, Brazil

Poster Event E, Thursday, 12:00 - 13:00

PS 095 Diabetic nephropathy: on the bench

Chair: M.E. Cooper, Australia

1028 Approaches for the generation of human kidney organoids for modelling nephropathies

K. Uusi-Rauva, A. Pirttiniemi, S. Lehtonen, V. Fellman, P.-H. Groop, M. Lehto, FinnDiane Study Group, Finland, Sweden

1029 Modelling the metabolic reprogramming of diabetic nephropathy using hESC-derived 3D kidney organoids

C. Hurtado del Pozo, P. Prado Peralta, B. Coppe, E. Garreta, N. Montserrat, Spain

1030 Activated TGF- β 1 reduces GPx-4 protein abundance in murine podocytes

C. Hangel, R.H. Henning, A.H. Wagner, M. Hecker, Germany, Netherlands

1031 DPP-4 release in human podocytes

E. Benetti, V. Bordano, F. Barutta, G. Gruden, C. Fedele, A. Rosa, T. Klein, G. Miglio, Italy, Germany

1032 (-)-Epicatechin and the colonic metabolite

3,4-dihydroxyphenylacetic acid protect against high glucose-induced stress via SIRT1 in renal tubular cells

D. Álvarez-Cilleros, M.-Á. Martín, L. Goya, S. Ramos, Spain

1033 Endothelial FGFR1 is essential for the anti-fibrotic and anti-EndMT effects of N-acetyl-seryl-aspartyl-lysyl-proline in diabetic mice

K. Kanasaki, J. Li, K. Nitta, D. Koya, Japan

1034 The role of TNF- α -Induced Protein 2 in diabetic nephropathy

F. Barutta, S. Bellini, B. Corbetta, G. Gruden, Italy

1035 Mesenchymal stem cells prevent progression of diabetic nephropathy by improving mitochondrial function in tubular epithelial cells

K.-U. Lee, E. Koh, J. Jang, C. Woo, S. Lee, Korea, Republic of

Poster Event F, Thursday, 13:15 - 14:15

PS 096 Of drugs and kidneys

Chair: H.-H. Parving, Denmark

1036 Empagliflozin and progression of chronic kidney disease in type 2 diabetes complicated by nephrotic-range proteinuria: insights from the EMPA-REG OUTCOME trial

P. Ruggerenti, S. Inzucchi, B. Zinman, S. Hantel, A. Koitka-Weber, M. Von Eynatten, C. Wanner, Italy, USA, Canada, Germany, Australia

1037 Empagliflozin improves kidney outcomes irrespective of control of blood pressure, low-density lipoprotein cholesterol and HbA_{1c}

C. Wanner, M.E. Cooper, S.E. Inzucchi, B. Zinman, U. Hehnke, M. Von Eynatten, A. Koitka-Weber, Germany, Australia, USA, Canada

1038 Luseogliflozin inhibits HIF-1alpha expression in renal proximal tubular epithelial cells

Y. Takiyama, R. Bessho, T. Ota, Japan

1039 Relation between urinary glucose reabsorption and kidney function in diabetic patients

O. Matar, L. Potier, M. Hallot-Feron, F. Fumeron, R. Roussel, G. Velho, M. Marre, France

1040 Effects of sodium-glucose cotransporter 2 inhibitors on renal outcomes in patients with type 2 diabetes: a systematic review and meta-analysis

J. Bae, E. Park, S. Kim, K. Kim, J. An, H. Kim, J. Kim, S. Kim, S. Hahn, N. Kim, Korea, Republic of

1041 Empagliflozin and linagliptin alleviate podocyte injury and activate glomerular autophagy in a model of type 2 diabetes

A.I. Korbut, V.V. Klimontov, Y.S. Taskayeva, N.P. Bgatova, E.L. Zavjalov, Russian Federation

1042 Effect of vildagliptin added to insulin on glycaemic control in haemodialysis patients with type 2 diabetes: a randomised multicentre prospective study

A. Smagala, M. Munch, L. Meyer, A. Klein, B. Guercy, L. Frimat, S. Borot, D. Ducloux, D. Fleury, O. Verier, F. Alenabi, F. Chantrel, L. Kessler, France

1043 Safety of liraglutide vs placebo in patients with type 2 diabetes and chronic kidney disease in the LEADER trial

J. Mann, V. Fonseca, O. Mosenzon, I. Raz, H. Frimer-Larsen, B. Von Scholten, T. Idorn, N. Poulter, The LEADER Trial Steering Committee and Investigators, Germany, USA, Israel, Denmark, UK

1044 Exenatide LAR improves in hypertensive type-2 diabetic patients plasma levels of cytokines involved in hypertension: an 8-month prospective intervention study

A. Rizvi, G. Li Volti, D. Nikolic, R. Chianetta, G. Castellino, A. Patti, R. Giglio, R. Citarrella, F. Provenzano, V. Provenzano, G. Montalto, M. Rizzo, USA, Italy

Poster Event A, Tuesday, 12:00 - 13:00**PS 097 Unexpected comorbidities**

Chair: L. Tarnow, Denmark

1045 Pulmonary function in prediabetes: dysfunction appears before the development of type 2 diabetes

A. Lecube, E. Sánchez, C. López-Cano, M. Sánchez, A. Gaeta, F. Purroy, R. Pamplona, M. Ortega, T. Vidal, À. Betriu, X. Gómez, M. Hernández, J. Olsina, C. Hernández, R. Simó, Spain

1046 Diabetes duration, BMI, and HbA_{1c} have greater effects on Pulmonary Function (PF) than inhaled Technosphere Insulin (TI)

D.M. Kendall, J. Brain, J. Buse, D. Klein, Y. Ma, M. Grant, F. Pompilio, K. Smith, USA

1047 Prevalence of and risk factors for gustatory sweating amongst people with type 2 diabetes

P.L. Kristensen, C. Dam, B. Thorsteinsson, L. Tarnow, Denmark

1048 Hearing loss as a complication of type 2 diabetes: preliminary findings from the population-based Hoorn study

M. Stam, F. Rutters, E. Urry, S.E. Kramer, P.M. Elders, J.M. Beulens, G. Nijpels, Netherlands, Switzerland

1049 Association between hearing and renal function in young adult type 1 diabetic patients

M. Dąbrowski, G. Mielnik-Niedzielska, A. Nowakowski, Poland

1050 Social jetlag and sleep quality are independently associated with poor glycaemic control in type 1 diabetes

A. Rusu, C. Bala, A. Cerghizan, D. Ciobanu, G. Roman, Romania

1051 Type 2 diabetes is complicated by sleep apnoea syndrome: focussing in comorbidities

S. Kawasaki, H. Misawa, R. Kaneda, T. Shizuku, Y. Tamura, T. Kondo, Y. Kondo, Y. Terauchi, Japan

1052 Autoimmune hypothyroidism increases risk of microangiopathic complications in adult patients with type 1 diabetes

A. Rogowicz-Frontczak, B. Falkowski, A. Grzelka, A. Uruska, A. Araszkiwicz, D. Zozulinska-Ziolkiewicz, Poland

Poster Event B, Tuesday, 13:15 - 14:15**PS 098 Factors affecting cardiovascular outcome**

Chair: C. Herder, Germany

1053 Heart rate variability indices in patients with micro- and macrovascular complications of type 2 diabetes: a cross sectional study

P.S. Wadhokar, L. Phadke, S. Bhat, India

1054 Heart rate variability in type 2 diabetes: a systematic review and meta-analysis

T. Benichou, B. Pereira, M. Mermillod, D. Pfabigan, I. Tauveron, S. Maqdasy, F. Dutheil, France, China

1055 Determinants of aspirin loss of efficacy in type 2 diabetic patients

E. Paven, J. Dillinger, C. Bal dit Sollier, J. Riveline, J. Launay, J. Gautier, L. Drouet, P. Henry, France

1056 Risk stratification for thrombosis in type 2 diabetic patients

S. Daniels, D. Moreno-Martinez, H. Soran, S. Adam, J. Thachil, N. Dempsey-Hibbert, M.Y. Alexander, S. Jones, UK

1057 Serum fibroblast growth factor 21 levels are positively associated with aortic arterial stiffness in patients with type 2 diabetes

B.-G. Hsu, Y.-C. Chen, D.-A. Wu, Taiwan

1058 Association between H-ficolin and mortality in type 1 diabetes

J.A. Oestergaard, C. Forsblom, S. Thiel, L. Thorn, F. Jansson, T.K. Hansen, P.-H. Groop, FinnDiane Study Group, Denmark, Finland, Australia

1059 Positive correlates of sclerostin and association with aortic arterial stiffness in patients with type 2 diabetes

Y.-C. Chen, D.-A. Wu, B.-G. Hsu, Taiwan

1060 HbA_{1c} coefficient of variation is an independent risk factor for chronic complications in type 2 diabetes in the FIELD study

E.S. Scott, A.S. Januszewski, R. O'Connell, S. Colagiuri, G.R. Fulcher, A. Keech, A.J. Jenkins, on behalf of the FIELD study investigators, Australia

Poster Event C, Wednesday, 12:00 - 13:00

PS 099 Don't forget!

Chair: P. Nuutila, Finland

1061 Diabetes and cognitive function: longitudinal study of adult health (ELSA-Brasil)

M. Teixeira, V. Passos, S. Barreto, M. Schmidt, B. Duncan, A. Beleigoli, M. Fonseca, P. Vidigal, L. Araujo, M. Diniz, Brazil

1062 The diabetes and dementia (DIADEM) project: assessing inpatient admissions and trends in management and hospitalisation of patients with diabetes and dementia

A. Ali, S. Dhuna, A. Puttanna, P. De, UK

1063 Impacts of metabolic health and obesity status on the development of dementia: a population-based cohort study

M. Lee, J.-Y. Lee, K. Han, J. Bae, B. Lee, E. Kang, B.-S. Cha, Y.-H. Lee, Korea, Republic of

1064 Associations between brain grey matter volumes and adipose tissue metabolism in healthy adults

J. Raiko, J. Tuulari, T. Saari, R. Parkkola, N. Savisto, P. Nuutila, K. Virtanen, Finland

1065 Localised brain volume differences and cognitive status in subjects with type 2 diabetes

I.D. Wilkinson, L. Hunt, K. Teh, S. Tesfaye, D. Selvarajah, UK

1066 Impaired olfactory function is associated with insulin resistance in adults with type 1 diabetes

A. Duda-Sobczak, B. Falkowski, A. Araszkiwicz, M. Chudzinski, M. Urbas, L. Borucki, D. Zozulinska-Ziolkiewicz, Poland

1067 Linagliptin (LINA) restores the dopaminergic impairment induced by experimental diabetes in striatum and counteracts the detrimental effects of aging

G. Lietzau, E. Candeias, G. Magni, J. Kehr, T. Yoshitake, J. Skogsberg, T. Nyström, T. Klein, M.P. Abbracchio, S. Ceruti, V. Darsalia, C. Patrone, Sweden, Italy, Germany

1068 Increased glycosuria reduces the risk of hyperuricaemia in subjects with newly diagnosed diabetes: a cross-sectional study

L. Fan, J. Chen, Z.L. Sun, China

Poster Event D, Wednesday, 13:15 - 14:15

PS 100 Brain functionalities

Chair: M. Haluzik, Czech Republic

1069 Nrf2 mediated protection against hypoglycaemia induced cognitive deficits in type 1 diabetes

A.D. McNeilly, J. Gallagher, A. Dinkova-Kostova, R.J. McCrimmon, UK

1070 Decreased O-GlcNAcylation to tau phosphorylation at Thr212 site ratio is associated with mild cognitive impairment in type 2 diabetic patients

R. Huang, S. Tian, R. Cai, D. Guo, H. Lin, J. Wang, K. An, S. Wang, China

1071 The implications of rs1887922 polymorphism of insulin degrading enzyme gene in the cognitive impairments for patients with type 2 diabetes

J. Huang, China

1072 Elevated biomarkers of oxidative stress and endothelial dysfunction are associated with reduced cognitive performance in type 2 diabetes in the CAROLINA® trial

G. Biessels, O. Groeneveld, E. Van den Berg, S. Schnaidt, K. Hermansson, B. Zinman, M. Espeland, O. Johansen, Netherlands, Germany, Sweden, Canada, USA, Norway

1073 Cerebral blood flow and cognitive function in type 2 diabetes

L. Hunt, D. Selvarajah, K. Teh, S. Tesfaye, I.D. Wilkinson, UK

1074 The association between cognitive functioning and cerebral perfusion in patients with type 2 diabetes

B. Mankovsky, N. Zherdova, S. Makeev, I. Dalhuisen, E. Van den Berg, J. De Bresser, G.-J. Biessels, Ukraine, Netherlands

1075 Influence of glycaemic variability on the results of neuropsychological testing in patients with type 1 diabetes

M. Rotkank, I. Samoilova, M. Matveeva, N. Zhukova, I. Tolmachev, Russian Federation

1076 Novel therapeutic potential of RAAS blockers in diabetes comorbid depression

L. Lenart, D.B. Balogh, J. Hodrea, A. Barczy, A. Molnar, A. Hosszu, A. Vannay, L. Wagner, A.J. Szabo, A. Denes, A. Fekete, Hungary

Poster Event E, Thursday, 12:00 - 13:00

PS 101 Understanding vascular complications

Chair: K.I. Birkeland, Norway

1077 Glycation gap variation in human diabetes is associated with fructosamine-3-kinase SNP rs3848403 but does not explain linked difference in enzyme activity

S.J. Dunmore, F. Naseem, A. Watkins, J.E. Brown, A.U. Nayak, A. Nevill, B.M. Singh, UK

1078 Impact of hypoglycaemia on the platelet activity and fibrinolysis in patients with type 1 diabetes

I.R. Jarek-Martynowa, K. Sarkisova, E. Koksharova, E. Mishina, M. Shestakova, L. Nikankina, L. Chirkova, M. Shamkhalova, Russian Federation

1079 Elastic and adhesive properties of erythrocyte and platelet membranes in patients with type 2 diabetes

V. Shyshko, G. Melnikova, T. Mokhort, E. Konstantinova, T. Tolstaya, A. Petrovskaya, Belarus

1080 Diabetes augments atherosclerotic inflammation in diabetic LDLr^{-/-} mice

A. Midtgaard-Thomsen, L. Thoren, T.K. Hansen, G. Rakipovski, C.K. Mogensen, Denmark

1081 Serum calcification propensity is associated with all-cause mortality in type 1 diabetes

D.J. Mulder, P.R. Van Dijk, H. Hop, A. Pasch, F. Waanders, H. Van Goor, H.J. Bilo, Netherlands, Switzerland

1082 Glucagon-like peptide-1 receptor agonist, liraglutide, alters immune populations during regression of atherosclerosis

R. Bruen, S. Curley, S. Kajani, M.E. O'Reilly, F.C. McGillicuddy, O. Belton, Ireland

1083 The macrophage activation marker sCD163 during prolonged fasting

N. Rittig, A. Bak, N. Jessen, J. Møller, H. Grønbæk, Denmark

1084 Anti-atherosclerotic activity of trigonal GLP-1R/GIPR/GCGR agonists in ApoE KO mice

T. Hübschle, S. Meister, D. Hein, S. Schmidt, M. Medem, D. Albrecht, A. Schröder, D. Ströbel, B. Alka, T. Tran, S. Pfeiffer-Marek, M. Bossart, Germany

Poster Event F, Thursday, 13:15 - 14:15

PS 102 The pump and the barrier

Chair: A. Novials, Spain

1085 Carbohydrate metabolism disorders in heart failure patients: a complex relationship

B. Kurmanbekova, G. Osmankulova, Kyrgyzstan

1086 Chronic hyperglycaemia in GLUT4-overexpressing H9C2-cells reveals diabetic heart failure mechanisms

B. Stratmann, Y. Mattern, D. Tschoepe, Germany

1087 Exendin-4 alleviates diabetic cardiomyopathy in mice by regulating Sirt1/PGC1 α

M. Guan, Y. Cai, S. Fang, L. Xu, Y. Zhang, L. Wang, China

1088 Myocardial flow reserve assessed by Cardiac ^{82}Rb PET/CT is associated with albumin excretion in patients with type 1 diabetes

E. Hein Zobel, S. Abitz Winther, P. Hasbak, B. Von Scholten, L. Holmvang, A. Kjær, P. Rossing, T. Hansen, Denmark

1089 Stereological quantification of key pathological features in a uni-nephrectomised db/db mouse model of diabetic nephropathy

T.T. Johansen, T.X. Pedersen, N. Vrang, J. Jelsing, T. Secher, L.N. Fink, Denmark

1090 A novel surgery-induced rat model of diabetic nephropathy displaying kidney hypertrophy, albuminuria and pronounced tubular fibrosis

M.V. Østergaard, T. Secher, T. Johansen, P.G. Pedersen, N.E. Zois, T.X. Pedersen, J. Jelsing, N. Vrang, K. Fosgerau, L.N. Fink, Denmark

1091 Prediabetes and diabetes are associated with wider retinal arterioles and venules: the Maastricht study

W. Li, M. Schram, T. Berendschot, J. Schouten, A. Kroon, C. Van der Kallen, R. Henry, A. Koster, P. Dagnelie, N. Schaper, F. Huang, B. Ter Haar Romeny, C. Stehouwer, A. Houben, Netherlands

1092 Microvascular reactivity and nutrients profile in patients with type 2 diabetes and metabolically healthy volunteers with overweight or obesity

J. Veleba, L. Belinova, P. Janovska, H. Kahleova, H. Malinska, K. Velebova, E. Stolarikova, J. Kopecky, Jr, K. Bardova, O. Kuda, J. Hansikova, V. Melenovsky, J. Kopecky, Sr, T. Pelikanova, Czech Republic

1093 Dermal microvessel density in adults with type 1 diabetes is dependent on metabolic control

A. Adamska, A. Araszkiewicz, S. Pilacinski, A. Gandecka, A. Grzelka, K. Kowalska, A. Malinska, M. Nowicki, D. Zozulinska-Ziolkiewicz, Poland

Poster Event A, Tuesday, 12:00 - 13:00

PS 103 Diabetes from childhood to adults

Chair: F.K. Knop, Denmark

1094 Gut microbiota in children with type 1 diabetes differs in composition and functionality in comparison with MODY 2 and healthy controls

L. Sánchez-Alcoholado, I. Leiva-Gea, B. Martín-Tejedor, D. Castellano-Castillo, I. Moreno-Indias, A. Urda-Cardona, F.J. Tinahones, J.C. Fernández-García, M.I. Queipo-Ortuño, Spain

1095 Metabolomic profiling of exhaled breath in relation to glycaemic variability in paediatric patients with type 1 diabetes: a prospective cross-sectional study

S.C. Schmidt, P. Trefz, J.K. Schubert, W. Miekisch, D.-C. Fischer, Germany

1096 Predictors of loss to follow up in youth with type 2 diabetes: comparing the US Pediatric Diabetes Consortium and European Pediatric Diabetes Prospective cohorts

S. Wiegand, G.J. Klingensmith, S. Lanzinger, W.V. Tamborlane, T. Reinehr, P. Cheng, M. Bauer, R.L. Gal, R.W. Holl, C. Kollman, Germany, USA, Austria

1097 The effects of type 1 diabetes on hand and foot posture and mobility of young patients

P. Francia, L. Capirchio, U. Santosuosso, M. Sorelli, B. Piccini, A. Vittori, G. Iannone, M. Gulisano, S. Toni, Italy

1098 Epidemiology of acute diabetes complications (coma) according to the Federal Diabetes register of the Russian Federation (2013-2016)

A.Y. Mayorov, O.K. Vikulova, A.V. Zheleznyakova, M.A. Isakov, O.G. Melnikova, I.V. Kononenko, M.V. Shestakova, I.I. Dedov, Russian Federation

1099 Rehabilitation for children and adolescents with diabetes

R. Schiel, R. Stachow, T. Hermann, I. Satzke, T. Büttner, S. Koch, K. Enderlein, R. Bambauer, A. Steveling, E. Bollow, R. Holl, DPVWiss Initiative, Germany

1100 Acute effects of the combination of acarbose and gastric distension, with a water preload, on the postprandial blood pressure response to oral sucrose

H. Pham, L. Trahair, L. Phillips, C.K. Rayner, M. Horowitz, K.L. Jones, Australia

1101 Intraocular lens implantation for cataract in type 2 diabetes: The Fremantle Diabetes Study Phase II

J.J. Drinkwater, W.A. Davis, D.G. Bruce, T.M. Davis, Australia

Poster Event B, Tuesday, 13:15 - 14:15

PS 104 Complications and treatment

Chair: J. Škrha, Czech Republic

1102 Lipid peroxidation is associated with impaired vascular function but not with glucose control or variability in type 1 diabetes

M. Prázný, J. Škrha jr, T. Pelcl, J. Šoupal, P. Kačer, J. Škrha, Czech Republic

1103 The p300 modulates eNOS expression in endothelial cells exposed to high glucose in vitro

G. Formoso, P. Di Tomo, P. Lanuti, M.P. Baldassarre, C. Pipino, S. Miscia, A. Pandolfi, A. Consoli, Italy

1104 Circulating succinate concentrations are associated with arterial stiffness in type 1 diabetes

J.-M. González-Clemente, G. Llauradó, V. Ceperuelo-Mallafré, A. Cano, L. Albert, N. Keiran-Fernández, I. Mazarico, S. Fernández-Veledo, J. Vendrell, Spain

1105 Oral glycine treatment attenuated AGE-RAGE-ROS axis by restoring glyoxylase system in the aorta of diabetic rats

Z. Wang, J. Zhang, L. Chen, J. Li, H. Zhang, X. Guo, China

1106 Glucose-dependent insulintropic polypeptide suppresses arterial remodelling in mice: role of a calcium-mediated signalling pathway in vascular endothelial cells

Y. Mori, H. Kushima, M. Koshibu, T. Saito, M. Hiromura, K. Kohashi, M. Terasaki, T. Hirano, Japan

1107 The cardiovascular benefits associated with liraglutide in the LEADER trial are sustained when analysing both first and recurrent MACE

S. Verma, S.C. Bain, T. Idorn, S. Rasmussen, D.D. Ørsted, M.A. Nauck, LEADER Publication Committee on behalf of the LEADER Trial Investigators, Canada, UK, Denmark, Germany

1108 Raw yogurt supplementation prevents the dyslipidaemia, glucose intolerance and oxidative stress induced liver dysfunction in high fat diet fed obese rats

S.A. Nishad, J.F. Tisha, S. Lasker, F. Parvez, M. Zamila, M.M. Rahman, M.C. Shill, H.M. Reza, M.A. Alam, Bangladesh

1109 Trends of infections in adults with and without diabetes, U.S. 2000-2014

J. Harding, E. Gregg, M. Pavkov, L. Perreault, USA

Poster Event C, Wednesday, 12:00 - 13:00

PS 105 Bones and muscles

Chair: D. Pesta, Germany

1110 The longitudinal association between type 2 diabetes and fractures in a large Dutch cohort of older women

P.J. Elders, T. Merlijn, A.A. Van der Heijden, G. Nijpels, C. Netelenbos, K. Swart, Netherlands

1111 Association of body mass index with the risk of vertebral fractures in patients with type 2 diabetes

I. Kanazawa, M. Notsu, K.-I. Tanaka, T. Sugimoto, Japan

1112 Diabetes is associated with elevated risks of osteoarthritis, osteoporosis and rheumatoid arthritis

S. Molsted, A.-S.D. Bjørkman, M.B. Andersen, O. Ekholm, Denmark

1113 Age-influenced higher cellular RAGE sensitivity associated with enhanced apoptosis and impaired osteogenic differentiation in type 2 diabetes

M. Phimphilai, P. Pothachareon, P. Kongtawelert, Thailand

1114 Musculoskeletal impairment in patients with type 2 diabetes and arthritis is associated with beta cell dysfunction

O.P. Zaharia, D. Pesta, P. Bobrov, Y. Kupriyanova, K. Bódis, Y. Karusheva, J.-H. Hwang, V. Burkart, K. Müssig, J. Szendroedi, M. Roden, Germany

1115 Diabetes can accelerate sarcopenia in the diaphragm

M. Yamamoto, M. Takemoto, A. Matsuzaki, H. Masuyama, M. Koshizaka, Y. Maezawa, K. Yokote, Japan

1116 Sarcopenia is associated with decreased insulin secretion and increased arterial stiffness in Japanese elderly patients with type 2 diabetes

S. Moyama, Y. Hamamoto, H. Kuwata, T. Kurose, D. Yabe, Y. Seino, Japan

1117 Type 2 diabetes, body mass index and cancer mortality: a population-based matched cohort study

N.N. Alam, A.K. Wright, M.K. Rutter, D. Ashcroft, M. Sperrin, A.G. Renehan, UK

Poster Event D, Wednesday, 13:15 - 14:15

PS 106 From metabolism to vascular function

Chair: G.A. Spinas, Switzerland

1118 Increased methylglyoxal protein modification in hyperglycaemia induces an inflammatory phenotype in endothelial cells by activation of the unfold protein response

M. Xue, Z. Irshad, A. Ashour, P.J. Thornalley, N. Rabbani, UK

1119 Higher plasma methylglyoxal levels are associated with incident cardiovascular disease and mortality in individuals with type 2 diabetes

N.M. Hanssen, J. Westerink, J.L. Scheijen, Y. Van der Graaf, C.D. Stehouwer, C.G. Schalkwijk, SMART study group, Netherlands

1120 Carbamylated HDL and all-cause mortality in type 2 diabetes

K. Tan, S. Shiu, J. Lam, A. Lee, Y. Wong, Hong Kong

1121 Modulation of diagnostic strategy and treatment resulting from coronary artery calcium score assessment in type 2 diabetic patients

S. Charriere, C. Marsot, L. Balaire, M. Moret, S. Villar-Fimbel, A. Lecus, A. Villard, P. Douek, P. Moulin, France

1122 Change in circulating levels of endothelial progenitor cells in young adults with type 1 diabetes: a 2-year follow-up from the observational METRO study

M. Maiorino, G. Bellastella, M. Caputo, P. Cirillo, V. Pernice, M. Longo, K. Esposito, Italy

1123 Pulse wave velocity is an independent risk factor for cardiovascular events, mortality and progression in diabetic kidney disease in patients with type 1 diabetes

T.W. Hansen, M. Frimodt-Møller, S. Theilade, S.A. Winther, N. Tofte, T.S. Ahluwalia, P. Rossing, Denmark

1124 The visceral adiposity index predicts cardiovascular events both in cardiovascular disease patients with and in those without diabetes

C.H. Saely, A. Vonbank, C. Heinzle, D. Zanolin, B. Larcher, A. Mader, A. Leiherer, A. Muendlein, H. Drexel, Austria, Liechtenstein, Switzerland

1125 Effects of variability in blood pressure, glucose and cholesterol concentrations, and body mass index on mortality and cardiovascular outcomes in the general population

S.-H. Lee, M. Kim, K. Han, Y.-M. Park, H.-S. Kwon, K.-H. Yoon, Korea, Republic of, USA

Poster Event E, Thursday, 12:00 - 13:00

PS 107 Big vessels

Chair: L. Czupryniak, Poland

1126 Vascular effects of raivaroxaban compared to aspirin in type 2 diabetic patients with high cardiovascular risk

F. Pistrosch, H. Mehling, C. Axthelm, F. Schaper, E. Henkel, I. Weigmann, K. Kreutzfeld, U. Von der Osten, C. Köhler, A.L. Birkenfeld, M. Hanefeld, Germany

1127 Second-hand-smoking and cardiovascular risk of women with type 2 diabetes

M. Gourine, K. Bentadj, S. Mostefa-Kara, A. Cherrak, S. Halimi, M. Belhadj, Algeria, France

1128 Genome-wide association study on coronary artery disease in individuals with type 1 diabetes

N. Sandholm, E. Valo, E.H. Dahlström, C. Forsblom, V. Harjutsalo, P.-H. Groop, Finland

1129 Type 1 diabetes: defining the best cut-off points of arterial stiffness for predicting cardiovascular risk according to the Steno Type 1 Risk Engine

G. Llaurodo, A. Cano, L. Albert, I. Mazarico, M. González-Sastre, J. Vendrell, J.-M. González-Clemente, Spain

1130 A novel targeted approach for the reduction of vascular events in diabetes

M. Almutairi, C. Tiede, K. Kearney, N. Pechlivani, F. Hawkins, N. Oxley, D. Tomlinson, R. Ajjan, UK

1131 Negative carotid artery remodelling in early type 2 diabetes and increased carotid plaque vulnerability in obesity as assessed by magnetic resonance imaging

E. Laugesen, P. Høyem, S. Thrysoe, E. Hansen, A. Mikkelsen, B. Kerwin, P.L. Poulsen, T.K. Hansen, W.Y. Kim, Denmark, USA

1132 Risk of peripheral artery disease according to diabetic nephropathy and severe diabetic retinopathy in patients with type 1 diabetes

M. Kallio, V. Harjutsalo, C. Forsblom, P.-H. Groop, FinnDiane Study Group, Finland

1133 Long-term role of peripheral angioplasty in diabetes patients with peripheral arterial disease

Z. Yan, Y. Li, L. Chang, Z. Zhao, H. He, H. Zhang, Z. Zhu, China

Poster Event F, Thursday, 13:15 - 14:15

PS 108 Adverse cardiovascular disease events

Chair: T. Klupa, Poland

1134 Hospitalisations for major adverse cardiovascular events in patients with diabetes from 1989 to 2015 in the north of Portugal

C. Neves, J. Neves, F. Lopes, S. Castro Oliveira, M. Pereira, A. Oliveira, D. Carvalho, Portugal

1135 The maximum glucose peak during an oral glucose tolerance test is associated with greater arterial stiffness: the Maastricht Study

Y.D. Foreman, M.C. Brouwers, S.J. Eussen, M.M. Van Greevenbroek, R.M. Henry, C.J. Van der Kallen, K.D. Reesink, M.T. Schram, N.C. Schaper, C.D. Stehouwer, Netherlands

1136 Quantitative myocardial blush evaluation correlates with infarct size and systolic left ventricle function in patients with type 2 diabetes and stemi

J. Gumprecht, K. Nabrdalik, H. Kwiendacz, E. Radzik, K. Pigoń, M. Basiak, E. Nowalany-Kozielska, A. Tomasik, Poland

1137 Differences in external validity of SGLT2-I cardiovascular outcome trials in general type 2 diabetes populations: a large observational study in European countries

K.I. Birkeland, J. Bodegard, A. Norhammar, J.G. Kuiper, W. Beekman-Hendriks, M. Thuresson, A. Kooy, Norway, Sweden, Netherlands

1138 The REMOVAL trial: metformin reduces progression of mean carotid intima-media thickness (cIMT) in never smokers with type 1 diabetes

J.R. Petrie, N. Chaturvedi, I. Ford, M.C. Brouwers, N. Greenlaw, I. Hramiak, A.D. Hughes, A.J. Jenkins, B.E. Klein, R. Klein, P. Rossing, C.D. Stehouwer, N. Sattar, H.M. Colhoun, for the REMOVAL Study Group, UK, Netherlands, Canada, Australia, USA, Denmark

1139 Effects of liraglutide on cardiovascular events in patients with type 2 diabetes and polyvascular disease: results of the LEADER trial

B. Zinman, S. Verma, D.L. Bhatt, S.C. Bain, J. Mann, M.A. Nauck, R.E. Pratley, M.M. Michelsen, T. Monk Fries, S. Rasmussen, L.A. Leiter, LEADER Publication Committee on behalf of the LEADER Trial Investigators, Canada, USA, UK, Germany, Denmark

1140 Effect of 12 weeks continuous positive airway pressure on day and night arterial stiffness in patients with type 2 diabetes and obstructive sleep apnoea, a randomised trial

C. Krogager, A. Banghøj, P.L. Poulsen, M.G. Kirkegaard, L. Tarnow, K.W. Hansen, E. Laugesen, Denmark

1141 Association between allopurinol and cardiovascular events and all-cause mortality in diabetes: a population-based cohort study

A. Weisman, G.A. Tomlinson, L. Lipscombe, B.A. Perkins, G.A. Hawker, Canada

Poster Event A, Tuesday, 12:00 - 13:00

PS 109 Dyslipidaemia and diabetes

Chair: P. Fasching, Austria

1142 Hypercholesterolaemia impairs GLP-1 action on platelets: effect of a lipid-lowering treatment with simvastatin

C. Barale, C. Frascaroli, K. Bonomo, F. Cavalot, I. Russo, Italy

1143 Investigating the role of glucagon-like peptide 1 on reverse cholesterol transport in a state of early atherosclerosis

S. Curley, R. Bruen, S. Kajani, M. O'Reilly, E. Dillon, O. Belton, F. McGillicuddy, Ireland

1144 Role of HDL and apolipoprotein A1 in the modulation of glucagon levels

G.C. Mannino, A. Fuoco, E. Mancuso, C. Di Fatta, R. Spiga, C. Averta, F. Andreozzi, G. Sesti, Italy

1145 Association of FADS1 genetic variation with free fatty acid levels and type 2 diabetes-related traits

H. Lokvancic, S. Mandal, M. Adilovic, M. Sterner, G. Gremesperger, E. Ahqvist, Z. Velija Asimi, B. Prnjavorac, A. Causevic, L. Groop, S. Semiz, Bosnia and Herzegovina, Sweden

1146 PEARL, a non-interventional study on real-world use of alirocumab in German clinical practice: results in patients with and without diabetes

K.G. Parhofer, B. Von Stritzky, N. Pietschmann, W. Paar, Germany

1147 Frequency of high blood pressure and dyslipidaemia in type 1 and type 2 diabetes: results from the International Diabetes Management Practices Study (IDMPS)

H. Ilkova, G. Kaddaha, J.J. Gagliardino, P. Aschner, F. Lavallo, A. Ramachandran, J.C. Mbanya, M. Shestakova, J.-M. Chantelot, J.C. Chan, Turkey, United Arab Emirates, Argentina, Colombia, Mexico, India, Cameroon, Russian Federation, France, China

1148 Effects of a polyphenol-rich diet on postprandial lipoprotein composition

G. Della Pepa, C. Vetrani, M. Vitale, L. Bozzetto, G. Costabile, P. Cipriano, A. Mangione, L. Patti, G. Annuzzi, G. Riccardi, A.A. Rivellese, Italy

1149 The burden of dyslipidaemia and association with metabolic parameters in young adults with type 1 diabetes

R. Zaidi, M. Belbehri, C. Lucas, S. Bajaj, J. Brake, F. Cook, P.J. Weston, A. Scroton, K. Hassanin, UK

Poster Event B, Tuesday, 13:15 - 14:15

PS 110 Treating cardiovascular disease in diabetes

Chair: R. Pratley, USA

1150 Vascular events in patients with type 2 diabetes in the year following initiation of second-line therapy: the DISCOVER study

F. Surmont, H. Chen, J. Cid-Ruzafa, P. Fenici, M.B. Gomes, K. Khunti, S. Pocock, W. Rathmann, M.V. Shestakova, I. Shimomura, F. Tang, H. Watada, L. Ji, N. Hammar, M. Kosiborod, UK, USA, Spain, Brazil, Germany, Russian Federation, Japan, China, Sweden

1151 Eligibility varies across the 4 sodium-glucose cotransporter-2 inhibitor cardiovascular outcome trials in adults from the Diabetes Collaborative Registry

E.T. Wittbrodt, D. Chamberlain, S.V. Arnold, F. Tang, M. Kosiborod, USA

1152 Rates of major adverse cardiovascular events and mortality with basal insulin by liraglutide use: a DEVOTE sub-analysis

M.F. Ranthe, K. Brown-Frandsen, S.S. Emerson, S.P. Marso, D.K. McGuire, T.R. Pieber, N.R. Poulter, B. Zinman, R. Grøn, M. Lange, A.C. Moses, P. Örsy, R.E. Pratley, on behalf of the DEVOTE Study Group, Denmark, USA, Austria, UK, Canada

1153 Liraglutide effects in insulin-treated patients in LEADER

C. Tack, S. Jacob, C. Desouza, S.C. Bain, M.A. Nauck, J. Petrie, N.R. Poulter, R.E. Pratley, H.B. Stegmann, H. Bosch-Traberg, E. Startseva, B. Zinman, LEADER Publication Committee on behalf of the LEADER Trial Investigators, Netherlands, Germany, USA, UK, Denmark, Canada

1154 Arrhythmias and heart rate increase in the LEADER trial and relation to risk of cardiovascular events

M. Husain, S.C. Bain, J.F. Mann, M.A. Nauck, N. Poulter, F.M. Baeres, B. Goldman, A.B. Thomsen, S. Marso, LEADER Publication Committee on behalf of the LEADER Trial Investigators, Canada, UK, Germany, Denmark, USA

1155 Effect of liraglutide on cardiovascular outcomes in patients with or without prior heart failure history in LEADER

H.A. Saevereid, M. Husain, S.C. Bain, J.F. Mann, M.A. Nauck, N. Poulter, B. Goldman, A.B. Thomsen, S. Marso, LEADER Publication Committee on behalf of the LEADER Trial Investigators, Denmark, Canada, UK, Germany, USA

1156 Alogliptin and pioglitazone prevent palmitate-induced apoptosis and autophagy in human cardiac progenitor cells from control but not from type 2 diabetic subjects

R. D'Oria, M. Incalza, C. Caccioppoli, A. Leonardini, R. Schipani, A. Cignarelli, A. Natalicchio, S. Perrini, V. Margari, D. Paparella, L. Laviola, F. Giorgino, Italy

1157 Platelet reactivity and clinical outcome on prasugrel and ticagrelor in type 2 diabetic patients with acute myocardial infarction: real world single centre experiences

M. Samos, T. Bolek, R. Simonova, I. Skornova, F. Kovar, P. Galajda, P. Kubisz, J. Stasko, M. Mokan, Slovakia

Poster Event C, Wednesday, 12:00 - 13:00

PS 111 Metabolism, inflammation in metabolic liver disease

Chair: R. Burcelin, France

1158 Pyruvate dehydrogenase kinase 4 in the liver mediate hepatic gluconeogenesis by modulation of cAMP-PKA-CREB signal pathway

J.-B. Seo, B.-Y. Park, J.-H. Jeon, Y.-K. Choi, N.-Y. Kim, M.-J. Kim, J.-G. Kim, K.-G. Park, E.-H. Kim, I.-K. Lee, Korea, Republic of

1159 The increased flux of pyruvate cycling coupled with Krebs cycle is responsible for the pathogenesis of non-alcoholic liver disease

M.-J. Kim, Y.-H. Go, J.-H. Jeon, Y.-K. Choi, N.-Y. Kim, J. Seo, J.-G. Kim, K.-G. Park, E.-H. Kim, I.-K. Lee, Korea, Republic of

1160 Insulin resistance and farnesoid X receptor expression in patients with non-alcoholic fatty liver disease and various disorders of carbohydrate metabolism

E. Mishina, A. Mayorov, A. Bogolyubova, P. Bogomolov, M. Matsievich, K. Kokina, Russian Federation

1161 Nitric oxide (NO) contributes to the control of hepatic insulin response by promoting mitochondrial-endoplasmic reticulum interactions

A. Bassot, Y. Gouriou, M.-A. Chauvin, G. Vial, N. Bendridi, C. Cottet, J. Rieusset, B. Morio, France

1162 Adiponutrin (PNPLA3) rs738409 genotype influences the metabolic activity of non-alcoholic fatty liver disease

A. Nadasdi, V. Gál, K. Rosta, J. Harreiter, A. Kautzky-Willer, A. Somogyi, G. Firneisz, Hungary, Austria

1163 Effect of the hepatic extracellular vesicles in inflammation-associated insulin resistance in non-alcoholic fatty liver disease

I. Garcia-Martinez, R. Alén, M. Izquierdo, Á. Valverde, Spain

1164 Molecular phenomics and metagenomics of hepatic steatosis in non-diabetic obese women

R. Burcelin, FLORINASH consortium FP7, France

1165 A porcine placental extract alleviates lipotoxicity-induced steatohepatitis by suppressing activation of hepatic macrophages and stellate cells

T. Ota, L. Xu, G. Chen, M. Nagashimada, Japan

Poster Event D, Wednesday, 13:15 - 14:15

PS 112 Unconventional aspects of cardiovascular disease in diabetes

Chair: P. Valensi, France

1166 Insulin resistance and CVD risk: a time varying analysis in type 1 diabetes

T.J. Orchard, R.G. Miller, T. Costacou, USA

1167 Role of atherogenic dyslipidaemia in silent coronary heart disease of type 2 diabetes patients with LDL-cholesterol at therapeutic goal

M. Hermans, M. Nguyen, A. Sultan, I. Banu, E. Cosson, A. Avignon, P. Valensi, Belgium, France

1168 Effect of ADAMTS7 in left ventricular diastolic and systolic dysfunction in subjects with type 2 diabetes free of cardiovascular disease

A. Ganotopoulou, V. Lambadiari, A. Papazafiropoulou, A. Theodosios-Georgilas, A. Trikkalinou, N. Kassinos, V. Liossi, K. Anagnostopoulou, S. Iraklianos, G. Dimitriadis, A. Melidonis, Greece

1169 Subclinical ventricular dysfunction in young population with congenital generalised lipodystrophy detected by speckle-tracking echocardiography

V.O. Fernandes, C.B. Liberato, N.B. Olegario, A.D. Montenegro, G.E. Paiva, L.A. Batista, L.V. Martins, I.L. Liberato, A.B. Carvalho, C.B. D'Alva, R.M. Montenegro Junior, Brazil

1170 Extracellular matrix turnover influences myocardial contraction behaviour in diabetic cardiomyopathy assessed by speckle tracking echocardiography

K. Pappritz, J. Grune, O. Klein, F. Dong, M. El-Shafeey, J. Lin, U. Kintscher, C. Tschöpe, S. Van Linthout, Germany

1171 Diabetes-like environment impairs differentiation and induces senescence of epicardial adipose tissue-derived mesenchymal stem cells

S. Cabaro, V. D'Esposito, V. Parisi, M. Lecce, D. Liguoro, A. Liotti, I. Cimmino, F. Oriente, D. Leosco, F. Beguinot, P. Formisano, Italy

1172 Continued administration of the hydroxyl fatty acid 9-PAHSA alleviates diabetic-induced cardiac dysfunctions by enhancing autophagic flux in the heart of db/db mice

H. Jin, Q.-L. Guo, H.-G. Zhou, J.-C. Guo, China

1173 Retinal microvascular associations with blood pressure and arterial stiffness are modified by diabetes status: results from the UK Biobank

R.J. Tapp, C.G. Owen, S.A. Barman, D.P. Strachan, R.A. Welikala, P.J. Foster, P.H. Whincup, A.R. Rudnicka, UK, Australia

Poster Event E, Thursday, 12:00 - 13:00

PS 113 Epidemiology of cardiovascular disease and diabetes

Chair: N. Marx, Germany

1174 Glycaemic control, cardiovascular disease and mortality in type 2 diabetes patients in a real life setting over time: population-based data from the Netherlands

E. Heintjes, E. Houben, S. Cremers, W. Beekman, F. Penning-van Beest, C. Stehouwer, R. Herings, Netherlands

1175 Estimation of 4 year cardiovascular risk in Indian type 2 diabetic patients using the ADVANCE risk engine in daily clinical practice settings: results from DiaCRE study

G. Bantwal, A. Joshi, India

1176 Risk of cardiovascular disease in individuals with latent autoimmune diabetes of adults: results from the UKPDS

E. Maddaloni, R.L. Coleman, P. Pozzilli, R.R. Holman, Italy, UK

1177 Cardiovascular outcomes and mortality in type 2 diabetes with associated cardio-renal-metabolic comorbidities

D.Z. Cherney, D.C. Wheeler, M. Kosiborod, S.V. Arnold, S. MacLachlan, P.R. Hunt, H. Chen, E. Repetto, J. Vora, Canada, UK, USA

1178 A contemporary Australian cardiovascular risk equation for type 2 diabetes: the Fremantle Diabetes Study Phase II

W.A. Davis, M. Hunter, T.M. Davis, Australia

1179 Socio-economic inequalities in hospital admissions for major cardiovascular events in people with diabetes in England

E. Vamos, Z. Shather, A. Laverty, A. Bottle, H. Watt, A. Majeed, C. Millett, UK

1180 Ranking of cardiovascular impairments in impaired glucose tolerance

L. Lind, Sweden

1181 Does sex influence the tolerance to ischaemia-reperfusion injury in a metabolic syndrome model?

N. Fourny, C. Lan, M. Bernard, M. Desrois, France

Poster Event F, Thursday, 13:15 - 14:15

PS 114 Vascular complications

Chair: R. Weitgasser, Austria

1182 Prolongation of the QTc interval is associated with an increased risk of cardiovascular diseases: the Hoorn study

S. Welten, A.A. Van der Heijden, G. Nijpels, J.W. Beulens, P. Elders, J. Dekker, Netherlands

1183 Soluble urokinase plasminogen activator receptor predicts cardiovascular events, mortality and kidney function decline in patients with type 1 diabetes

V. Rotbain Curovic, S. Theilade, S.A. Winther, N. Tofte, J. Eugen-Olsen, F. Persson, T.W. Hansen, J. Jeppesen, P. Rossing, Denmark

1184 Coronary CT angiography improve discriminative performance of cardiovascular risk predictor in asymptomatic patient with type 2 diabetes

J. Ahn, K. Hur, Y. Choe, S.-A. Chang, J.-H. Choi, M.-K. Lee, Korea, Republic of

1185 Specific short and long term prognostic value of admission HbA_{1c} and plasma glucose in non-diabetic patients with acute myocardial infarction: data from the RICO survey

B. Vergès, B. Mouhat, M. Zeller, F. Chagué, J.-C. Beer, M. Maza, Y. Cottin, France

1186 Association between serum cystatin C and vascular complications in type 2 diabetes without nephropathy

H. Park, J. Lee, H. Kim, D. Byun, K. Suh, M. Yoo, Korea, Republic of

1187 Relationship between albuminuria and total mortality among insulin treated patients with type 2 diabetes and nephropathy: analysis of a large UK primary care cohort

I. Idris, R. Donnelly, U. Anyanwagu, UK

1188 Role of glycaemic variability in increased cardiac output in the obese patients with impaired glucose tolerance

A. Rezki, M. Fysekidis, S. Chiheb, I. Banu, E. Cosson, P. Valensi, France

Poster Event A, Tuesday, 12:00 - 13:00

PS 115 Novel diagnostic tool for NAFLD

Chair: F. Beguinot, Italy

1189 Prediction of liver fat in people with and without type 2 diabetes: an IMI DIRECT study

N. Atabaki Pasdarg, M. Ohlsson, A. Viñuela, F. Frau, R. Koivula, J. Fernandez, E. Thomas, A. Mari, R. Gupta, A. Kurbasic, E. Pearson, I. Pavo, J. Bell, P.W. Franks, Sweden, Switzerland, Germany, UK, Italy, Denmark, Austria

1190 Pooled cohort analysis of non-alcoholic fatty liver disease in patients with type 2 diabetes and the associated diagnostic performance of FibroScan

S. Czernichow, S.A. Harrison, M. Allison, E. Tsochatzis, Q.M. Anstee, D. Sheridan, I.N. Guha, J. Cobbold, V. Paradis, P. Bedossa, C. Barsamian, A.H. Paredes, P.N. Newsome, France, UK, USA

1191 CcK18 detection as a reliable marker for NAFLD/NASH detection in type 2 diabetes

M. Hauber, B. Stratmann, D. Tschoepe, Germany

1192 Frequency of fibrosis estimated by noninvasive scores in type 2 diabetic patients with nonalcoholic fatty liver disease

M. García Domínguez, I. Martín Timon, I. Moreno Ruiz, B. Ugalde Abiega, D. Varillas Delgado, F.J. Del Cañizo Gómez, Spain

1193 Glutamate dehydrogenase and the hyperammonaemia in HI/HA syndrome: study on the contribution by the liver

K. Luczkowska, P. Maechler, Switzerland

1194 Plasmatic expression of miR-34a in non alcoholic fatty liver disease in a Mexican population

M. Velazquez, M.L. Lazo de la Vega, Y. Ruiz, L. Ibarra, M. Preciado, B. Jordan, S. Garnelo, Mexico

1195 The combination of Barberis Aristata, Elaeis Guineensis and Coffea Canephora extracts ameliorates the metabolic profile and hepatic miR-122 levels in a mouse model of NAFLD

C. Nigro, P. Mirra, V. Lembo, G. Mazzone, A. Rossi, G. D'Argenio, V. Cossiga, A. Leone, F. Beguinot, N. Caporaso, C. Miele, F. Morisco, Italy

1196 The characteristics of non-alcoholic fatty liver disease related hepatocellular carcinoma in a Chinese population: a retrospective study

H. Chen, X. Li, X. Gao, China

Poster Event B, Tuesday, 13:15 - 14:15

PS 116 Clinical aspects of NAFLD

Chair: A.L. Birkenfeld, Germany

1197 Influence of gender on progression of liver metabolic diseases in response to different nutritional challenges

S. Smati, A. Polizzi, M. Régnier, A. Marrot, C. Luzowicz, S. Ellero-Simatos, F. Lasserre, N. Loiseau, T. Al Saati, A. Montagner, P. Gourdy, H. Guillou, France

1198 Neck circumference to height ratio is a reliable predictor of liver stiffness and nonalcoholic fatty liver disease in prediabetes

D. Dutta, M. Kumar, S.A. Mondal, S. Mukhopadhyay, India

1199 Cardiorespiratory fitness is associated with markers of hepatic steatosis in patients with type 2 diabetes

J. Sokolovska, L. Sviklāne, K. Ostrovska, A. Kļaviņa, J. Stefanovičs, L. Selavo, Latvia

1200 Association of serum vitamin D and insulin resistance with noninvasive markers among prediabetic individuals with nonalcoholic fatty liver disease

R. Zinnat, I.A. Hossain, L. Ali, Bangladesh

1201 Gamma-glutamyltransferase levels reflect glycaemic status in type 2 diabetic people treated with an SGLT2 inhibitor tofogliflozin

T. Takamura, K. Kaku, A. Yoshida, H. Kusakabe, H. Suganami, Japan

1202 Hepatocellular carcinoma as a independent risk factor for post transplant diabetes in liver recipients

S.M. Bernardes, T. Gonçalves Bovi, F. Colitti Lemos, C. Minatel Righetto, A. Russo Fiore, L. Teixeira Lot, A. Moura Neto, I. De Fátima Ferreira Santana Boin, Brazil

1203 L-Carnitine supplementation effects on kidney damage in mice with nonalcoholic steatohepatitis

I. Terruzzi, F. Vacante, A. Montesano, P. Senesi, G. Mollica, R. Codella, L. Luzi, Italy

Poster Event C, Wednesday, 12:00 - 13:00

PS 117 Treating NAFLD

Chair: M. Roden, Germany

1204 Modified mesenchymal stromal cells: a novel and safe therapy in type 2 diabetes and its complications

S. Sen, N. Kundu, Y. Kropotova, N. Ahmadi, C. Domingues, USA

1205 Long term effects of liraglutide in type 2 diabetic patients with vs without steatosis at baseline: 5 years prospective real-world study

G. Castellino, A. Rizvi, D. Nikolic, R. Chianetta, A. Patti, R. Giglio, S. Speciale, C. Mannina, R. Citarrella, G. Montalto, N. Papanas, M. Rizzo, Italy, USA, Greece

1206 Effects of a carbohydrate-reduced high-protein diet on liver, pancreas and muscle triglyceride content in patients with type 2 diabetes

A. Samkani, M.J. Skytte, A.D. Petersen, M.N. Thomsen, A. Astrup, E. Chabanova, J. Frystyk, J.J. Holst, H. Thomsen, S. Madsbad, T.M. Larsen, S.B. Haugaard, T. Krarup, Denmark

1207 The effect of semaglutide on liver enzymes in subjects with obesity and elevated alanine aminotransferase: data from a randomised phase 2 trial

T. Monk-Hansen, L. Van Gaal, S. Harrison, S. Rasmussen, P.N. Newsome, Denmark, Belgium, UK

1208 Dual chemokine receptor CCR2/CCR5 antagonist cenicriviroc prevents and reverses lipotoxicity-induced insulin resistance, steatohepatitis, and liver fibrosis in mice

G. Chen, M. Nagashimada, T. Ota, Japan

1209 The effect of the combination of dapagliflozin and liraglutide in non alcoholic fatty liver disease in patients with type 2 diabetes compared to sitagliptin and pioglitazone

A. Koutsovasilis, A. Sotiropoulos, D. Papadaki, M. Pappa, V. Kordinas, S. Bousboulas, T. Peppas, Greece

1210 MEDI0382, a GLP-1/glucagon receptor dual agonist, improves NASH and reduces liver fibrosis in mice

J.L. Trevaskis, M.L. Boland, J. Conway, S. Guionaud, J. Grimsby, L. Jermutus, C.J. Rhodes, USA, UK

Poster Event D, Wednesday, 13:15 - 14:15**PS 118 Cancer and diabetes**

Chair: S. Herzig, Germany

1211 Cancer incidence and mortality among 457,473 persons with type 2 diabetes compared to 2,287,365 matched controls in Sweden: an observational study

H.H. Bjornsdottir, S. Franzén, A. Rawshani, A. Rawshani, N. Sattar, A.-M. Svensson, S. Gudbjornsdottir, Sweden, Iceland, UK

1212 Prospective cohort study of type 2 diabetes and the risk of cancer in Japan: 5-year interim report

K. Tsuneda, A. Yoshikawa, K. Okita, Y. Inui, S. Fujita, M. Takahara, H. Iwahashi, S. Kurebayashi, H. Konya, A. Otsuka, N. Handa, T. Fukui, H. Matsushima, N. Watanabe, S. Kawata, Japan

1213 Insulin sensitivity in diabetes associated with pancreatic cancer

P. Skrha, P. Fric, J. Uhrova, M. Andel, J. Skrha, Czech Republic

1214 Insulin resistance and colon epithelial proliferation

L. Kedenko, J. Mayböck, C. Kronberger, T. Kiesslich, I. Kedenko, B. Paulweber, G. Wolkersdörfer, Austria

1215 Obesity, glucose abnormalities and metabolic syndrome are hallmarks of well differentiated nets

A.P. Santos, C. Castro, I. Torres, R. Henrique, M.H. Cardoso, M.P. Monteiro, Portugal

1216 Glucose enhances breast cancer cell aggressiveness via adipose-derived mesenchymal stem cells

V. D'Esposito, G. Mosca, M. Ambrosio, T. Migliaccio, S. Cabaro, N. Prevete, G. Piccolo, A. Maione, L. Albano, F. D'Andrea, F. Beguinot, P. Formisano, Italy

1217 The phosphorylation of Akt through mTORC2 a possible link between dietary AGEs, diabetes and colorectal cancer

A.I. Serban, O.I. Geicu, L. Stanca, A. Dinischiotu, Romania

1218 Endogenous insulin hypersecretion links diet-induced obesity to pancreatic cancer development in Ptf1a^{CreER};LSL-Kras^{G12D} mice

A. Zhang, X. Hu, J. Magrill, J.L. Kopp, J.D. Johnson, Canada

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European Foundation for the Study of Diabetes

EFSD
Grant
and
Fellowship
Programmes

in collaboration with third party supporters

European Foundation for the Study of Diabetes

The **European Foundation for the Study of Diabetes (EFSD)** was created by the European Association for the Study of Diabetes (EASD) in order to support more actively diabetes research in Europe and to serve the goals of EASD. EFSD began its work in 2000 and has become a significant European funding agency for diabetes research, and is continually striving to enhance diabetes awareness in Europe.

Since inception, EFSD has committed over €100 million to European diabetes research by way of a wide range of grant and fellowship funding initiatives.

EFSD is greatly indebted to the following companies and organisations for their most generous support of European diabetes research:

AstraZeneca:

EFSD Future Leaders Mentorship Programme for Clinical Diabetologists supported by AstraZeneca

The major goal of this Programme is to identify and promote the advancement of the next generation of leading clinical diabetologists in Europe by refining their skills, keeping them in the field of diabetes and facilitating their appointment to senior academic positions at major European institutions.

Boehringer Ingelheim:

EFSD/Boehringer Ingelheim Research Programme in Microvascular Complications of Diabetes

This Programme is intended to stimulate and accelerate innovative European research in the area of microvascular complications (retinopathy, nephropathy and neuropathy) of diabetes.

Japan Diabetes Society:

EFSD/JDS Reciprocal Travel Research Fellowships

The objective of these Fellowships is to encourage collaborative research between Europe and Japan in the field of diabetes.

JDRF and Lilly:

EFSD/JDRF/Lilly European Programme in Type 1 Diabetes Research

This Programme aims to increase awareness and promote the highest quality of basic biomedical and clinical research in Europe and its associated countries applicable to type 1 diabetes.

Lilly:

EFSD/Lilly European Diabetes Research Programme

This Programme aims to promote increased European diabetes research and to raise public awareness and political understanding of the disease. Grants are offered for any area of basic or clinical diabetes research.

EFSD/Lilly Young Investigator Research Award Programme

The objective of these Young Investigator Research Awards is to encourage innovative research in the field of diabetes and its complications, and to promote excellence in medical education.

Merck Sharp & Dohme:

EFSD European Research Programme on New Targets for Type 2 Diabetes supported by MSD

This Programme is intended to stimulate and accelerate European research focusing on the identification and molecular understanding of new targets for the treatment of type 2 diabetes.

Novo Nordisk A/S:

EFSD/Novo Nordisk Programme for Diabetes Research in Europe

This Programme aims to promote high-quality diabetes research in Europe, and accepts applications from all fields of clinical and basic diabetes research.

EASD Rising Star Symposium & EFSD Research Fellowship Programme supported by Novo Nordisk

This combined EASD/EFSD initiative aims to identify promising and innovative young researchers in basic and clinical diabetes research.

Sanofi:

EFSD/Sanofi Pilot Research Grants for Innovative Measurement of Diabetes Outcomes

These grants are intended to help develop innovative means to document and validate novel parameters indicative of long-term benefits for patients with diabetes.

EFSD/Sanofi European Diabetes Research Programme in Macrovascular Complications of Diabetes

This Programme has been created to stimulate and accelerate European research on macrovascular complications of diabetes. Grants are offered for basic or clinical mechanistic studies

Servier:

EFSD INTENSE Project supported in part by an unrestricted educational grant from Servier

This Project aims to develop novel evidence-based approaches for the enhancement of patient adherence in type 2 diabetes therapy, thus enabling sustained adherence to a mutually agreed treatment plan.

In addition, the **EFSD Albert Renold Travel Fellowships** are available throughout the year, and enable young scientists to stay at other institutions in order to learn new techniques in basic or clinical diabetes research.

EFSD awards are strictly competitive and decisions are based upon a rigorous and fully independent peer-review process.

Further information on EFSD programmes can be found under:

www.EuropeanDiabetesFoundation.org

**SYMPOSIA
ON THE OCCASION
OF THE
54th EASD ANNUAL MEETING
OF THE
EUROPEAN ASSOCIATION
FOR THE STUDY
OF DIABETES**

IDF EUROPE SYMPOSIUM: PEOPLE WITH DIABETES AT THE CENTRE OF CARE

Monday, 1 October 2018

10:00 - 12:00

Spener Hall

- 10:00 - 10:10 **Opening: The necessity of a patient-centric approach**
S. Karadeniz (Chair, IDF Europe)
- 10:10 - 10:45 **Panel: Getting all involved on board**
Moderator: K. Khunti (Univ. of Leicester)
C. Avril (French Diabetes Federation)
U. Bogdanovic (Diabetes Association of Serbia)
- 10:45 - 11:15 **Language matters: Interaction with the audience**
Moderator: P. Kar (NHS)
J.M. Boavida (APDP)
C. Lindberg (Swedish Diabetes Association)
V. Ocheretenko (Ukrainian Diabetic Federation)
- 11:15 - 11:50 **Panel: Health systems as enablers**
Moderator: I. Garamendi
(Regional Manager, IDF Europe)
C. Rulffs Klausen (Danish Diabetes Association)
T. Vasankari (Finnish Diabetes Association)
M. Kuruyazıcı (Turkish Diabetes Foundation)
- 11:50 - 12:00 **Conclusion and take-home messages**
N. Pall (Chair-Elect, IDF Europe)
- 12:00 **End / Network**

EASDEC SYMPOSIUM DIABETIC RETINOPATHY: A PANDORA'S BOX OF DIABETIC COMPLICATIONS

Monday, 1 October 2018

12:00 - 13:30

Hall 6.3

Chair: S. Harding, UK

- | | |
|---------------|---|
| 12:00 - 12:30 | A. Avogaro, Italy:
The common soil of diabetic retinopathy and
macrovascular disease |
| 12:30 - 13:00 | M. Porta, Italy:
Diabetic retinopathy: clinical impact beyond the eye |
| 13:00 - 13:30 | R. Simó, Spain:
The link between diabetic retinopathy and cognitive
impairment |

DIALOGUE BETWEEN CLINICAL CHEMISTRY AND DIABETOLOGY: COOPERATION BETWEEN IFCC AND EASD

Tuesday, 2 October 2018

07:30

Tiburtius Hall

Chairs: G. Freckmann; L. Heinemann (as diabetologists) and R. Hinzmann (as representative of IFCC / clinical chemists)

M. Nauck; P. Lupp:

Measurement uncertainty and reference values: what clinical chemists can provide for diabetology?

G. Freckmann; D. Klonoff:

Blood glucose measurement: open questions / post-market evaluation of blood glucose systems

L. Heinemann:

MARD – an insufficient parameter characterisation of CGM performance?

D. Sacks:

Accuracy requirements for glucose / HbA_{1c} measurements from a clinical point of view

G. John:

HbA_{1c}-measurements in Europe: implications for clinical guidelines and recommendations

DESG ANNUAL MEETING THERAPEUTIC EDUCATION – EMPOWERING PEOPLE TO PREVENT DIABETES & ITS COMPLICATIONS

Tuesday, 2 October 2018

07:30 - 09:30

Naunyn Hall

- 07:30 - 07:40 **F. Toti; A. Majchrzak:**
Opening and presentations
- 07:40 - 08:00 **T. Milenkovic:**
Successful interventions programmes to prevent type 2 diabetes
- 08:00 - 08:15 **J.F. Raposo:**
Results/difficulties of a type 2 diabetes prevention programme: lessons for the future
- 08:15 - 08:30 **A. Juruc:**
Education in elderly patients: Is it a problem or a challenge?
- 08:30 - 08:45 ***Guido Ruffino Prize: Presented by L. Kleinebreil***
- 08:45 - 09:00 **L. Hecht:**
DIALIFE: Living together with diabetes
- 09:00 - 09:15 **K. Makrilakis:**
Feel4Diabetes Study: Preliminary results of a community based intervention for prevention of diabetes in Europe
- 09:15 - 09:30 **B. Saboo and F. Toti:**
Technology and education in type 1 diabetes
- 09:30 **F. Toti and T. Milenkovic:**
Conclusion, remarks

DIABETES PREVENTION ON DEMAND: WHAT STRATEGIES

Tuesday, 2 October 2018

07:30 - 09:30

Spener Hall

Chairs: P. Pozzilli, Italy; R.D.G. Leslie, UK

07:30 - 08:00 **J. Tuomilehto, Kuwait:**
The changing face of type 2 diabetes epidemiology

08:00 - 08:30 **D. Tuccinardi, Italy:**
Insights into different diets

08:30 - 09:00 **S. Turrone, Italy:**
The role of microbiota in type 2 diabetes

09:00 - 09:30 **R. Gabriel, Spain:**
Strategies to implement for diabetes prevention

Organised by:

- **University Campus Bio-Medico, Rome, Italy**
- **Queen Mary University of London, UK**
- **World Community for Prevention of Diabetes, Spain**

D&CVD SYMPOSIUM STRATEGIES FOR LEADING THE PATH IN DIABETES AND CARDIOVASCULAR DISEASE

Tuesday, 2 October 2018

12:30 - 14:00

Hall 6.3

Chairs: N. Lalic, Serbia; P. Valensi, France

- | | |
|---------------|---|
| 12:30 - 12:50 | A. Ceriello, Spain:
Glycaemic variability and its clinical impact |
| 12:50 - 13:10 | E. Standl, Germany:
Hypoglycaemia – Key learnings from recent trials |
| 13:10 - 13:30 | O. Schnell, Germany:
From CVOTs in diabetes to clinical guidelines |
| 13:30 - 14:00 | Panel discussion |

PSAD SYMPOSIUM BEHAVIOURAL DIABETES AND TECHNOLOGY: WHERE IS IT GOING?

Wednesday, 3 October 2018

08:15 - 09:45

Hall 6.3

Chair: A. Nouwen, UK

- 08:15 - 08:45 **F. Snoek, Netherlands:**
Online psychosocial interventions for persons with diabetes
- 08:45 - 09:15 **N. Hermanns, Germany:**
Psychological aspects of continuous glucose sensing technology and artificial pancreas
- 09:15 - 09:45 **K. Barnard, UK:**
Psychological impact of diabetes apps and diabetes blogs

**PCDE SYMPOSIUM
MANAGEMENT OF TYPE 2 DIABETES IN THE YOUNG
AND IN THE ELDERLY**

Wednesday, 3 October 2018

10:15 - 11:45

Hall 6.3

Chairs: X. Cos, Spain; P. Topsever, Turkey

10:15 - 11:00 Diabetes in the young

**D. Mauricio, Spain:
Epidemiology of young type 2 diabetes**

**S. Seidu, UK:
Complications of type 2 diabetes in the young**

11:00 - 11:45 Diabetes in the elderly

**G. Rutten, Netherlands:
Safe de-intensification in the elderly**

**K. Khunti, UK:
Focus on consensus statement**

Closure: X. Cos, Spain; P. Topsever, Turkey

HSESG SYMPOSIUM THE IMPACT OF PATIENTS' PREFERENCES IN IMPROVING ADHERENCE

Thursday, 4 October 2018

07:30 - 09:30

Hall 6.3

Chair: A. Icks, Germany

07:30 - 07:40 **Introduction**

07:40 - 08:05 **C. Juhnke, Germany:**
Patient preferences in the drug therapy of diabetes mellitus type 2

08:05 - 08:30 **R. Johnson, USA:**
The relative unimportance of glucose control in patients' stated preferences for diabetes therapy

08:30 - 08:55 **E. Janssen, USA:**
Development of an instrument and quality criteria for Discrete Choice Experiments using the example of patient preferences for diabetes treatment

08:55 - 09:20 **J. Veldwijk, Netherlands:**
Type 2 diabetes patients' preferences for lifestyle programmes, their willingness to receive financial incentives for participation and the predictive value of those measures

09:20 - 09:30 **Concluding remarks**

**RMSG SYMPOSIUM
REACTIVE METABOLITE-BASED PRECISION
MEDICINE IN DIABETES. CHALLENGES AND FUTURE
PROSPECTS**

Thursday, 4 October 2018

12:00 - 14:00

Hall 6.3

Chairs: P.J. Thornalley, UK; N. Rabbani, UK

- 12:00 - 12:30 **A. Ceriello, Spain:**
 Oxidative stress and antioxidant therapy
- 12:30 - 13:00 **P.J. Thornalley, UK:**
 Dicarbonyl stress and glyoxalase 1 inducers
- 13:00 - 13:30 **K. Jandeleit-Dahm, Australia:**
 Development of NADPH oxidase inhibitor therapeutics
- 13:30 - 14:00 **Panel discussion**

Sponsored by Qatar Biomedical Research Institute (QBRI) Diabetes Center
(Doha, Qatar)

EXPAS SYMPOSIUM

Thursday, 4 October 2018

18:30 - 20:00

Hall 6.3

18:30 - 18:45 **D. Pesta, Germany; R. Bracken, UK:**

Welcome and introduction to keynote

18:45 - 19:15 **Keynote lecture**

M. Hesselink, Netherlands:

Myocellular lipid droplets in health and disease, the effect of exercise training

19:15 - 19:45 **6 short talks**

19:45 - 20:00 **Conclusion and networking**

Industry Symposia
on the occasion of the
54th EASD Annual Meeting

www.easd-industry.com

Organised by



INTERPLAN
media & service gmbh

INDUSTRY SYMPOSIA SCHEDULE

Industry Symposia

	09:00	10:00	11:00	12:00
Langerhans Hall	Novo Nordisk 09:00 – 16:00			
Koch Hall	Sanofi Diabetes 09:00 – 15:45			
Virchow Hall		AstraZeneca 09:30 – 16:30		
Hirsch Hall				
Heubner Hall				
Rubner Hall				
Behring Hall		Bayer 10:00 – 12:30		
Rapoport Hall		Eli Lilly & Company 10:00 – 12:30		
Ehrlich Hall		PeerVoice (Boehringer Ingelheim and Eli Lilly Diabetes Alliance) 10:00 – 11:50		

INDUSTRY SYMPOSIA SCHEDULE

Monday, 1 October 2018

13:00	14:00	15:00	16:00	17:00
	Boehringer Ingelheim & Eli Lilly and Company Diabetes Alliance 14:30 – 16:30			
	MSD 14:30 – 17:00			
	Dexcom 14:30 – 17:00			
	Takeda Pharmaceuticals International AG Singapore 14:30 – 17:00			
	Abbott 14:30 – 17:00			
	Roche Diabetes Care 14:30 – 17:00			

INDUSTRY SYMPOSIA SCHEDULE

Industry Morning Symposia

Wednesday, 3 October 2018

	07:30 – 08:15
Spener Hall	Institute for Scientific Information on Coffee (ISIC)
Frerichs Hall	Aegerion

Industry Evening Symposia

Wednesday, 3 October 2018

	18:45 – 20:15
Frerichs Hall	supported by an educational grant from Servier
Rapoport Hall	Novo Nordisk
Kussmaul Hall	IHSG
Ehrlich Hall	Merck KGaA
Tiburtius Hall	Novartis

Industry Mini Symposia

Wednesday, 3 October 2018

	19:00 – 20:00
Naunyn Hall	Mundipharma International Limited
Spener Hall	AstraZeneca

Industry Evening Symposia

Thursday, 4 October 2018

	18:30 – 20:00
Langerhans Hall	Boehringer Ingelheim and Eli Lilly Diabetes Alliance
Frerichs Hall	Sanofi Diabetes
Rapoport Hall	Novo Nordisk
Ehrlich Hall	Sanofi and Regeneron
Tiburtius Hall	Merck Sharp & Dohme
Naunyn Hall	Worldwide Diabetes
Spener Hall	LifeScan

MEET THE EXPERT SESSIONS

Morning Sessions

Tuesday, 2 October 2018

	10:30 – 11:00	11:30 – 12:00
Networking Hub	Novo Nordisk	Novo Nordisk

Lunch Session

	13:00 – 13:30	14:00 – 14:30
Networking Hub	MSD	Sanofi Diabetes

Afternoon Session

	15:00 – 16:15
Networking Hub	EASD Young Academy

Morning Session

Wednesday, 3 October 2018

	11:30 – 12:00
Networking Hub	AstraZeneca

Lunch Sessions

	13:00 – 13:30	14:00 – 14:30
Networking Hub	Sanofi Diabetes	AstraZeneca

Afternoon Session

	15:00 – 16:15
Networking Hub	EASD Young Academy

Morning Sessions

Thursday, 4 October 2018

	10:30 – 11:00	11:30 – 12:00
Networking Hub	AstraZeneca	Aegerion

Lunch Sessions

	13:00 – 13:30	14:00 – 14:30
Networking Hub	Sanofi Diabetes	Aegerion

Afternoon Session

	15:00 – 16:15
Networking Hub	EASD Young Academy

MONDAY, 1 OCTOBER 2018

09:00 – 16:00
LANGERHANS HALL

GLYCAEMIC CONTROL AND BEYOND: SHIFTING THE PARADIGM IN DIABETES CARE

Morning Session

Host: Dirk Müller-Wieland (Germany)

Chair: Rury Holman (UK)

09:00 – 13:00 INSULIN: INNOVATION FOR IMPROVING OUTCOMES

09:00 – 09:10 Welcome

Dirk Müller-Wieland (Germany)

Rury Holman (UK)

09:10 – 10:25 Diabetes in Europe (history and current status)

Rury Holman (UK)

Does glycaemic variability really matter?

Tim Heise (Germany)

Hypoglycaemia: who cares?

Bernard Zinman (Canada), Simon Heller (UK)

Clinical perspectives

Rury Holman (UK), Tim Heise (Germany),

Bernard Zinman (Canada), Simon Heller (UK)

Basal insulins: translating clinical trial results to clinical practice

Ildiko Lingvay (USA)

Coffee

10:55 – 12:05 Combining proteins for intensified insulin treatment in type 2 diabetes

Liana Billings (USA)

The potential of the latest mealtime insulins

John Buse (USA), Mark Evans (UK)

Chair close

Rury Holman (UK)

Lunch

**GLYCAEMIC CONTROL AND BEYOND:
SHIFTING THE PARADIGM IN DIABETES CARE**

Afternoon Session

13:00 – 16:00 GLP-1: DIABETES AND CARDIOVASCULAR MANAGEMENT

13:00 – 13:10 Welcome back

Rury Holman (UK)

13:10 – 14:25 Comparative effectiveness of long-acting GLP-1 receptor agonists

Vanita Aroda (USA)

Once-weekly semaglutide vs once-weekly dulaglutide

Richard Pratley (USA)

GLP-1 receptor agonists: assessing patient responses

Melanie Davies (UK)

Clinicians' perspectives

Rury Holman (UK), Vanita Aroda (USA),

Richard Pratley (USA), Melanie Davies (UK)

Coffee

14:45 – 15:50 Cardiovascular mode of action of GLP-1 receptor agonists

Jorge Plutzky (USA)

Improving CV risk management in T2D with glucose-lowering agents – a new cornerstone of care

Lars Rydén (Sweden)

The cardiologist view

Rury Holman (UK), Jorge Plutzky (USA), Lars Rydén (Sweden)

15:50 – 16:00 Meeting close

Rury Holman (UK)

MONDAY, 1 OCTOBER 2018

09:00 – 15:45
KOCH HALL**ILLUMINATING THE PATH OF CARE
FOR A MULTIFACETED DISEASE**

- 09:00 – 09:15 Opening video, welcome and introduction**
Alice Cheng (Canada) and Robert Ritzel (Germany)
- 09:15 – 09:40 Keynote lecture: Diabetes a heterogeneous and complex disease**
James Gavin III (USA)
- Morning session: Effective use of basal insulins to manage diabetes**
- 09:40 – 09:45 Session introduction**
Athena Philis-Tsimikas (USA)
- 09:45 – 10:05 From Banting to smart insulins:
Advancing insulin technology**
Richard Bergenstal (USA)
- 10:05 – 10:25 The BRIGHT study: The first large head-to-head comparison
of second-generation basal insulin analogs**
Alice Cheng (Canada)
- 10:25 – 10:35 Q&A**
- 10:35 – 10:55 Break**
- 10:55 – 11:15 Advances in real-world evidence methodology:
What big data is teaching us**
Vicki Seyfert-Margolis (USA)
- 11:15 – 11:35 Beyond RCTs: A comprehensive approach to
understanding diabetes**
Luigi Meneghini (USA)
- 11:35 – 12:00 The symbiosis of real-world evidence and RCTs**
Stewart Harris (Canada) and John Wilding (UK)
- 12:00 – 12:10 Q&A / Panel discussion**
- 12:10 – 12:15 Session summary**
Athena Philis-Tsimikas (USA)
- 12:15 – 13:00 Lunch**

**ILLUMINATING THE PATH OF CARE
FOR A MULTIFACETED DISEASE**

Afternoon session: A call to action for patients who need more

13:00 – 13:10 Session introduction
Robert Ritzel (Germany)

Patients uncontrolled on basal insulins

13:10 – 13:30 A combination approach: Targeting multiple defects of diabetes
Rory McCrimmon (UK)

13:30 – 13:50 Fixed-ratio combinations: Which patients can benefit?
Daniël van Raalte (The Netherlands)

Patients with T1DM who need further intervention

13:50 – 14:10 Beyond glucose control: Living with diabetes
Thomas Danne (Germany)

14:10 – 14:30 One drug, two mechanisms: An SGLT-1 and SGLT-2 inhibitor
Julio Rosenstock (USA)

Patients at high risk of CVD

14:30 – 14:35 How to address residual CV risk in individuals with DM
Naveed Sattar (UK)

14:35 – 15:15 ODYSSEY OUTCOMES: Long-term cardiovascular outcomes in overall post-ACS and in sub-populations
TBC

15:15 – 15:20 Q&A

15:20 – 15:35 Panel discussion and meeting summary

15:35 – 15:45 Illuminating the path ahead
Alice Cheng (Canada) and Robert Ritzel (Germany)

Organised by: Sanofi Diabetes

MONDAY, 1 OCTOBER 2018

09:30 – 16:30
VIRCHOW HALL**TOMORROW'S MANAGEMENT OF DIABETES, TODAY****Morning Session**

Chair: Jiten Vora (UK/AstraZeneca)

09:30 – 09:35 Welcome
Jiten Vora (UK/AstraZeneca)**09:35 – 09:50 Moving on from the past**
Jiten Vora (UK/AstraZeneca)
Jochen Seufert (Germany)**09:50 – 10:15 Glucose and risk factor management:
are we at the limit?**
Roopa Mehta (Mexico)**10:15 – 10:40 GLP-1 RA beyond insulin?**
Filip Knop (Denmark)
Juris Meier (Germany)
Jiten Vora (UK/AstraZeneca)
(audience moderator)

10:40 – 11:10 Coffee Break

11:10 – 11:35 Which drug for which patient?
Filip Knop (Denmark)
Roopa Mehta (Mexico)
Juris Meier (Germany)
David Russell-Jones (UK)**11:35 – 12:00 Diabetes – cardiovascular disease in the presence
of hyperglycaemia?**
Jochen Seufert (Germany)
Martin Cowie (UK)

12:00 – 13:00 Lunch break

TOMORROW'S MANAGEMENT OF DIABETES, TODAY

Afternoon Session

- 13:00 – 13:25 From risk awareness to risk management**
Francesco Giorgino (Italy)
John Buse (USA)
- 13:25 – 13:50 The potential for microvascular protection in Type 2 diabetes: mechanisms and clinical implications**
Hiddo Lambers Heerspink (The Netherlands)
Mark Cooper (Australia)
- 13:50 – 14:15 Panel discussion and Q&A**
Martin Cowie (UK)
Francesco Giorgino (Italy)
John Buse (USA)
Hiddo Lambers Heerspink (The Netherlands)
Mark Cooper (Australia)
- 14:15 – 14:40 Coffee break**
- 14:40 – 15:05 SGLT2 inhibitors, potential benefit but why?**
Martin Cowie (UK)
Hiddo Lambers Heerspink (The Netherlands)
Roopa Mehta (Mexico)
Jochen Seufert (Germany)
- 15:05 – 15:30 Risk vs return**
David Russell-Jones (UK)
- 15:30 – 15:55 Shaping the future: new agents for glucose control**
Christina Rondinone (MedImmune)
- 15:55 – 16:20 Keynote: Modern management of Type 2 Diabetes – glucose lowering is not enough**
John Buse (USA)
- 16:20 – 16:30 Summary and close**
Jiten Vora (UK/AstraZeneca)
Jochen Seufert (Germany)

Organised by: **AstraZeneca**

MONDAY, 1 OCTOBER 2018

10:00 – 12:30
BEHRING HALL

THE CARDIORENAL CONNECTION: MINERALOCORTICOID RECEPTOR INHIBITION IN DIABETES

Morning Session

- Chair: Mark Cooper
- 10:00 – 10:05 Welcome**
Mark Cooper
- 10:05 – 10:20 Kidney and cardiovascular disease in diabetes:
two sides of the same coin?**
Mark Cooper
- 10:20 – 10:50 The pathology of renal dysfunction and cardiovascular
disease in diabetes**
Richard Gilbert
- 10:50 – 11:20 The cardiorenal connection: filtering the facts**
David Cherney
- 11:20 – 11:50 The cardiorenal connection: getting to the heart of the
matter**
Mikhail Kosiborod
- 11:50 – 12:00 Looking to the future: what to expect from the phase 3
trials?**
Mark Cooper
- 12:00 – 12:25 Panel discussion**
All
- 12:25 – 12:30 Closing remarks**
Mark Cooper

Organised by: **Bayer**

MONDAY, 1 OCTOBER 2018

**10:00 – 12:30
RAPOPORT HALL**

FROM SCIENCE TO REALITY: UNDERSTANDING THE SILENT SIDE OF SEVERE HYPOGLYCAEMIA

Morning Session

Chair: Frank Snoek (The Netherlands)

Welcome and introduction

Frank Snoek (The Netherlands)

The clinical problem of severe hypoglycaemia

Brian Frier (UK)

Clinical case: Adolescents to the rescue for severe hypoglycaemia

Thomas Danne (Germany)

Clinical case: Severe hypoglycaemia and emergency medical services

Pratik Choudhary (UK)

Challenges of living with severe hypoglycaemia: A perspective from a person with diabetes

Crystal Bowersox (US)

Panel discussion

Pratik Choudhary (UK), Chris Cebollero (US), Thomas Danne (Germany),
Brian Frier (UK), Crystal Bowersox (US) and Frank Snoek (The Netherlands)

Let's talk about severe hypoglycaemia

Frank Snoek (The Netherlands)

Questions and answers, closing remarks

Frank Snoek (The Netherlands)

PP-LD-DE-0404

Organised by: Eli Lilly and Company

MONDAY, 1 OCTOBER 2018

10:00 – 11:50
EHRlich HALL

**IMPROVING OUTCOMES IN TYPE 2 DIABETES:
FOCUS ON CARDIOVASCULAR AND RENAL SAFETY**

Morning Session

- 10:00 – 10:15 Brunch Buffet**
- 10:15 – 10:20 Introduction**
Per-Henrik Groop
- 10:20 – 10:35 Weighing the Evidence for Cardiovascular Outcomes
in Type 2 Diabetes**
Naveed Sattar
- 10:35 – 10:50 Eye on the Kidneys: What We Now Know About T2DM
and Kidney Disease**
Merlin Christopher Thomas
- 10:50 – 11:05 Impact of Novel Strategies on Clinical Practice**
Per-Henrik Groop
- 11:05 – 11:30 Panel Discussion**
A discussion led by Per-Henrik Groop
- 11:30 – 11:35 Conclusions**
Per-Henrik Groop
- 11:35 – 11:50 Audience Q&A**
Per-Henrik Groop
Naveed Sattar
Merlin Christopher Thomas

Organised by: **PeerVoice**
(Boehringer Ingelheim & Eli Lilly Diabetes Alliance)

MONDAY, 1 OCTOBER 2018

14:30 – 16:30
HIRSCH HALL

REDUCING CARDIOVASCULAR MORTALITY IN PATIENTS WITH TYPE 2 DIABETES: A NEW CLINICAL MANDATE?

Afternoon Session

Co-chairs: Silvio Inzucchi and Stefan Anker
Faculty: Merlin Thomas and Mikhail Kosiborod

14:30 – 14:40 Welcome and introduction

Silvio Inzucchi, Stefan Anker

**14:40 – 14:50 Cardiovascular mortality in T2D:
old challenges, new opportunities**

Panel discussion

All faculty; moderated by Silvio Inzucchi

**14:50 – 15:10 Optimising T2D management:
what's driving treatment decisions?**

Silvio Inzucchi

**15:10 – 15:35 Advancing patient care in T2D:
what does the emerging evidence tell us?**

Mikhail Kosiborod

**15:35 – 16:15 Exploring the effects of SGLT2 inhibition in
ongoing clinical trials**

Stefan Anker

Merlin Thomas

**16:15 – 16:25 Rethinking treatment decisions to optimise
patient outcomes**

Panel discussion and audience Q&A

All faculty; moderated by Silvio Inzucchi

16:25 – 16:30 Chair's summary

Silvio Inzucchi

Organised by: **Boehringer Ingelheim & Eli Lilly and Company
Diabetes Alliance**

MONDAY, 1 OCTOBER 2018

14:30 – 17:00
HEUBNER HALL**FOCUS ON THE FUTURE: LATEST SCIENTIFIC AND CLINICAL
UNDERSTANDING FOR THE TREATMENT OF PATIENTS WITH
TYPE 2 DIABETES****Afternoon Session**

Co-Chairs: Steven Kahn (USA), Lawrence Leiter (Canada)

14:30 – 14:35 Chair Welcome and Opening Remarks

Steven Kahn (USA), Lawrence Leiter (Canada)

**14:35 – 14:50 Scientific Spotlight #1: Recent Advancements in the
Alpha Cell and the Beta Cell**

Jonathan Campbell (USA)

**14:50 – 15:05 Shedding New Light on Clinical Questions:
The COMPOSIT Trials**

Juan Frias (USA)

15:05 – 15:25 *Clinical Applications – Part 1*

Steven Kahn (USA), Lawrence Leiter (Canada), Faculty

**15:25 – 15:45 Scientific Spotlight #2: Recent Understanding on
Glucagon – A Complex Hormone**

Jens Juul Holst (Denmark)

**15:45 – 16:00 Ertugliflozin – A Newly Emerging SGLT2 Inhibitor for
Patients with Type 2 Diabetes**

Sam Dagogo-Jack (USA)

**16:00 – 16:15 Envisioning the Future of SGLT2 Inhibitors in the Treatment
of Patients with Diabetes and Established Cardiovascular
Disease: A Cardiologist Viewpoint**

Matthew Cavender (USA)

16:15 – 16:35 *Clinical Applications – Part 2*

Steven Kahn (USA), Lawrence Leiter (Canada), Faculty

16:35 – 16:55 Keynote**DPP-4 Inhibitors and SGLT2 Inhibitors:
Is There Something Special About These Mechanisms?**

Michael Nauck (Germany)

16:55 – 17:00 Final Comments and Summary

Steven Kahn (USA), Lawrence Leiter (Canada)

Organised by: MSD

MONDAY, 1 OCTOBER 2018

**14:30 – 17:00
RUBNER HALL**

**INTRODUCTION TO DEXCOM G6® CONTINUOUS GLUCOSE
MONITORING AS THE LEADER IN TECHNOLOGY, ACCURACY
AND PERFORMANCE**

Afternoon Session

Moderator: Bernard Gehr

**14:30 – 15:00 Introduction to the Advancements in the Dexcom G6
Technology**
Jake Leach

**15:00 – 15:30 Dexcom CGM Compared to Abbott FGM – Key Accuracy
and Performance Differences Pertinent to Your Clinical
Practice**
Guido Freckmann

**15:30 – 16:00 Dexcom CGM: Clinical Outcomes and G6 Accuracy and
Performance**
To be Determined

16:00 – 16:30 Panel Discussion and Questions and Answers

Organised by: **Dexcom**

MONDAY, 1 OCTOBER 2018

14:30 – 17:00
BEHRING HALL

**AT THE FOREFRONT: PIECING TOGETHER RECENT
TYPE 2 DIABETES EVIDENCE**

Afternoon Session

Moderator: Ele Ferrannini (Italy)

14:30 – 14:35 Welcome and Introduction

Ele Ferrannini (Italy)

**14:35 – 15:05 The type 2 diabetes global pandemic: treatment gaps
now and in the future**

Ele Ferrannini (Italy)

**15:05 – 15:35 Clinical insights into recent EXAMINE trial data:
an evolving story**

Robert Chilton (USA)

**15:35 – 16:05 Beyond glycaemic control: pleiotropic effects of
alogliptin/pioglitazone**

Vivian Fonseca (USA)

**16:05 – 16:35 Cardiovascular outcome trials: putting recent updates
into perspective**

Sanjay Rajagopalan (USA)

16:35 – 16:55 Panel discussion

All

16:55 – 17:00 Summary and close

Ele Ferrannini (Italy)

**Organised by: Takeda Pharmaceuticals International AG
Singapore**

MONDAY, 1 OCTOBER 2018

14:30 – 17:00
RAPOPORT HALL

TECHNICAL AND CLINICAL ADVANCES IN FLASH GLUCOSE MONITORING

Afternoon Session

Chair: Monika Kellerer (Germany)

14:30 – 14:45 Chair's Introduction

Monika Kellerer (Germany)

14:45 – 15:15 Enhanced Accuracy of the FreeStyle Libre Flash Glucose Monitoring System

Kristin Castorino (USA)

15:15 – 15:45 Alarms in Interstitial Glucose Monitoring: Optional or Not?

Ides Colin (Belgium)

15:45 – 16:15 Incorporation of Trend Arrows in Insulin Dosing Decisions: A Consensus Statement from Germany

Simone von Sengbusch (Germany)

16:15 – 16:45 Reduction in HbA1C with FreeStyle Libre System Use: Results of a Comprehensive Meta-Analysis

Cliff Bailey (UK)

16:45 – 17:00 Panel Discussion

All faculty

Organised by: **Abbott**

MONDAY, 1 OCTOBER 2018

14:30 – 17:00
EHRlich HALL

**INTEGRATED PERSONALIZED DIABETES MANAGEMENT:
CONNECTING THE DOTS TO IMPROVE OUTCOMES**

Afternoon Session

Chairs: Petra-Maria Schumm-Draeger (Germany)
Rolf Hinzmann (Germany)

14:30 – 14:40 Introduction

**14:40 – 15:15 How to spark lifestyle changes and weight loss
in pre-diabetes**
Luc Van Gaal (Belgium)

**15:15 – 15:50 Drugs, data & technology: Interplay is the key to improve
outcomes**
Kamlesh Khunti (UK)

**15:50 – 16:15 Insertable real-time CGM technology at a new level:
Clinical benefits of 6 months sensor wearing time**
Dorothee Deiss (Germany)

16:15 – 16:40 Artificial Pancreas: From science to clinical practice
Frank Doyle (USA)

16:40 – 17:00 Discussion and closing

Organised by: **Roche Diabetes Care**

**COFFEE AND TYPE 2 DIABETES:
A REVIEW OF THE LATEST RESEARCH**

Morning Session

Speakers: Mattias Carlström, Department of Physiology and Pharmacology, Karolinska Institutet, Sweden
Kjeld Hermansen, Department of Endocrinology and Internal Medicine, Aarhus University Hospital, Denmark

Scientific research indicates that moderate coffee consumption is significantly associated with a reduced risk of developing type 2 diabetes (T2D). As a result, the inverse relationship between T2D and coffee consumption – a daily habit enjoyed by millions of people around the world – is of significant interest for researchers and physicians.

In this symposium, Mattias Carlström will review the latest scientific research on the association between coffee consumption and type 2 diabetes risk, including his own meta-analysis of the data.

Kjeld Hermansen will explore the potential mechanistic perspectives behind this association, drawing on his own research into coffee compounds such as caffeic acid and cafestol.

The symposium will include a Q&A session to open a discussion about future avenues of research, potential therapeutic opportunities, and how to translate research findings into suitable advice for patients and those at risk of developing T2D.

Organised by: the Institute for Scientific Information on Coffee (ISIC)

WEDNESDAY, 3 OCTOBER 2018

07:30 – 08:15
FRERICHS HALL

**BEHIND INSULIN RESISTANCE:
DEBUGGING THE ENDOCRINE SYSTEM**

Morning Session

How to tackle leptin deficiency in lipodystrophies

- **System crash – what happened and how?**
Julia von Schnurbein (Germany)
- **Debugging – fixing the fault with leptin replacement therapy**
Elif Oral (USA)

Organised by: **Aegerion**

WEDNESDAY, 3 OCTOBER 2018

18:45 – 20:15
FRERICHS HALL

**MEDSCAPE LIVE – THE STANDARD CARE IN TYPE 2 DIABETES:
RE-EVALUATING THE TREATMENT PARADIGM**

Evening Session

Moderator: V. Mohan

- 18:45 – 18:55 Welcome and Introduction**
**The Standard of Care in Type 2 Diabetes:
Re-Evaluating the Treatment Paradigm**
V. Mohan
- 18:55 – 19:15 Championing the Standard of Care in Clinical Practice:
Interactive Case Challenge**
Mark Cooper
- 19:15 – 19:40 Standard of Care for T2DM: What is the Clinical Trial
Evidence for Reducing Risk?**
David Matthews
- 19:40 – 20:05 Real-World Data in T2DM: What Have We Learned About
the Standard-of-Care Treatment?**
Kamlesh Khunti
- 20:05 – 20:15 Summary and Conclusions: Audience Q&A**
V. Mohan and panel

Organised by: This session is supported by
an educational grant from **Servier**

WEDNESDAY, 3 OCTOBER 2018

18:45 – 20:15
RAPOPORT HALL

**INNOVATION WITHIN INSULIN MANAGEMENT
OF TYPE 1 DIABETES**

Evening Session

- 18:45 – 18:55 Welcome and introduction**
Chair: David Russell-Jones (UK)
- 18:55 – 19:15 Effective basal insulin therapy for type 1 diabetes:
from clinical trials to clinical practice**
Bernard Zinman (Canada)
- 19:15 – 19:35 Latest mealtime insulins: improving postprandial
glucose control**
Elmar Jaeckel (Germany)
- 19:35 – 19:55 Perspectives on the latest mealtime insulins in pumps**
David Klonoff (USA)
- 19:55 – 20:10 Future treatment options beyond insulin**
Ken Coppieters (Denmark)
- 20:10 – 20:15 Summary and close**
David Russell-Jones (UK)

Organised by: **Novo Nordisk**

WEDNESDAY, 3 OCTOBER 2018

18:45 – 20:15
KUSSMAUL HALL

HYPOGLYCAEMIA: A PROBLEM WITH MANY FACES

Evening Session

- 18:45 – 18:50** **Welcome and introductions**
Simon Heller (UK)
- 18:50 – 19:10** **Update on hypoglycaemia risk factors**
Yingying Luo (China)
- 19:10 – 19:30** **Hypoglycaemia in children**
Tim Jones (Australia)
- 19:30 – 19:50** **Hypoglycaemia and the family**
Stephanie Amiel (UK)
- 19:50 – 20:10** **Panel discussion**
All
- 20:10 – 20:15** **Concluding remarks**
Simon Heller (UK)

Organised by: **International Hypoglycaemia Study Group (IHSG)**

WEDNESDAY, 3 OCTOBER 2018

18:45 – 20:15
EHRlich HALL

FIGHTING THE PRE-DIABETES PANDEMIC

Evening Session

- 18:45 – 19:15 Pre-diabetes: facts, figures and faces**
J. Silva-Nunes (Portugal)
- 19:15 – 19:45 Pre-diabetes: slim the risk with lifestyle**
M. Temprosa (USA)
- 19:45 – 20:15 Pre-diabetes: medication guidance**
G. Li (China)

Organised by: **Merck KGaA**

WEDNESDAY, 3 OCTOBER 2018

18:45 – 20:15
TIBURTIUS HALL

**TYPE 2 DIABETES: HOW TO TURN BACK THE CLOCK AND
CHANGE THE FUTURE**

Evening Session

- 18:45 – 19:00 Welcome and introduction**
Chair: Roy Taylor (UK)
- 19:00 – 19:20 The shadow of metabolic karma**
Merlin Thomas (Australia)
- 19:20 – 19:40 Could we have changed the drivers of diabetes?**
Michael Stumvoll (Germany)
- 19:40 – 20:00 DiRECT – a brighter future for people with
type 2 diabetes**
Roy Taylor (UK)
- 20:00 – 20:15 Q&A panel and meeting close**

GLEM/GAL/0074

Organised by: **Novartis**

WEDNESDAY, 3 OCTOBER 2018

19:00 – 20:00
NAUNYN HALL

**IT'S ABOUT TIME: ADDRESSING THE NEED FOR TIMELY
TREATMENT INTENSIFICATION IN TYPE 2 DIABETES MELLITUS**

Evening Session

Chair: Guntram Schernthaner (Austria)
Faculty: Ralph DeFronzo (USA) and
John Wilding (UK)

19:00 – 19:05 Welcome and objectives
Guntram Schernthaner (Austria)

**19:05 – 19:30 Time to focus: the SGLT2i paradigm in glycaemic
management**
Ralph DeFronzo (USA)

**19:30 – 19:50 Type 2 diabetes: the epidemic of our time –
managing the future**
John Wilding (UK)

19:50 – 20:00 Time to act: panel discussion
Guntram Schernthaner (Austria)
Ralph DeFronzo (USA)
John Wilding (UK)

Organised by: **Mundipharma International Limited**

SGLT2 INHIBITORS – WHY WOULD YOU NOT USE ONE?

Evening Session

- 19:00 – 19:05 Opening and welcome**
Danilo Verge (AstraZeneca)
Jiten Vora (UK/AstraZeneca)
- 19:05 – 19:15 Risk management in diabetes**
Mikhail Kosiborod (USA)
- 19:15 – 19:25 What can we ask from an antidiabetic treatment in 2018?**
Richard Holt (UK)
- 19:25 – 19:35 What prevents us from optimal treatment?**
Juris Meier (Germany)
- 19:35 – 19:55 Discussion and Q&A**
- 19:55 – 20:00 Summary and close**
Jiten Vora (UK/AstraZeneca)

THURSDAY, 4 OCTOBER 2018

18:30 – 20:00
LANGERHANS HALL

**CARMELINA®: TRANSLATING STATE-OF-THE-ART SCIENCE
INTO TAILORED T2D MANAGEMENT IN CLINICAL PRACTICE**

Evening Session

Chair: Bernard Zinman

Faculty: Melanie Davies, Per-Henrik Groop and
Darren McGuire

18:30 – 18:35 Welcome and introduction
Bernard Zinman

18:35 – 18:45 Focus on CARMELINA®
**Recapitulation of CV safety, kidney safety, HF and
overall AEs**
Darren McGuire

18:45 – 19:10 Expert insights: what did we learn from CARMELINA®?
Panel discussion on the clinical relevance of CARMELINA®
in the new era of modern T2D management;
interactive discussion with the audience to gather their
opinions on available data from the trial and frame the
results in the light of daily clinical practice
All faculty, moderated by Bernard Zinman

19:10 – 19:55 Faculty Q&A
All faculty, moderated by Bernard Zinman

19:55 – 20:00 Chair's summary
Bernard Zinman

Organised by: Boehringer Ingelheim and Eli Lilly Diabetes Alliance

THURSDAY, 4 OCTOBER 2018

18:30 – 20:00
FRERICHS HALL

EMPOWERING PATIENTS TO TAKE CONTROL OF INSULIN TITRATION

Evening Session

Chair: Luigi Meneghini (USA)

18:30 – 18:40 Welcome and introduction

Luigi Meneghini (USA)

Insulin titration – the importance of starting well

18:40 – 18:55 Glycaemic control and the role of titration Francesco Giorgino (Italy)

Consolidating data to understand titration

18:55 – 19:10 Titration – not all insulins are the same
Javier Ampudia-Blasco (Spain)

19:10 – 19:25 Comparing the efficacy and safety of second-generation basal insulin analogs
Robert Ritzel (Germany)

Taking control of insulin titration

19:25 – 19:45 Understanding effective titration: the importance of empowering patients
Lori Berard (Canada) and Stewart Harris (Canada)

Illuminating the way

19:45 – 19:55 Discussion and questions

19:55 – 20:00 Summary and conclusions
Luigi Meneghini (USA)

Organised by: **Sanofi Diabetes**

THURSDAY, 4 OCTOBER 2018

18:30 – 20:00
RAPOPORT HALL

OVERCOMING THE CHALLENGES OF WEIGHT MANAGEMENT IN CLINICAL PRACTICE

Evening Session

- 18:30 – 18:40 Welcome and introduction**
Chair: Andreas Birkenfeld (Germany)
- 18:40 – 19:05 The GLP-1 receptor: a target for weight management**
Carel le Roux (Ireland)
- 19:05 – 19:30 Weight management in clinical practice**
Arya Sharma (Canada)
- 19:30 – 19:55 How to support sustained behaviour change**
Michael Vallis (Canada)
- 19:55 – 20:00 Meeting close**
Andreas Birkenfeld (Germany)

Organised by: **Novo Nordisk**

THURSDAY, 4 OCTOBER 2018

18:30 – 20:00
EHRlich HALL

**HIGH CV RISK POPULATIONS WHO MAY BENEFIT THE MOST
FROM PCSK9I THERAPY: HIGHLIGHTS FROM THE MOST RECENT
ODYSSEY OUTCOMES DATA**

Evening Session

Chair: Ulrich Laufs (Germany)

18:30 – 18:35 Introduction

Ulrich Laufs (Germany)

18:35 – 18:50 Dyslipidemia in post-ACS patients: new study results

Ulrich Laufs (Germany)

18:50 – 19:05 Current data on PCSK9i in individuals with diabetes

Helen Colhoun (UK)

**19:05 – 19:25 Managing diabetes: how to use the armamentarium of
novel therapeutic options**

Klaus Parhofer (Germany)

**19:25 – 19:50 Panel discussion: clinical implications for managing
dyslipidemia in high CV risk
populations**

Ulrich Laufs (Germany) and panelists

19:50 – 20:00 Conclusion and key take-away messages

Ulrich Laufs (Germany)

Organised by: **Sanofi and Regeneron**

THURSDAY, 4 OCTOBER 2018

18:30 – 20:00
TIBURTIUS HALL**NEW INSIGHTS FOR CLINICIAN CHOICES IN THE TREATMENT
OF PATIENTS WITH TYPE 2 DIABETES****Evening Session**

Co-Chairs: Michael Nauck (Germany), Oliver Schnell (Germany)

18:30 – 18:35 Welcome and Opening Remarks
Michael Nauck (Germany), Oliver Schnell (Germany)**18:35 – 18:50 New Insights for Clinical Questions:
The COMPOSIT Trials**
Ronan Roussel (France)**18:50 – 18:55 Q & A****18:55 – 19:10 Ertugliflozin – A Newly Emerging SGLT2 Inhibitor for
Patients with Type 2 Diabetes**
Richard Pratley (USA)**19:10 – 19:15 Q & A****19:15 – 19:30 Making Choices: DPP-4 Inhibitors, SGLT2 Inhibitors
or Both. When and Why in Taking the Next Steps after
Metformin**
Ronald Goldenberg (Canada)**19:30 – 19:35 Q & A****19:35 – 19:55 Clinical Considerations: A Patient Case for
Discussion**
Michael Nauck (Germany), Oliver Schnell (Germany), Faculty**19:55 – 20:00 Final Comments and Summary**
Michael Nauck (Germany), Oliver Schnell (Germany)**Organised by: MSD**

THURSDAY, 4 OCTOBER 2018

**18:30 – 20:00
NAUNYN HALL**

**ADVANCES IN INSULIN THERAPIES:
WHEN AND HOW TO USE THEM**

Evening Session

- 18:00 – 18:30 Registration and Refreshments**
- 18:30 – 18:40 Welcome, Introductions, and Objectives**
Jaime Davidson (USA)
- 18:40 – 19:00 Hypoglycaemia: What We Know and Its Critical Consequences to Your Patients**
Guillermo Umpierrez (USA)
- 19:00 – 19:20 Best Treatment Options for Improving Glycaemic Control**
Sergio Zuñiga (Mexico)
- 19:20 – 19:40 Insulin Therapy Today: The Present and Future of Diabetes Drug Therapy (GLP-1s, SGLT2s, Combinations)**
Sharona Azriel Mira (Spain)
- 19:40 – 20:00 Question and Answer Session**

This symposium will be presented in Spanish!

Organised by: Worldwide Diabetes

THURSDAY, 4 OCTOBER 2018

18:30 – 20:00
SPENER HALL

**CONNECTED SELF-MONITORING OF BLOOD GLUCOSE –
“A FUTURE PERSPECTIVE”**

Evening Session

- hair: Steven Edelman (USA)
- 18:30 – 18:35 Welcome and Introduction**
Steven Edelman (USA)
- 18:35 – 18:50 The Consensus Value – Connected Self-Monitoring of Blood Glucose**
Steven Edelman (USA)
- 18:50 – 19:10 Value of Technologies in Monitoring (Blood) Glucose**
TBC
- 19:10 – 19:25 Right Meter, Right Patient – Optimizing the Benefit**
Katharine Barnard (UK)
- 19:25 – 19:40 Latest Clinical Evidence**
Mike Grady (UK)
- 19:40 – 20:00 Revealing the Future**
David DeJonghe (US)

Organised by: **LifeScan**

INDUSTRY “MEET-THE-EXPERT”-SESSIONS

TUESDAY, 2 OCTOBER 2018

10:30 – 11:00
NETWORKING HUB

GLUCOSE-LOWERING DRUGS AND CARDIOVASCULAR PROTECTION: AN ADDED BENEFIT OR A PRIMARY FACTOR IN THE TYPE 2 DIABETES TREATMENT CHOICE?

Morning Session

Speakers: Lars Rydén and Filip Knop

In light of positive results from recent cardiovascular outcome trials in diabetes, this interactive session will discuss how to best manage the risk of cardiovascular events in people with type 2

Organised by: **Novo Nordisk**

TUESDAY, 2 OCTOBER 2018

11:30 – 12:00
NETWORKING HUB

VARIABILITY OR HYPOGLYCAEMIA: WHAT IS MOST IMPORTANT?

Morning Session

Speakers: Hans de Vries and Simon Heller

This interactive session will further explore some of the key themes discussed during the full-day symposium, focusing on the potential impact of variability and hypoglycaemia on clinical outcomes.

Organised by: **Novo Nordisk**

TUESDAY, 2 OCTOBER 2018

13:00 – 13:30
NETWORKING HUB

Lunch Session

Organised by: **MSD**

INDUSTRY “MEET-THE-EXPERT”-SESSIONS

TUESDAY, 2 OCTOBER 2018

14:00 – 14:30
NETWORKING HUB

THE BRIGHT STUDY, THE FIRST HEAD-TO-HEAD COMPARISON OF SECOND-GENERATION BASAL INSULIN ANALOGS

Lunch Session

Speaker: Alice Cheng (Canada)

Organised by: **Sanofi Diabetes**

WEDNESDAY, 3 OCTOBER 2018

11:30 – 12:00
NETWORKING HUB

DO WE NEED TO HAVE A PARADIGM SHIFT IN TYPE 1 DIABETES?

Morning Session

11:30–11:50 **Type 1 diabetes: Unmet needs and future directions**
Thomas Danne (Germany)
Parth Narendran (UK)

11:50 – 12:00 **Q&A with the audience**
Thomas Danne (Germany)
Parth Narendran (UK)

Organised by: **AstraZeneca**

WEDNESDAY, 3 OCTOBER 2018

13:00 – 13:30
NETWORKING HUB

KISSIN’ INSULIN MANAGEMENT: KEEP IT SHORT & SIMPLE WITH THE LATEST TITRATION TOOLS

Lunch Session

Speaker: Steve Edelman

Organised by: **Sanofi Diabetes**

INDUSTRY “MEET-THE-EXPERT”-SESSIONS

WEDNESDAY, 3 OCTOBER 2018

14:00 – 14:30
NETWORKING HUB

SGLT2 INHIBITOR CARDIOVASCULAR AND RENAL EFFECTS – PUTTING THE PIECES OF THE PUZZLE TOGETHER

Lunch Session

14:00 – 14:15 Is there anything we still don't know about the extra-glycemic effects of SGLT2 inhibitors?
Francesco Giorgino (Italy), Roopa Mehta (Mexico)

14:15 – 14:30 Q&A with the audience
Francesco Giorgino (Italy), Roopa Mehta (Mexico)

Organised by: **AstraZeneca**

THURSDAY, 4 OCTOBER 2018

10:30 – 11:00
NETWORKING HUB

CVD-REAL: INSIGHTS FROM CURRENT CLINICAL PRACTICE

Morning Session

10:30 – 10:50 From CVOT to RWE: The CVD-REAL study
Kamlesh Khunti (UK)
Mikhail Kosiborod (USA)

10:50 – 11:00 Q&A with the audience
Kamlesh Khunti (UK)
Mikhail Kosiborod (USA)

Organised by: **AstraZeneca**

THURSDAY, 4 OCTOBER 2018

11:30 – 12:00
NETWORKING HUB

HOW TO TREAT LIPODYSTROPHY

Morning Session

11:30 – 12:00 Case discussion in generalised lipodystrophy
Giovanni Ceccarini (Italy)

Organised by: **Aegerion**

INDUSTRY “MEET-THE-EXPERT”-SESSIONS

THURSDAY, 4 OCTOBER 2018

13:00 – 13:30
NETWORKING HUB

IMPROVING GLUCOSE CONTROL IN TYPE 1 DIABETES: THE ROLE OF NON-INSULIN PATHWAYS

Lunch Session

Speaker: Jeremy Pettus

Organised by: **Sanofi Diabetes**

THURSDAY, 4 OCTOBER 2018

14:00 – 14:30
NETWORKING HUB

HOW TO TREAT LIPODYSTROPHY

Lunch Session

14:00 – 14:30 **Case discussion in partial lipodystrophy**
Michael Stumvoll (Germany)

Organised by: **Aegerion**

Industry Exhibition
on the occasion of the
54th EASD Annual Meeting

www.easd-industry.com

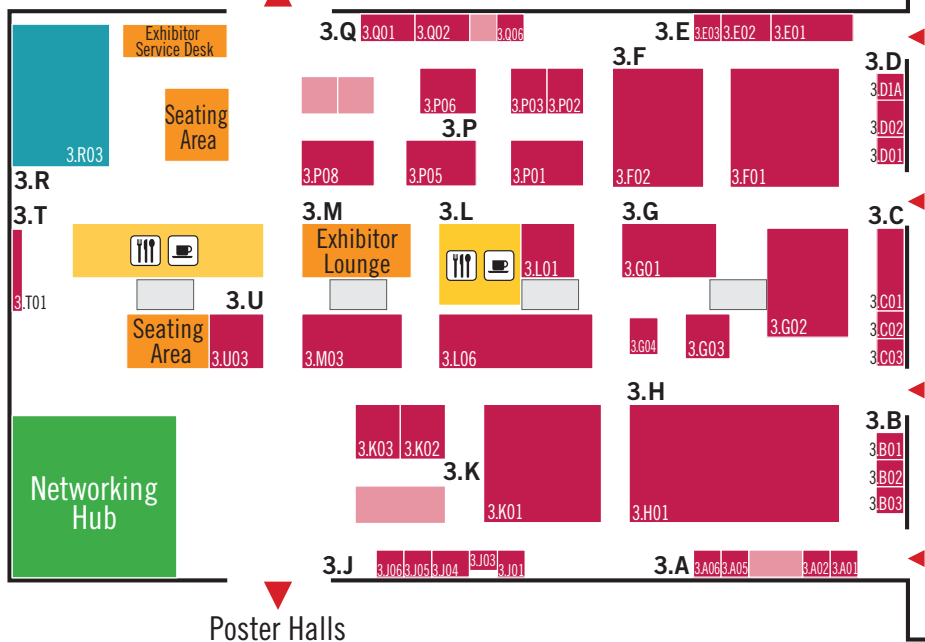
Organised by



INTERPLAN
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Industry Exhibition – Hall 3 & Hall 4

Hall 3

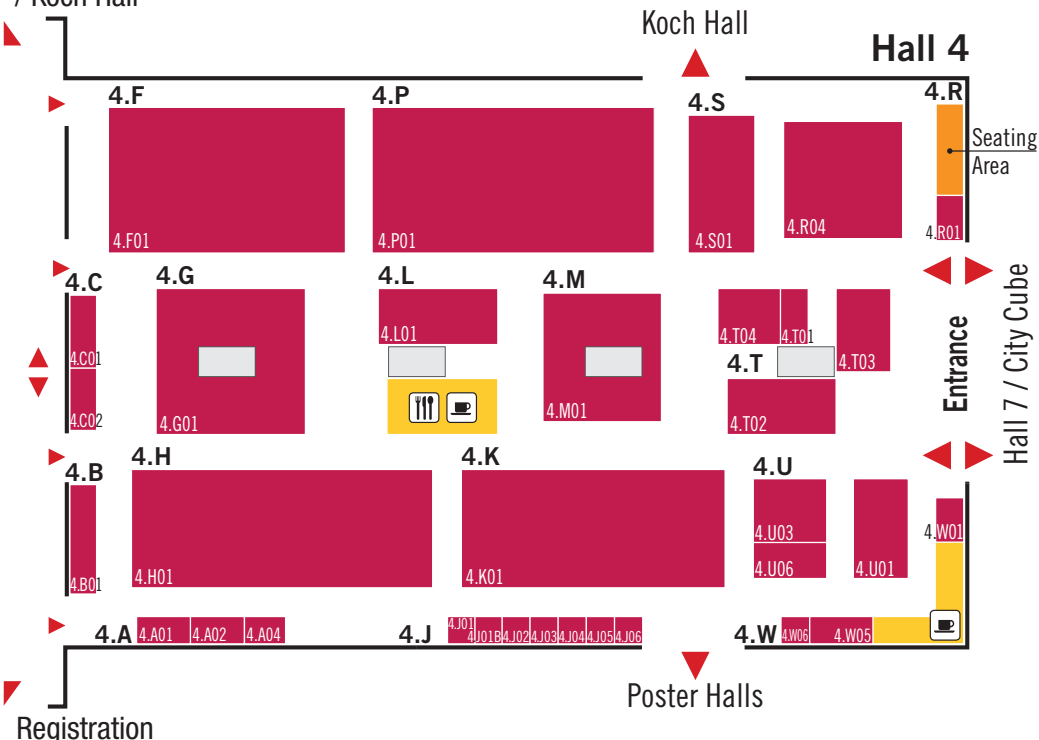


List of Exhibitors

Company	Booth	Company	Booth
A.Menarini Diagnostics	3.G02	EOFlow Co., Ltd.	3.Q02
Abbott	3.Q01	Eyenuk Inc	4.A01
Abbott Diabetes Care Inc.	3.F02	ForaCare Suisse AG	3.P08
ADELPHI REAL WORLD	3.Q06	Glenmark Pharmaceuticals Ltd	3.E03
Aegerion Pharmaceuticals	3.P06	Glooko + diasend®	3.P03
Apex Medical	3.L01	Gubra ApS	4.J01
AstraZeneca	4.K01	IDx	4.R01
Bayer AG	4.U03	Impeto Medical	3.C02
BERLIN-CHEMIE AG	4.L01	Institute for Scientific Information on Coffee	3.B03
Berpu Medical Technology Co.,Ltd.	3.B01	Insulet	3.P05
Bionime GmbH	3.U03	INVITALIS GmbH	3.G04
Boehringer Ingelheim	4.P01	i-SENS, Inc.	3.E01
Cellnovo	3.J04	JAMA Network	3.J05
CODHy	3.B02	Karger Publishers	3.A02
COSMED	3.C03	KoNECT (Korea National Enterprise for Clinical Trials)	3.A05
Dexcom, Inc.	3.G03	LG Chem	4.T02
Diabetes Knowledge in Practice	3.J06	LifeScan	4.B01
DiagnOptics Technologies BV	4.A04	Lilly Diabetes	4.S01
Diamesco Co., Ltd.	4.T04	Lupin Ltd	3.D1A
e-LinkCare Meditech Co., Ltd.	3.A06		

Poster Halls /

/ Koch Hall



Company	Booth	Company	Booth
MED TRUST Handelsges.m.b.H	3.C01	Research Diets, Inc.	3.A01
MEDEXEL CO., LTD	4.J01B	Roche Diabetes Care GmbH	3.F01
Medscape Diabetes & Endocrinology	3.K01	SANOFI	4.F01
Medtronic	4.U01	SD Biosensor Inc.	3.P02
Medtrum Technologies Inc.	3.K02	SERVIER	4.G01
Metabolic Endocrine Education Foundation (MEEF)	4.J02	SOOIL Development Co., Ltd.	3.G01
Metronom Health	3.P01	Springer Healthcare	3.D01
MicroTech Medical (Hangzhou) Co., Ltd.	3.J01	Tandem Diabetes Care	4.W01
MSD	3.H01	The NASH Education Program	4.A02
Mundipharma International Limited	4.R04	Trividia Health Inc.	3.K03
Mylan	3.M03	University of Leicester - Leicester Diabetes Centre	4.J03
Novartis Pharma AG	4.M01	VibroSense Dynamics	4.J05
Novo Nordisk A/S	4.H01/4.T03/4.U06/4.W05/4.W06	VivaChek Laboratories, Inc.	3.L01
Optomed Oy	4.J06	VPD, BLED, d.o.o.	3.D02
Pikdare S.r.l.	4.C01	Wisepress Ltd	3.T01
POCTech Medical	4.T01	Worldwide Initiative for Diabetes Education	3.J03
PrJSC "INDAR"	3.E02	Wuxi BioHermes Biomedical Technology Co., Ltd.	3.L01
ProSciento, Inc.	4.C02	Ypsomed AG	3.L06

Status August 2018, details are subject to changes.

WELCOME ADDRESS

On behalf of the EASD Executive Committee and the 2018 Scientific Programme Committee, I have the pleasure of inviting you to participate in the 55th EASD Annual Meeting and look forward welcoming you to Barcelona in September 2019.

Regardless of whether you are a clinician, basic scientist, nurse, healthcare professional or young academic, the EASD Annual Meeting delivers an abundance of new knowledge covering the latest innovations and developments in the treatment of type 1 and type 2 diabetes and their associated complications.



With its quintessential Mediterranean flair, Barcelona offers a multitude of options outside of the scientific programme hours. With its wealth of history, artistic charm, friendly atmosphere and outstanding cuisine, you will be sure to enjoy your time in this enchanting city.

You are also encouraged to submit your research for consideration for presentation during the meeting by submitting your abstract for review. I also call on the young diabetologists to join our next meeting of the EASD Young Academy which will take place in Barcelona.

The 55th Annual Meeting will begin with the Opening Ceremony on Tuesday, 16 September, and end with a Farewell Reception on Friday, 20 September.

We look forward to seeing you in Barcelona.

A handwritten signature in blue ink that reads "Francesco Beguinot". The signature is written in a cursive style and is positioned above a horizontal line.

Francesco Beguinot
Honorary Secretary

55th ANNUAL MEETING

EASD

**16 - 20 SEPTEMBER
BARCELONA 2019**



www.easd.org

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LIVE

EASD (LIVE)

Live Streams

TV

TV

Floorplan Berlin

Floorplan Berlin

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What's on now?

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Tuesday
2 October 2016

Wednesday
3 October 2016

Thursday
4 October 2016

Friday
5 October

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