



Bioinformatics-Applications in Human Genomics & Precision Medicine Congress

Exploring the techniques for sequencing, analyzing and interpreting the complex genomic data

**9th & 10th October 2017,
London-UK**



Event Overview

Bioinformatics has revolutionized the growth in the scale and complexity of biological data of the healthcare industry. Recent developments in the strategies and technologies like Big data, NGS and MicroArrays, has changed the pace and driven the industry of genomics and molecular medicine towards commercially viability and impromptu outcomes.

Bioinformatics-Applications in Human Genomics & Precision Medicine Congress to be held on **9th and 10th October 2017** in London, UK aims to bring leading-edge research on new technologies and techniques for processing, analyzing, and modeling of data and information in genomics and precision medicine.

Key Highlights

- **Data analysis and interpretation**
- **Computational chemogenomics**
- **Human genomic data analysis**
- **Molecular docking & protein modeling** for drug discovery
- **Computational methods for T-cell identification**
- **Next generation sequencing** for genome analysis
- **Big data** for large data storage
- **Data mining and RNA-seq analysis**

Who should attend?

From pharmaceutical and biopharmaceutical companies, computational biology, system biology and bioinformatics laboratories and research institutes:

VP, Director, COO, CSO, Scientist, Investigator, Professor, Scientific director, Project manager, Head of department, Software specialist working in:

- ✓ Computational biology
- ✓ Disease modeling & bioinformatics
- ✓ Drug discovery & bioinformatics
- ✓ Genetics
- ✓ Metabolomics
- ✓ Protein engineering
- ✓ Drug development & bioinformatics
- ✓ Computer science
- ✓ Life science
- ✓ Biomedical engineering
- ✓ Bioinformatics
- ✓ Systems biology
- ✓ Metabolic engineering
- ✓ Proteomics
- ✓ Oncology
- ✓ Molecular biology

For more information please contact Amit at
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Advisory Committee



Jens Koopmann,
Associate Director,
Medimmune, UK



Edoardo Missiaglia
Head of the Molecular
Diagnostic Unit
**Institute of Pathology,
CHUV, Switzerland**



Yonghong Peng
Professor of Data
Science
**University of
Sunderland, UK**

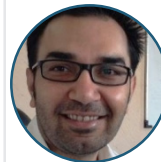
Expert Speaker Panel



Simon Forbes, Head
of COSMIC, **Sanger
Institute, UK**



Paul Smith, Director of
Science, **OncoTherics
Limited, UK**



Umar Niazi, Senior
Bioinformatician, **Kings
College London, UK**



Conor Barry, Head of
Analytical Sciences,
Spirogen, UK



Anneli Anderson,
Scientific Project
Manager, **NEBION AG,
Switzerland**



Edoardo Missiaglia,
Head of the Molecular
Diagnostic Unit, **Institute
of Pathology, CHUV,
Switzerland**



Yonghong Peng,
Professor of Data
Science, **University of
Sunderland, UK**



**Prof. Graham
Ball**, Professor of
Bioinformatics,
**Nottingham Trent
University, UK**



Owen Lancaster,
Bioinformatics and
Epidemiology Analyst,
Public Health England, UK



Prof. Mette M. Rosenkilde,
Head of Department
of Neuroscience and
Pharmacology, **University
of Copenhagen, Denmark**



**Prof. Michael J E
Sternberg**, Director, **Centre
for Integrative Systems
Biology and Bioinformatics
(CISBIO), UK**



Sebastian Tourlet,
Head of Translational
Bioinformatics Platform,
Ipsen Pharma, France



Edgar Jacoby, Senior
Principal Scientist,
Molecular Informatics,
**Janssen Pharmaceuticals,
Belgium**



Pedro Carmona-Saez,
Bioinformatics Head,
Genyo-Pfizer, Spain



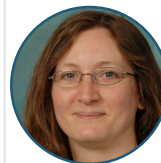
Daniel Muthas,
Computational Biologist,
AstraZeneca, Sweden



Liliana Greger, Head of
Bioinformatics, **Mission
Therapeutics, UK**



David Cook, Chief
Scientific Officer, **Blueberry
Therapeutics, UK**



Lori Snyder,
Associate Professor,
Biotechnology, **Kingston
University, UK**

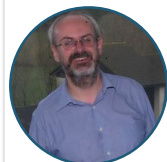


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Expert Speaker Panel >>



Peter Holmans,
Professor, Psychological
Medicine and Clinical
Neurosciences, **Cardiff
University, UK**



Geoffrey J Barton,
Professor of Bioinformatics
and Head of Computational
Biology, **University of
Dundee, Scotland**



Mats Sundgren, Director
Health Informatics, Global
Medicine Development,
**Astrazeneca R&D,
Sweden**



Sonali Quantius,
Director Computational
Biology, **GSK, UK**



Manuel Corpas
Scientific Lead
Repositive, UK



David Fergusson
Head of Research
Services
**University of
Edinburgh, UK**



Anneli Anderson
Scientific Project
Manager
**NEBION AG,
Switzerland**



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Day 1, Monday 9th October 2017

- 08:15** **Registration**
- 08:55** **Welcome note from MarketsandMarkets**
- 09:00** **Opening Remarks from the Chairman**
- 09:05** **Keynote Presentation Cloud computing: a new business paradigm for biomedical information sharing**
David Fergusson, Head of Research Services, University of Edinburgh, UK

Computational biology and Processing >>>

- 09:30** **Genome Sequencing and interpretation-Describing the phenome**
- 09:55** **The Human Genome Data Access Bottleneck**
- Current system for finding and accessing deposited genome datasets
 - Maintaining and archiving controlled access genome datasets are barely serving their purposes of enabling data re-utilization
 - Address this bottleneck, access protocols and dataset descriptors require better coordination and standardization

Manuel Corpas, Scientific Lead, Repositive, UK



10:10 **Morning Refreshments and Poster Presentation | One-to-One Networking Meetings**

- 11:00** **The future of computational chemogenomics**
- Chemogenomics in drug discovery : applications
 - 2nd generation of chemogenomics molecular information systems
 - Chemogenomics beyond drug discovery – agro and nutrition sectors

Edgar Jacoby, Senior Principal Scientist, Molecular Informatics, Janssen Pharmaceuticals, Belgium

- 11:25** **How the latest genomics technologies combined with bioinformatics can benefit public health**
Owen Lancaster, Bioinformatics and Epidemiology Analyst, Public Health England, UK

- 11:50** **Presentation by**
Anneli Anderson, Scientific Project Manager, NEBION AG, Switzerland



- 12:05** **Predictions from Data Science: Drug repurposing and combinations and Detection of Patient Populations**
- Coverage of unmet need space in medicine and the pharmacological potential of drugs
 - Increase the value of assets by developing in new indications and/or new drug combinations
 - Translational bioinformatics and data sciences can support drug development to establish the molecular & scientific rational

Sebastian Tourlet, Head of Translational Bioinformatics Platform, Ipsen Pharma, France

12:30 **Lunch and Poster Presentation | One-to-One Networking Meetings**

- 13:30** **Solution Provider Presentation: Please contact Stein Abraham at stein.abraham@marketsandmarkets.com**

- 13:45** **Linking Target/Drug to a Responder Population**
- The generation of a compound-related gene signature via an internal RNASeq study
 - The derivation of a target related signature via pathway analysis
 - Exploration of potential patient populations within the UBIOPRED cohort
- Daniel Muthas, Computational Biologist, Astrazeneca, Sweden**

- 14:10** **Solution Provider Presentation: Please contact Stein Abraham at stein.abraham@marketsandmarkets.com**



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14:25 **Bioinformatics approaches and resources for single nucleotide polymorphism analysis**
Pedro Carmona-Saez, Bioinformatics Head, **Genyo-Pfizer, Spain**

14:50 Solution Provider Presentation: Please contact Stein Abraham at stein.abraham@marketsandmarkets.com

15:05 **Afternoon Refreshments and Poster Presentation | One-to-One Networking Meetings**

15:50 **Sequence variations in the human pathogen *Neisseria gonorrhoeae* and related species**
• Investigations into changes in the genome sequence of a single strain of *Neisseria gonorrhoeae* over time
• Assessment of genomic data from species related to *N. gonorrhoeae*
• Influence of sequence variation and gene complement within the genus
Lori Snyder, Associate Professor, Biotechnology, **Kingston University, UK**

16:15 Solution Provider Presentation: Please contact Stein Abraham at stein.abraham@marketsandmarkets.com

16:30 **Finding the diamond in the rough-Highly associated genes in co-expression networks as diagnostic biomarkers**
• An approach to construct a co-expression network of genes in an experimental condition
• Integrating prior information from database knowledge and multiple current experiments
• Genes with high centrality scores in such networks are good diagnostic biomarkers
Umar Niazi, Senior Bioinformatician, **Kings College London, UK**

Genomic Diagnostics and Precision Medicine >>>

16:55 **Identification of novel functional sites in protein domains from the analysis of human variation**
• A new analysis to compare the growing publically available variation data for human with protein sequence variation
• Nuclear Receptor Ligand Binding Domains and G-protein coupled receptors (GPCRs)
• Interpretation of nsSNPs in context with disease studies
Geoffrey J Barton, Professor of Bioinformatics and Head of Computational Biology, **University of Dundee, Scotland**

17:20 **Pathway analyses of genome-wide data: inferring the biology of complex genetic disorders**
• Overview of pathway analysis methods for genome-wide data (GWAS, CNV)
• Integration of bioinformatics data (expression, protein) with genetic data
• Pathway analysis across disorders
Peter Holmans, Professor, Psychological Medicine and Clinical Neurosciences, **Cardiff, UK**

17:45 **Closing remarks from the Chairman**

17:55 **Drinks Reception and Networking**

End of Day 1



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Day 2, Tuesday 10th October 2017

- 08:15** **Registration**
- 08:55** **Welcome note from MarketsandMarkets**
- 09:00** **Opening Remarks from the Chairman**
- 09:05** **Keynote Presentation: Genome Data Analytics in Precision Medicine**
- **Ecosystem for genome data analytics in precision medicine**
 - Integration of multiple genome enabling the effective knowledge discovery
 - Advanced machine learning/deep learning to unlock the value of genome data
 - Case study of using genome data in precision medicine
- Yonghong Peng**, Professor of Data Science, **University of Sunderland, UK**

Genomic Diagnostics and Precision Medicine >>>

- 09:30** **Modelling disease-associated genetic variants: from structure to precision medicine**
- Phyre2 to predict protein structure from sequence
 - SuSPect to predict the phenotype of genetic variants
 - Data integration and precision medicine
- Prof. Michael J E Sternberg**, Director, **Centre for Integrative Systems Biology and Bioinformatics (CISBIO), UK**
- 09:55** **Solution Provider Presentation: Please contact Stein Abraham at stein.abraham@marketsandmarkets.com**
- 10:10** **Morning Refreshments and Poster Presentation | One-to-One Networking Meetings**
- 11:00** **Solution Provider Presentation: Please contact Stein Abraham at stein.abraham@marketsandmarkets.com**
- 11:30** **Application of High-throughput sequencing (HTS) in molecular diagnostics**
- Setting of the HTS for clinical application
 - Use of the HTS as routine diagnostic tool with some examples
 - Benefits and pitfalls of these assays
- Edoardo Missiaglia**, Head of the Molecular Diagnostic Unit, **Institute of Pathology, CHUV, Switzerland**
- 11:55** **Approaches of Omics-based strategy in precision/molecular medicine**
- Liliana Greger**, Head of Bioinformatics, **Mission Therapeutics, UK**
- 12:20** **Solution Provider Presentation: Please contact Stein Abraham at stein.abraham@marketsandmarkets.com**
- 12:45** **Lunch and Poster Presentation | One-to-One Networking Meetings**

Functional Genomics >>>

- 13:45** **COSMIC: Exploring cancer genetics at high resolution**
- Curated mutations into the COSMIC database, describing all diseases
 - Post-therapeutic mutations cause resistance to pharmaceutical treatment
 - In detail to guide further pharmaceutical development
- Simon Forbes**, Head of COSMIC, **Sanger Institute, UK**
- 14:10** **Novel Bioinformatics Tools for the Development of Antibody-Drug Conjugates**
- Antibody-drug conjugates (ADCs) are complex biologics with many possible combinations of antibody, drug and conjugation type/site
 - Identifying the best candidate ADCs for pre-clinical development can be challenging due to the many **possible variations**
 - This presentation will discuss novel bioinformatics tools which may be of benefit in ADC pre-clinical R&D
- Barry Conor**, Head of Analytical Sciences, **Spirogen, UK**



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- 14:35** **Metamining breast cancer data to investigate drivers of proliferation using an artificial neural network based approach**
- Data mining of molecular data from expression arrays.
 - Integration of top derived biomarkers list from multiple data sets for multiple proliferation related questions in breast cancer.
 - Utilisation of network inference techniques to identify the most influential markers associated with proliferation and thus determine the key drivers
- Graham Ball**, Professor of Bioinformatics, **Nottingham Trent University, UK**

15:00 **Afternoon Refreshments and Poster Presentation | One-to-One Networking Meetings**

- 15:40** **Tumor Microenvironments & Therapeutic Targeting**
- Cytometric techniques involving novel probes and model systems together with their applications in the development of targeted therapeutic agents
 - Recent clinical and research experience suggests that the targeting of hypoxic cells in tumor regions can enhance the effectiveness of combination treatments
 - The development of unidirectional hypoxia activated prodrug (uHAP) technology
- Paul Smith**, Director of Science, **OncoTherics Limited, UK**

Bioinformatics towards a Data-Intensive Era >>>

- 16:05** **Use of genomics and bioinformatics in designing and developing new treatments for infectious disease: can small business afford to play with big data?**
- The need for new anti-infection treatments and the challenges in developing these treatments
 - Why hasn't genomics and bioinformatics solved the antibiotic crisis?
 - How can these technologies help?
 - Is the big data game too expensive for small business: a personal perspective?
- David Cook**, Chief Scientific Officer, **Blueberry Therapeutics, UK**
- 16:30** **Optimise your clinical trials using Electronic Health Records**
- The EHR4CR project background and output
 - Deployment towards a scalable and sustainable eco system of EHR driven services
 - The EHR4CR InSite Champion Program in collaboration with the European Institute for Innovation through Health Data
- Mats Sundgren**, Director Health Informatics, Global Medicine Development, **AstraZeneca R&D, Sweden**
- 16:55** **Development of GIP receptor antagonists to reveal the role of GIP in physiology and pathophysiological conditions like obesity and T2D**
- Discovery and development of the first GIP receptor antagonist (AT020)
 - Inhibition of GIP-induced vasodilatory effect in subcutaneous abdominal adipose tissue and triglyceride (TAG)
 - The important role of GIP in lipid and glucose homeostasis and its possible role in the pathogenesis of obesity
- Prof. Mette M. Rosenkilde**, Head of Department of Neuroscience and Pharmacology, **University of Copenhagen, Denmark**
- 17:20** **End of Conference**