



World Sleep 2019

SEPTEMBER 20-25, 2019 • VANCOUVER, CANADA



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WORLD SLEEP SOCIETY
ADVANCING SLEEP HEALTH WORLDWIDE



Canadian Sleep
Society



Société Canadienne
du Sommeil

PROGRAM HIGHLIGHTS

- Schedule
- Courses
- Keynotes
- Symposia
- Abstracts
- Posters
- Exhibitors
- Sponsors

PRELIMINARY
SCIENTIFIC PROGRAM

SAVE THE DATE

THE INTERNATIONAL PEDIATRIC SLEEP
ASSOCIATION PRESENTS:

IPSA 2020

BRISBANE

October 20-24, 2020



"Join us in Brisbane at our 6th IPSA congress
in October 2020!"

– **CHRISTIAN GUILLEMINAULT,**
President of the International Pediatric Sleep Association

For more information visit, www.pedsleep.org

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ipsa international pediatric
sleep association

mission

The International Pediatric Sleep Association operates exclusively for scientific and educational purposes, and more specifically:

- To promote basic and applied research in all areas of sleep in infants, children and adolescents
- To promote teaching programmes on pediatric sleep, and the coordination of these programmes among the different member and societies
- To hold scientific meetings
- To provide information to the public about perspectives and applications of pediatric sleep research
- To increase the knowledge of pediatric sleep problems and their consequences
- To provide a forum for the exchange of information pertaining to pediatric sleep research
- To establish and maintain standards of reporting and classifying data in the field of pediatric sleep research

ipsa board

- President Christian Guilleminault (USA)
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www.pedsleep.org



Dear Colleagues,

As President of World Sleep Society, I am delighted to invite you to attend World Sleep 2019 from September 20-25, 2019 in Vancouver, Canada. As a busy professional and researcher, I understand calendars and budgets fill out sooner than expected so may I suggest you add this meeting to your 2019 calendar now.

Why should you attend World Sleep 2019? For the opportunity to network with top sleep experts throughout the world, share clinical and/or research ideas, and disseminate your own patient or study findings on a worldwide stage.

If you are a trainee, new clinician, or young investigator, World Sleep 2019 will provide opportunities for you to learn from and be mentored by experienced sleep experts – the best in the field! Mid- or late-career clinician/researchers will benefit from the latest breakthroughs worldwide that could be implemented in your practice or research.

We are anticipating a global attendance around 2,600-3,000. At our 2017 congress, 76 countries were represented. Our full scientific program is expected to offer more than 250 hours of scientific content.

I invite you to help us bring fresh ideas and perspectives to the sleep field. I look forward to seeing you in beautiful Vancouver!

Sincerely,

Charles Morin

Charles M. Morin, PhD
President, World Sleep Society



2019 PROGRAM COMMITTEE



Maree Barnes, MD
Institute for Breathing and Sleep,
Austin Hospital
Heidelberg, Australia



Clete Kushida, MD, PhD, FAASM
Chief & Medical Director, Division of Sleep Medicine
Professor, Department of Psychiatry and Behavioral
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California, United States



Célyne Bastien, PhD
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Brain Research Institute
Québec, QC, Canada



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Sleep Research Centre and School of Psychology
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Allan O'Bryan
World Sleep Society
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McGill University
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Thomas Penzel, PhD
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Somnology, Tokyo Medical University Yoyogi
Sleep Disorder Center,
Japan Somnology Center
Toyko, Japan



Dalva Poyares, MD, PhD
Federal University of São Paulo
São Paulo, Brazil

About the Organizers

WORLD SLEEP SOCIETY (founded by World Association of Sleep Medicine and World Sleep Federation) has collaborated with the **CANADIAN SLEEP SOCIETY** to host **WORLD SLEEP 2019**. The venue selected for the congress on sleep medicine from **SEPTEMBER 20-25, 2019** in Vancouver, Canada is the Vancouver Convention Centre. On British Columbia's waterfront with mountain backdrop, the Vancouver Convention Centre offers convenient access to downtown visitor amenities.



The Canadian Sleep Society is a national organization committed to improving sleep for all Canadians through: support for research, promotion of high-quality clinical care, education of professionals and the public, and advocacy for sleep and sleep disorders medicine. Learn more at www.css-scs.ca.



Founded by WORLD ASSOCIATION OF SLEEP MEDICINE and WORLD SLEEP FEDERATION

The fundamental mission of the World Sleep Society is to advance sleep health worldwide. World Sleep Society will fulfill this mission by promoting and encouraging education, research and patient care throughout the World, particularly in those parts of the world where the practice of sleep medicine is less developed. World Sleep Society will act as a bridge between different sleep societies and cultures, supporting and encouraging worldwide exchange of clinical information and scientific studies related to sleep medicine. World Sleep Society will seek to encourage development and exchange of information for world-wide and regional standards of practice for sleep medicine.

2019 Local Organizing Committee

Fernanda Almeida (Canada)
Najib Ayas (Canada)
Célyne Bastien (Canada)
John Fleetham (Canada)
Reut Gruber (Canada)

2019 Congress Courses Committee

Maree Barnes (Australia)
Reut Gruber (Canada)
Robert Thomas (United States)

Technologist Committee

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Laree Fordyce (Canada)
Shalanda Mitchell (United States)
Thomas Penzel (Germany)
Andrea Ramberg (United States)
Rogerio Santos-Silva (Brazil)

Trainee Day Committee

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Michael Braganza (Canada)
Johnathan Charest (Canada)
Kevin Grace (Canada)
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Indra Narang (Canada)
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Célyne Bastien (Canada)
Rob Comey (Canada)
James Lee (Canada)
Gordon Stahl (Canada)

Dental Committee

Fernanda Almeida (Canada)
Nelly Huynh (Canada)
Kate Sutherland (Australia)

Opening Ceremony

Sunday, September 22 | 6-8pm

The Opening Ceremony of World Sleep 2019 will take place at the Vancouver Convention Center in Ballroom A, the hub of the World Sleep 2019 congress. The ceremony will feature award presentations, entertainment and networking. Join your colleagues to enjoy music, entertainment, and beverages from around the world.

Gala Dinner



Monday, September 23 | 6-9pm

Purchase a ticket or table to join colleagues at the Gala Dinner in Banquet Room 301 of the Vancouver Convention Centre.

Blues Night

Monday, September 23 | 8:30pm – 12am

Celebrate sleep! Immediately following the Gala Dinner, join colleagues for live musical entertainment, cold hors d'oeuvres, cash bar and dancing in Banquet Room 305 of the Vancouver Convention Centre. Included in registration; no ticket needed.

Closing Ceremony

Wednesday, September 25 | 6-7pm

The Closing Ceremony will be in Ballroom A of the Vancouver Convention Center. All participants and exhibitors are invited to join. Before leaving, enjoy discussing the latest science and research you discovered at World Sleep 2019, as well as a special presentation from the hosts of the next congress: World Sleep 2021.

Contact Information

World Sleep Society
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worldsleepcongress.com

World Sleep 2019 Venue

Vancouver Convention Centre West
1055 Canada Pl
Vancouver, BC V6C 0C3
www.vancouverconventioncentre.com

Registration Questions

<https://worldsleepcongress.com/registration-help>

Exhibitors & Sponsors

Allan O'Bryan
obryan@worldsleepsociety.org

Host Hotels

Vancouver Marriott Pinnacle Downtown
1128 West Hastings Street
Vancouver, BC V6E4R5

Four Seasons Hotel Vancouver
791 W Georgia Street
Vancouver, BC V6C 2T4

Pinnacle Hotel Harbourfront
1133 West Hastings Street
Vancouver, British Columbia V6E 3T3

Westin Bayshore
1601 Bayshore Drive
Vancouver, BC V6G 2V4

Hotels & Lodging

<https://worldsleepcongress.com/vancouver/hotel>

Group Block Housing Requests

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Course, Symposia and Abstracts

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Press & Public Relations

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Exhibit Hall Questions

Gina Dewink
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CME Questions

Angie Granum
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Continuing Education (CE)

This activity will be planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME), and applicable governing bodies.

Type	Add-on Cost for Credits
Continuing Medical Education (CME).....	\$25
Continuing Education (CE).....	\$25
Continuing Sleep Technology Education Credits (CSTE).....	\$25

PROGRAM TYPES

Symposium	Course	Dental Symposium	Basic Science Symposium
Satellite Symposium	Social Event	Pediatric Symposium	Affiliated Meeting
Keynote	Poster Abstract	Exhibition	Administration
Oral abstracts	Surgery Symposium	Technologist Program	Panel Discussion

WORLD SLEEP 2019 features the most current, world-class scientific content in the field of sleep medicine and research. Plan to attend keynote presentations by some of the brightest minds in the field.

**Ballroom A****Charles M. Morin, PhD**

Professor of Psychology, Director Sleep Research Centre at Université Laval in Quebec City (Canada)

K01: Insomnia: Public health burden and new trends in treatment development and dissemination

Monday

8:00am - 8:45am

Insomnia is a prevalent public health problem associated with significant burden for the individual (e.g., increased risks of depression and hypertension) and for society (e.g., increased disability and absenteeism from work). There is solid evidence that cognitive behavioral therapy for insomnia (CBT-I) is effective, safe, and well accepted by patients.

**Ballroom A****Mary A. Carskadon, PhD**

Professor, Psychiatry and Human Behavior, Warren Alpert Medical School of Brown University | Director, Chronobiology and Sleep Research Laboratory, EP Bradley Hospital (United States)

K02: Adolescent sleep: Timing is everything...or is it?

Monday

2:00pm - 2:45pm

A major focus of Dr. Carskadon's scientific activities is research examining interrelations between the circadian timing system and sleep/wake patterns of children, adolescents, and young adults. Her findings have raised public health issues regarding the consequences of insufficient sleep for adolescents as well as concerns about early starting times of schools.

**Room 118****Peter Cistulli, MD, PhD**

Professor of Sleep Medicine, Charles Perkins Centre, University of Sydney
Director, Centre for Sleep Health & Research
Royal North Shore Hospital (Australia)

K03: Oral appliance therapy for obstructive sleep apnea: Ready for prime time

Monday

2:00pm - 2:45pm

Oral appliances (OA) have emerged as the leading alternative to positive airway pressure (PAP) for Obstructive Sleep Apnoea (OSA) treatment. There is a strong evidence base demonstrating OA therapy improves OSA in the majority of patients, including some with more severe disease. They are generally well tolerated, and patients often prefer OA over PAP treatment. Despite the superior efficacy of PAP over OA, randomized controlled trials comparing the two indicate similar improvement in health outcomes such, as sleepiness, quality of life, driving performance, blood pressure, and other cardiovascular measures. The evidence base strongly supports the use of OA therapy in the management of OSA.

**Ballroom A****Dieter Riemann, PhD**

Professor of Clinical Psychophysiology | Head of the Dept. of Clinical Psychology & Psychophysiology
Centre for Mental Disorders, Medical Faculty, University of Freiburg (Germany)

K04: Sleep, insomnia and mental health: A chance for prevention?

Tuesday

8:00am - 8:45am

Almost all mental disorders are accompanied by sleep disturbances, especially depressive disorders. In this patient group, not only rather specific changes of REM sleep (shortening of REM sleep latency) and a decrease of Slow Wave Sleep occur, but from a clinical point of view insomnia complaints (prolonged sleep latency, sleep maintenance problems, early morning awakening) may dominate the picture.

75+
COUNTRIES

2,700
ATTENDEES

320+
HOURS OF LEARNING

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.



Room 211

Eve Van Cauter, PhD

Professor, Department of Medicine –
Section of Endocrinology, Diabetes
and Metabolism
University of Chicago (United States)

**K05: Interactions between
Sleep, circadian rhythms and
body weight regulation**

Tuesday
8:00am - 8:45am

This lecture will review and discuss the epidemiologic evidence that has linked insufficient sleep duration, poor sleep quality and/or circadian misalignment to the risk of obesity, noting that sleep deficiency and circadian disruption strongly interact.



Room 211

Masashi Yanagisawa, MD, PhD

Director and Professor, International
Institute for Integrative Sleep Medicine
(WPI-IIS), University of Tsukuba (Japan)
Adjunct Professor, Molecular Genetics
Neuroscience, UT Southwestern Medical
Center (United States)

**K07: Toward the mysteries of
sleep**

Tuesday
2:00pm - 2:45pm

Although the executive neurocircuitry and neurochemistry for sleep/wake switching has been increasingly revealed in recent years, the fundamental mechanism for homeostatic regulation of sleep, as well as the neural substrate for “sleepiness” or sleep need, remains unknown. We have initiated a large-scale (>9,000 mice thus far) forward genetic screen of sleep/wake phenotype in ENU-mutagenized mice based on EEG/EMG measurements. Indeed, through a systematic cross-comparison of the hypersomnia Sleepy mutants and sleep-deprived wildtype mice, we have recently found that the cumulative phosphorylation state of a specific set of mostly synaptic proteins may be the molecular substrate of sleep need (*Nature* 558:435-439, 2018).



Ballroom A

Luciano Drager, MD, PhD

Hypertension Units from Heart Institute
(InCor) and Renal Division
University of Sao Paulo Medical School
(Brazil)

**K06: Sleep-related breathing
disorders**

Tuesday
2:00pm - 2:45pm

Sleep-related breathing disorders will be discussed within this keynote presentation.



Room 212

Diego García-Borreguero, MD, PhD

Neurologist, Director
Sleep Research Institute, Madrid (Spain)

**K08: Restless legs syndrome/
periodic limb movements of
sleep: New insights into
neurobiology and treatment**

Tuesday
2:00pm - 2:45pm

Restless legs syndrome (RLS) is a common chronic neurological disorder that manifests through sensorimotor symptoms that interfere with rest and sleep. It has a wide spectrum of symptom severity affecting not only quality of life but also possibly increasing cardiovascular risk.

**Ballroom A****Clare Anderson, PhD**

Associate Professor, Monash Institute of Cognitive & Clinical Neuroscience, and School of Psychological Sciences | Monash University (Australia)

Wednesday
8:00am - 8:45am

K09: Biomarkers and determinants of drowsy driving: Advances in reducing crash risk

Drowsiness remains a significant cause of motor vehicle crash, responsible for approximately 20% of all crashes. This talk will examine current approaches to reducing the impact of drowsy driving, including (i) understanding of the characteristics of drowsiness-related motor vehicle crashes, beyond falling asleep (e.g., gaze allocation and distractibility); (ii) an evaluation of the available technologies that map onto these different signatures of impairment; (iii) a look into the future of roadside testing, including the development of novel biomarkers of the drowsy state that yield promise for implementation into road side tests; and (iv) revisiting the associations between subjective awareness of drowsiness and adverse driving events.

**Room 211****Seung Bong Hong, MD, PhD**

Department of Neurology
Sungkyunkwan University
(Republic of Korea)

Wednesday
8:00am - 8:45am

K10: Perspectives of neuroimaging in sleep disorders

Within this keynote presentation, the perspectives of neuroimaging in sleep disorders will be discussed.

**Ballroom A****Atul Malhotra, MD**

Chief of Pulmonary, Critical Care and Sleep Medicine | Kenneth M. Moser Professor
Director of Sleep Medicine, UC San Diego Health System (United States)

Wednesday
2:00pm - 2:45pm

K11: Sleep apnea endotypes and phenotypes: Use of new technology in obstructive sleep apnea

Obstructive sleep apnea (OSA) afflicts up to 1 billion people worldwide. OSA treatment is clearly beneficial yet limited by variable efficacy and/or incomplete adherence to therapy. We have used a mechanistic approach to understand the endotypes underlying OSA with a view towards personalizing treatment based on individual characteristics.

**Room 212****Yves Dauvilliers, MD, PhD**

Professor of Neurology and Physiology |
Director of the Sleep Disorders Centre
University of Montpellier (France)

Wednesday
2:00pm - 2:45pm

K12: From somnolence in the general population to narcolepsy

This keynote presentation will discuss sleep disorders such as narcolepsy and somnolence within the general population.

SATURDAY, SEPTEMBER 21, 2019	
Speaker Ready Room	7:00am – 5:00pm Room 201
C01 Pediatric sleep	8:00am – 5:00pm Room 118
C02 Obstructive sleep apnea: Diagnosis and management	8:00am – 5:00pm Room 119
C05 Recent advances in RLS treatment	8:00am – 12:00pm Room 120
C06 Polysomnographic measurements during sleep, beyond the AHI	8:00am – 12:00pm Room 121
C07 Circadian clinical science	8:00am – 12:00pm Room 122
Sleep disorders primary care education course	8:00am – 4:50pm Room 222
Sleep-circadian biomarkers workshop	8:00am – 11:45am Room 111
C17 Dental sleep medicine (part 1)	8:30am – 5:00pm Room 224
Understanding Narcolepsy and Hypersomnia: Insights and Perspectives	8:30am – 4:30pm Room 109
Vigilance & Wake-A-Thon's	9:00am – 5:00pm Room 117
C08 Staging and scoring	1:00pm – 5:00pm Room 114
C09 Portable devices for clinical practice and sleep research	1:00pm – 5:00pm Room 121
C10 Circadian basic science: Human circadian rhythms from OMICS to behavior	1:00pm – 5:00pm Room 122
C15 Parasomnia	1:00pm – 5:00pm Room 120
Sleep Technologist Certification: Education, eligibility and examinations	5:00pm – 7:00pm Room 107
SUNDAY, SEPTEMBER 22, 2019	
Speaker Ready Room	7:00am – 5:00pm Room 201
C03 Sleep health in women	8:00am-5:00pm Room 118
C04 Year in review	8:00am-5:00pm Room 119
C11 Chronic insomnia: Assessment, diagnosis and management (part 1)	8:00am-12:00pm Room 120
C12 Aging, neurodegeneration and sleep	8:00am-12:00pm Room 121
C13 Cardiovascular consequences of sleep apnea	8:00am – 12:00pm Room 122
Sleep-circadian informatics data harmonization	8:00am – 11:45am Room 111
Technologist workshop	8:00am – 4:00pm Room 221
International Restless Legs Syndrome Study Group annual meeting & course	8:00am – 4:00pm Room 220
Trainee Research Day	8:00am – 4:00pm Room 222
C17 Dental sleep medicine (part 2)	8:30am – 12:50pm Room 224
The Great Canadian Sleepwalk: The road to good nights	9:30am – 11:00am Devonian Harbour Park
C14 Chronic insomnia: Assessment, diagnosis and management (part 2)	12:45pm – 4:00pm Room 120

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

 C16 Narcolepsy and other hypersomnias: Diagnostic approach and management	1:00pm – 5:00pm Room 122
 A critical review of orofacial myofunctional therapy & sleep disordered breathing: Phenotyping, clinical markers, and early intervention	1:00pm – 5:45pm Room 224
 Management of sleep related breathing disorder seminar: A surgical perspective	2:00pm – 6:00pm Room 12
 Poster session 1	4:30pm – 6:00pm Exhibition Hall
 Opening Ceremony	6:00pm – 8:00pm Ballroom A
MONDAY, SEPTEMBER 23, 2019	
 Speaker Ready Room	7:00am – 5:00pm Room 201
 K01: Insomnia: Public health burden and new trends in treatment development and dissemination	8:00am – 8:45am Ballroom A
 S01: Opioids and sleep disordered breathing: From biomedical research to clinical practice	9:00am – 10:30am Ballroom A
 S02: Sleep, sleep disorders and perioperative care	9:00am – 10:30am Room 118
 S24: Prognostic value of the different available methods for upfront prediction of treatment outcome with non-CPAP therapy towards a more personalized treatment of obstructive sleep apnea	9:00am – 10:30am Room 119
 S04: The subjective experience of sleep: Emerging objective correlates	9:00am – 10:30am Room 121
 S05: Sleep and bidirectional changes in synaptic plasticity: The untold story	9:00am – 10:30am Room 211
 S06: Effects of sleep and sleep loss on synaptic function	9:00am – 10:30am Room 212
 S07: Innovative multi-cultural approaches to sleep health education for children and families	9:00am – 10:30am Room 219
 S08: Sleep-disordered breathing and maternal and fetal outcomes of pregnancy	9:00am – 10:30am Room 220
 Oral abstracts	9:00am – 10:30am Room 221
 Technologist workshop	9:00am – 10:30am Room 223
 Exhibition	10:00am – 4:00pm Exhibition Hall
 Society symposium ESRS and WSS	10:45am – 12:15pm Ballroom A
 D01: Defining and identifying "restless sleep disorder" among sleep disorders of childhood	10:45am – 12:15pm Room 118
 S09: Treatment modalities for sleep apnea patients with complex comorbidities	10:45am – 12:15pm Room 119
 S10: Bridging basic research to clinical aspects in REM sleep behavior disorder: From bench to bed	10:45am – 12:15pm Room 121
 S11: Large-scale genomic studies advancing understanding of sleep and circadian biology and disorders in humans	10:45am – 12:15pm Room 211
 S12: Using sleep to maximize the mental and cognitive health of young people around the world	10:45am – 12:15pm Room 212
 S13: Sleepy Heads and Anesthesia: Anesthetic implications of disorders of daytime hypersomnolence	10:45am – 12:15pm Room 219
 S14: Multidimensional sleep health: A new paradigm for understanding sleep-health relationships	10:45am – 12:15pm Room 220
 Oral abstracts	10:45am – 12:15pm Room 221
 Technologist workshop	10:45am – 12:15pm Room 223

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

[MONDAY CONTINUED]	
Technologist workshop	11:30am – 12:30pm Room 223
Technologist workshop	11:30am – 12:30pm Room 223
Waking up to narcolepsy: Strategies to improving outcomes	12:30pm – 2:00pm Ballroom A
Nox Medical Industry Workshop	1:00pm – 1:45pm Room 221
ProSomnus Industry Workshop	1:00pm – 1:45pm Room 223
Meet the Professor Lunch	1:45pm – 2:45pm Room 121
K02: Adolescent sleep: Timing is everything...or is it?	2:00pm – 2:45pm Ballroom A
K03: Oral appliance therapy for obstructive sleep apnea: Ready for prime time	2:00pm – 2:45pm Room 118
S15: Management of sleep disordered breathing in specific populations: New insights from recent publications	3:00pm – 4:30pm Ballroom A
D02: Alternative diagnostic approaches to childhood obstructive sleep apnea	3:00pm – 4:30pm Room 118
S16: Imaging and sleep apnea: Can we predict the presence of disease and treatment outcomes?	3:00pm – 4:30pm Room 119
S17: Frontiers of dissemination of CBT for sleep and circadian problems in mental and physical health	3:00pm – 4:30pm Room 121
S18: The molecular and physiological mechanisms of sleep	3:00pm – 4:30pm Room 211
S19: Novel strategies to personalize OSA treatment and care from adolescents to adults	3:00pm – 4:30pm Room 212
S20: Pathophysiological insights from animal models of restless legs syndrome	3:00pm – 4:30pm Room 219
Oral abstracts	3:00pm – 4:30pm Room 216
Technologist workshop	4:00pm – 5:00pm Room 223
S21: The nature of arousals: An update for the 21st century	4:30pm – 6:00pm Ballroom A
D03: Sleep medicine and research training opportunities throughout the world	4:30pm – 6:00pm Room 118
S22: Advances in precision application of dental appliances: Indications, design, and prognostic risk	4:30pm – 6:00pm Room 119
S23: Using eHealth to bridge the gap between research and practice for insomnia: Examples from across the lifespan	4:30pm – 6:00pm Room 121
S25: Sleep-wake disturbance and the aging brain: Insights into the impact of poor sleep and sleep-disordered breathing on neurodegeneration	4:30pm – 6:00pm Room 212
S26: New insights on sleep at high altitude	4:30pm – 6:00pm Room 219
Oral abstracts	4:30pm – 6:00pm Room 220
Oral abstracts	4:30pm – 6:00pm Room 221
Sleep in space	5:00pm – 6:00pm Room 223
Gala Dinner	6:00pm – 9:00pm Banquet Room 301
Technologist Social Evening	6:00pm – 9:00pm Foyer
Blues Night	8:30pm - 12:00am Banquet Room 305

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

TUESDAY, SEPTEMBER 24, 2019	
■ Speaker Ready Room	7:00am – 5:00pm Room 201
■ K04: Sleep, insomnia and mental health: A chance for prevention?	8:00am – 8:45am Ballroom A
■ K05: Interactions between sleep, circadian rhythms and body weight regulation	8:00am – 08:45am Room 211
■ S27: Placing patient needs first: Designing personalized care in sleep medicine	9:00am – 10:30am Ballroom A
■ S28: New insights into light's non-visual impact on sleep and circadian physiology	9:00am – 10:30am Room 118
■ S29: Memory processing as a biological drive for sleep? The impact of waking cognition on subsequent sleep: Evidence from basic and clinical research	9:00am – 10:30am Room 119
■ S30: REM Sleep and insomnia: So emotional!	9:00am – 10:30am Room 121
■ S31: New sleep circuits and their role in disorders	9:00am – 10:30am Room 211
■ S03: Combination therapy approaches for OSA: Can we improve effectiveness?	9:00am – 10:30am Room 119
■ S32: Cross-cultural sleep: Sleep around the world and across the lifespan	9:00am – 10:30am Room 219
■ Oral abstracts	9:00am – 10:30am Room 216
■ Technologist workshop	9:00am – 10:30am Room 223
■ SRS-CSS Frontiers: Sleeping well and staying in rhythm	9:00am – 10:00am Room 220
■ SRS-CSS Frontiers: Sleep: Impact on physiology and public health	10:15am – 12:00pm Room 220
■ Exhibition	10:00am – 4:00pm Exhibition Hall
■ S33: Insomnia Symposium: Content TBD	10:45am – 12:15pm Ballroom A
■ D04: Melatonin use in children: The promise and the peril	10:45am – 12:15pm Room 118
■ S34: Sensory-motor network of the restless legs syndrome (RLS): Electrophysiology and imaging	10:45am – 12:15pm Room 119
■ S35: Progression of childhood sleep-disordered breathing - natural and after intervention	10:45am – 12:15pm Room 121
■ S36: What else can we learn from sleep oscillations?	10:45am – 12:15pm Room 211
■ S37: Novel biomarkers in sleep and circadian research: Requirements and real-world applications	10:45am – 12:15pm Room 212
■ S38: Sleep in elite athletes: Implications for performance and recommendations for optimal recovery	10:45am – 12:15pm Room 219
■ S39: Update on non OSA sleep breathing abnormalities: Upper airway resistance syndrome and inspiratory flow limitation	10:45am – 12:15pm Room 216
■ Technologist workshop	10:45am – 12:15pm Room 223
■ Excessive daytime sleepiness in patients with OSA: Impact, causes and treatment strategies	12:30pm – 2:00pm Ballroom A
■ Harmony Biosciences Industry Satellite Symposium	12:30pm – 2:00pm Room 121
■ Insomnia in Alzheimer's disease: Sleep matters	12:30pm – 2:00pm Room 220
■ K06: Sleep-related breathing disorders	2:00pm – 2:45pm Ballroom A
■ Meet the Professor Lunch	1:00pm – 2:00pm Room 121
■ K07: Toward the mysteries of sleep	2:00pm – 2:45pm Room 211

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

[TUESDAY CONTINUED]	
 K08: Restless legs syndrome/periodic limb movements of sleep: New insights into neurobiology and treatment	2:00pm – 2:45pm Room 212
 Technologist workshop	2:00pm – 3:30pm Room 223
 Meet the Professor Lunch	2:00pm – 2:45pm Room 121
 S40: New insights into the pathophysiology, clinical manifestations and treatment of sleep related eating disorder	3:00pm – 4:30pm Ballroom A
 D05: The International Sleep Research Training Program (IS RTP) of the World Sleep Society	3:00pm – 4:30pm Room 118
 S41: Patient selection for adenotonsillectomy- what can the RCTs teach us and what's the way forward?	3:00pm – 4:30pm Room 119
 S42: Treatment of insomnia in co-morbid obstructive sleep apnea and insomnia	3:00pm – 4:30pm Room 121
 S43: Genetic and epidemiological triggers of sleepiness: From natural variation to severe sleep disorders	3:00pm – 4:30pm Room 211
 S44: Upper airway physiology and new treatment in patients with OSA	3:00pm – 4:30pm Room 212
 S45: New perspectives in the management of pediatric narcolepsy	3:00pm – 4:30pm Room 219
 SRS-CSS Frontiers: Obstructive sleep apnea and the risk of cognitive decline in older adults	3:00pm – 4:00pm Room 220
 Oral abstracts	3:00pm – 4:30pm Room 216
 Technologist workshop	3:45pm – 5:00pm Room 223
 SRS-CSS Frontiers: Sleep: Impact on neurological function	4:15pm – 6:00pm Room 220
 S46: Central sleep apnea: PAP, ASV or Phrenic Nerve Stimulation?	4:30pm – 6:00pm Ballroom A
 D06: And you thought CPAP adherence was hard: Weight management for patients with obstructive sleep apnea	4:30pm – 6:00pm Room 118
 S47: From past, present, to precision: Contemporary sleep surgery	4:30pm – 6:00pm Room 119
 S48: Insomnia and performance: From school age to workplace	4:30pm – 6:00pm Room 121
 S49: Advances in the analysis of clinical polysomnography data	4:30pm – 6:00pm Room 211
 S50: Sleep, stroke and vascular dementia	4:30pm – 6:00pm Room 212
 S51: Sleep in space	4:30pm – 6:00pm Room 219
 Oral abstracts	4:30pm – 6:00pm Room 221
 Poster session 3	5:30pm – 7:00pm Exhibition Hall
 WSS Membership Meeting	7:00pm – 8:00pm Room 11
WEDNESDAY, SEPTEMBER 25, 2019	
 Speaker Ready Room	7:00am – 5:00pm Room 201
 K09: Biomarkers and determinants of drowsy driving: Advances in reducing crash risk	8:00am – 8:45am Ballroom A
 K10: Perspectives of neuroimaging in sleep disorders	8:00am – 8:45am Room 211
 S52: State-of-the-art of wearable technology and big data to advance sleep and circadian science	9:00am – 10:30am Ballroom A
 D07: Capturing standardized outcome measures for registry based single N RCTs (nRCT=I)	9:00am – 10:30am Room 118

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

[WEDNESDAY CONTINUED]		
 S53: Electronic media and sleep: Where are we and where are we headed?	9:00am – 10:30am Room 119	
 S54: Sleep disorders as a risk factor for suicide and the impact of treating insomnia in suicidal patients	9:00am – 10:30am Room 121	
 S55: What is slow-wave activity? And, can we manipulate it to our benefit?	9:00am – 10:30am Room 211	
 S56: Obstructive sleep apnea, cognitive dysfunction & neurodegeneration: Current understanding	9:00am – 10:30am Room 212	
 S57: Effects of perinatal sleep modulation in the mother and offspring: Evidences from preclinical research	9:00am – 10:30am Room 219	
 S58: Sleep and memory over the lifespan	9:00am – 10:30am Room 220	
 S59: Shift work in transportation systems	9:00am – 10:30am Room 223	
 Technologist workshop	9:00am – 10:30am Room 223	
 Exhibition	10:00am – 4:00pm Exhibition Hall	
 S60: New approaches in treating OSA in young subjects	10:45am – 12:15pm Ballroom A	
 S61: Why the role of sleep in memory consolidation is overrated	10:45am – 12:15pm Room 118	
 S62: The role of sleep in aging: Molecular insights related to inflammation	10:45am – 12:15pm Room 119	
 S63: Biology and biomarkers of unexplained hypersomnolence	10:45am – 12:15pm Room 121	
 S64: The relationship between sleep and torpor: Circuits and mechanisms linking thermoregulation and sleep switch	10:45am – 12:15pm Room 211	
 S65: Reconsidering NREM parasomnia: Toward a better understanding of pathophysiology and treatment	10:45am – 12:15pm Room 212	
 S66: Social aspects of sleep	10:45am – 12:15pm Room 219	
 S67: Depression and sleep: New insights in measurement and treatment	10:45am – 12:15pm Room 220	
 S68: On light, circadian rhythms and health	10:45am – 12:15pm Room 223	
 Technologist workshop	10:45am – 11:30am Room 223	
 Technologist workshop	11:30am – 12:30pm Room 223	
 S69: Is Narcolepsy a Spectrum Disorder including IH, NT2 and NT1?	12:30pm – 2:00pm Ballroom A	
 D08: Telemedicine in sleep medicine	12:30pm – 2:00pm Room 118	
 S70: Sleep and mental health in adolescents	12:30pm – 2:00pm Room 119	
 S71: Neuroscience and neuroimaging insights into central disorders of hypersomnolence	12:30pm – 2:00pm Room 121	
 S72: Infra-slow oscillations – the keepers of sleep?	12:30pm – 2:00pm Room 211	
 S73: Upper airway stimulation therapy for obstructive sleep apnea: Theoretical considerations, clinical evidence, and implementation strategies	12:30pm – 2:00pm Room 212	
 S74: Sleep, mental health, and performance in elite athletes	12:30pm – 2:00pm Room 219	
 S75: Role of sleep and sleep therapies in the pathogenesis and outcomes of neurologic disorders	12:30pm – 2:00pm Room 220	
 S76: The future of assessing fitness to drive in sleep disorders	12:30pm – 2:00pm Room 223	

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

[WEDNESDAY CONTINUED]

Technologist workshop	2:00pm – 3:30pm Room 223
K11: Sleep apnea endotypes and phenotypes: Use of new technology in obstructive sleep apnea	2:00pm – 2:45pm Ballroom A
K12: From somnolence in the general population to narcolepsy	2:00pm – 2:45pm Room 211
S77: Brain iron as a central factor in the pathophysiology of RLS: Emerging evaluation methods and therapeutic opportunities	3:00pm – 4:30pm Ballroom A
D09: Innovative therapies for obstructive sleep apnea care delivery world wide	3:00pm – 4:30pm Room 118
S78: The impact of short and disturbed sleep on pain: New mechanistic insights, sex differences, and clinical implications	3:00pm – 4:30pm Room 119
S79: Protective and risk factors of treating insomnia in youth	3:00pm – 4:30pm Room 121
S80: Functional networks of the sleepy and sleeping brain	3:00pm – 4:30pm Room 211
S81: Sleep health disparities among children across three continents	3:00pm – 4:30pm Room 212
S82: Targeting sleep to improve mental health	3:00pm – 4:30pm Room 219
S83: Cluster analysis, biomarkers, and physiologic phenotyping: Towards a precision medicine approach to OSA?	3:00pm – 4:30pm Room 220
S84: Sleep & fatigue in healthcare professionals	3:00pm – 4:30pm Room 216
Technologist workshop	3:45pm – 5:00pm Room 223
S85: Genetics of sleep and its disorders: An update	4:30pm – 6:00pm Ballroom A
D10: Sleep medicine in Latin America: Past, present and future	4:30pm – 6:00pm Room 118
S86: Global perspectives on adolescent sleep and health: Predictors, treatments and policies	4:30pm – 6:00pm Room 119
S87: REM Sleep Behavior Disorder and REM sleep without atonia across the lifespan	4:30pm – 6:00pm Room 121
S88: Neuroscience of dreaming	4:30pm – 6:00pm Room 211
S89: Is obstructive sleep apnea a primary care disease?	4:30pm – 6:00pm Room 212
Oral abstracts	4:30pm – 6:00pm Room 219
Oral abstracts	4:30pm – 6:00pm Room 220
Oral abstracts	4:30pm – 6:00pm Room 216
Closing Ceremony	6:00pm – 7:00pm Ballroom A



Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

Separately purchased ticket is required for entry to congress courses.

Available at worldsleepcongress.com/register.

■ C01 Pediatric sleep

Saturday | September 21, 2019

8:00am – 5:00pm | Room 118 | \$175



The overall objective of this course is to provide the sleep medicine provider with comprehensive and updated knowledge and tools to understand, diagnose and treat pediatric sleep disorders. Polysomnographic issues will be discussed within each presentation as appropriate.

■ C02 Obstructive sleep apnea:

Diagnosis and management

Saturday | September 21, 2019

8:00am – 5:00pm | Room 119 | \$175



The important consequences of OSA will be discussed, including cardiometabolic, cognitive, mood, road trauma and quality of life. We will look at diagnostic tools, including those used by Gen Z – the wearables, and consider alternative management pathways with the involvement of primary care physicians. In the final session, the course will cover new and older treatments for OSA, including CPAP, oral appliances, positional therapies and nerve stimulation devices.

■ C03 Sleep health in women

Sunday | September 22, 2019

8:00am – 5:00pm | Room 118 | \$175



This course will discuss sleep patterns in women, differences in upper airway function and the impact of hormonal factors – menarche, pregnancy and menopause. In the last 10 years, a vast body of literature has emerged linking sleep health and sleep disorders to poor maternal and fetal outcomes, including gestational hypertension, gestational diabetes, pre-eclampsia and low birth weight babies. The pathophysiology of these will be discussed and placed in a clinical context.

■ C04 Year in review

Sunday | September 22, 2019

8:00am – 5:00pm | Room 119 | \$175



Integrating research and clinical practice (all day). This course will bring together basic science and clinical advances, putting together the best of a “year in review” and a “basic science/methods” update for the sleep physician”. The span of topics should include technology, controversial areas, recent (2-3 years) literature.

■ C05 Recent advances in RLS treatment

Saturday | September 21, 2019

8:00am – 12:00pm | Room 120 | \$125



This course will start with a quick summary of the current practice of RLS and then move to new concepts in diagnosis and management of RLS, with a special focus on iron therapy, opioids, $\alpha 2\delta$ agents, glutamate modulation, augmentation, long term outcomes including impulse control disorders, new guidelines, and update on pathophysiology including insights from genetics and animal models.

■ C06 Polysomnographic measurements during sleep, beyond the AHI

Saturday | September 21, 2019

8:00am – 12:00pm | Room 121 | \$125



This course will focus on how we measure sleep, not on staging and scoring. We have failed to utilize technology available to us to digitalize EEG analysis and improve accurate detection and understanding of sleep depth and arousals. We will discuss how this may be done and used in the clinical sleep laboratory to improve our understanding of sleep and its disorders. The course will also look at information we can obtain from polysomnographic measures – EEG, flow, ECG, oximetry, beyond that of the analysis we do currently. New wearable devices will also be discussed.

Separately purchased ticket is required for entry to congress courses.
Available at worldsleepcongress.com/register.

■ C07 Circadian clinical science
Saturday | September 21, 2019
8:00am – 12:00pm | Room 122 | \$125



This course will cover an update on the circadian regulation, with special emphasis on aspects clinically relevant. The intent is to move away from circadian disorders as “sleep disorders” but more as co-morbidity and drivers of disorders in other organ systems. Topics covered will include the role of circadian disruption and misalignment in insomnia, psychiatric disorders, cardiovascular disease, neurological disorders such as epilepsy and dementia, clinical circadian genetics, and finish with lessons from clinical circadian measurement in extreme circadian phenotypes. This is a key step for sleep medicine physicians taking ownership of circadian medicine.

■ C08 Staging and scoring
Saturday | September 21, 2019
1:00pm – 5:00pm | Room 114



This course by Natus is still being developed.

■ C09 Portable devices for clinical practice and sleep research
Saturday | September 21, 2019
1:00pm – 5:00pm | Room 121 | \$125



This course will review recent technological developments and wearable devices that could be used to monitor various parameters of sleep-wake activity. Presentations will review issues regarding advantages and disadvantages of portable or wearable devices to measure sleep in clinical and research contexts, and will discuss validity, reliability, and ease of use of these devices including potential ways these technologies could be integrated into sleep research or clinical practice.

■ C10 Circadian basic science: Human circadian rhythms from OMICS to behavior
Saturday | September 21, 2019
1:00pm – 5:00pm | Room 122 | \$125



This course will focus on an update on basic science aspects of circadian medicine, including mechanisms of photoentrainment, non-photic entrainment, circadian metabolic control, circadian mechanisms in oncogenesis, and advanced circadian measurements (metabolome, transcriptome).

■ C11 Chronic insomnia: Assessment, diagnosis and management (part 1)
Sunday | September 22, 2019
8:00am – 12:00pm | Room 120 | Ticket \$125



The course aims to provide a comprehensive and in-depth understanding of chronic insomnia along with practical tools and approaches suitable for use in the specialized sleep medicine setting but also in more general settings such as primary care and general psychiatry and psychology practices.

■ C12 Aging, neurodegeneration and sleep
Sunday, September 22, 2019
8:00am – 12:00pm | Room 121 | \$125



The course will give an overview from the sleep changes associated with the process of aging to the sleep abnormalities associated with different NDDs (i.e. Alzheimer disease, Parkinson disease, Lewy body dementia), starting from the concept that sleep abnormalities when noted to increase in severity beyond the expected fo age could be a marker, similar to cognitive changes, reflecting specific pathophysiological mechanisms of interest in NDDs.

Separately purchased ticket is required for entry to congress courses.

Available at worldsleepcongress.com/register.

■ **C13 Cardiovascular and renal consequences of sleep apnea**
Sunday, September 22, 2019
08:00am – 12:00pm | Room 122 | \$125



The hallmarks of obstructive sleep apnea are (i) intrathoracic pressure swings (ii) repeated episodes of hypoxia/re-oxygenation and (iii) sleep fragmentation, with consequent sympathetic activation, inflammation and endothelial dysfunction. This course will discuss the mechanisms underlying these processes and their relationship with cardiovascular disease. The areas to be covered include hypertension, cardiac arrhythmias, heart failure, cerebrovascular disease and coronary artery disease.

■ **C14 Chronic insomnia: Assessment, diagnosis and management (part 2)**
Sunday, September 22, 2019
12:45pm – 4:00pm | Room 120 | \$125



The course aims to provide a comprehensive and in-depth understanding of chronic insomnia along with practical tools and approaches suitable for use in the specialized sleep medicine setting but also in more general settings such as primary care and general psychiatry and psychology practices.

■ **C15 Parasomnia**
Saturday, September 21, 2019
1:00pm – 5:00pm | Room 120 | \$125



Clinical, videographic, and mechanistic aspects of the parasomnias will be presented, including REM-behaviors, sleep-related epilepsies, and recently described antineuronal antibody syndromes. Management challenges will be identified.

■ **C16 Narcolepsy and other hypersomnias: Diagnostic approach and management**
Sunday, September 22, 2019
1:00pm – 5:00pm | Room 122 | \$125



The objectives of this course are to present current concepts regarding the assessment and diagnosis of narcolepsy and other hypersomnias of central origin, and to discuss the contemporary landscape of pharmacological treatment options. This course will be directed towards practicing sleep medicine specialists and will focus on narcolepsy, idiopathic hypersomnia, periodic hypersomnia, and hypersomnia due to medical conditions in adults and children.

■ **C17 Dental Sleep Medicine**
Full Day + Half Day Course
Saturday, September 21 8:30pm – 5:00pm
Sunday, September 22, 2019 8:30am – 12:50pm
Room 224 | \$275



Obstructive sleep apnea is a major health problem affecting over 10% of the adult population. The two most common and effective therapies used to treat sleep apnea are: (1) Continuous or Automatic Positive Airway Pressure (PAP), and (2) Oral Appliances. Dental Sleep Medicine is one of the fastest growing fields in dentistry, with large numbers of individuals with sleep apnea being treated with oral appliances. This one-and-a-half-day course will be focused on oral appliance therapy for the treatment of sleep apnea as well as touching on other areas in dental sleep medicine, like pediatric sleep apnea and bruxism. The course has been designed to bring up-to-date and exciting information for new and experienced, clinicians and researchers in the field. This is a clinically-focused and evidence-based continuing education program combining worldwide experts to bring to attendees the newest knowledge and its application to clinical practice. The course will be divided in lectures on the first day and lectures with discussion panels for the second day.

**3 Day Dental Package 9/21 - 9/23
 & Registration**

Delegate: \$456

Technologist/Student: \$400

Separately purchased ticket is required for entry to congress courses.
Available at worldsleepcongress.com/register.

**Sleep Disorders Primary
Care Education Course**
Saturday | September 21, 2019
8:00am – 4:50pm | Room 222 | \$165



This one day course is predominately tailored to general practitioners who see patients with sleep disorders in their clinic. The course will cover a broad range of sleep-related topics in both adult and pediatric patients, focussing on the most common disorders seen by practitioners. In general, the format will include a brief 15 minute lecture by local and international experts in the field, followed by 11 minutes of questions from the audience. The course will be limited to 200 attendees.

Affiliated Meetings

Sleep-circadian biomarkers workshop
8:00am – 11:45am | Room 111 | \$75



Chairs

Janet Mullington (United States); Eilis Boudreau (United States)

8:00am – 8:10am

Introduction

Janet Mullington (United States)

8:10am – 8:50am

Consortia models for tech-transfer of biomarkers

Seema Basu (United States)

8:50am – 8:55am

Introduction to Panel Objectives

Janet Mullington (United States)

8:55am – 9:00am

Panel Breakout 1: Extreme cases to inform fitness for duty, sleep sufficiency

Clare Anderson (Australia)

9:00am – 9:05am

Panel Breakout 2: The circadian use cases

Jeanne Duffy (United States)

9:05am – 9:10am

Panel Breakout 3: Data analysis expertise – trials and tribulations

Raymond Ng (Canada)

SAT	SUN	MON	TUE	WED
9/21	9/22	9/23	9/24	9/25

9:10am – 9:15am

Panel Breakout 4: IP – How to navigate your sources of support

Seema Basu (United States)

9:15am – 10:15am

Panel Breakout Sessions

10:15am – 10:30am

Break

10:30am – 11:30am

Panel Synopsis Presentations

Clare Anderson (Australia); Jeanne Duffy (United States); Seema Basu (United States); Raymond Ng (Canada)

11:30am – 11:45am

Summary Statements

Understanding narcolepsy and hypersomnia: Insights and perspectives

8:30am – 4:30pm | Room 109 | No additional cost

8:30am – 9:00am

Registration and coffee

9:00am – 9:15am

Welcome & introduction

Claire Crisp (United Kingdom); Diane Powell (United States)

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

9:15am – 10:00am

Current research in excessive sleepiness disorders

Yves Dauvilliers (France)

10:00am – 10:15am

Coffee break

10:15am – 11:00am

What sleepy mice tell us about sleepy people

Thomas Scammell (United States)

11:00am – 11:45am

Transitional care: The journey from childhood to adulthood

Brian Murray (Canada)

11:45am – 12:30pm

Lunch break

12:30pm – 1:15pm

Living with narcolepsy

Kelsey Biddle (United States)

1:15pm – 2:30pm

Managing depression associated with excessive sleepiness

Indra Narang (Canada)

2:30pm – 3:15pm

Non-pharmacologic strategies to manage excessive sleepiness disorders

Shelly Weiss (Canada)

3:15pm – 3:30pm

Break

3:30pm – 4:15pm

Panel discussion

Claire Crisp (United Kingdom); Thomas Scammell (United States); Yves Dauvilliers (France); Brian Murray (Canada); Kelsey Biddle (United States); Indra Narang (Canada); Shelly Weiss (Canada)

Vigilance & Wake-A-Thon's

9:00am – 5:00pm | Room 117

Sleep Technologist Certification: Education, eligibility and examinations

5:00pm – 7:00pm | Room 107

■ Sleep-circadian informatics data harmonization

8:00am – 11:45am | Room 111 | \$75

Chairs

Ellis Boudreau (United States); Janet Mullington (United States)

8:00am – 8:10am

Introduction

Ellis Boudreau (United States)

8:10am – 8:50am

Translational informatics, development of ontologies, and data sharing

Melissa Haendel (United States)

8:50AM – 8:55AM

Introduction to panel objectives

Ellis Boudreau (United States)

8:55am – 9:00am

Panel Breakout 1: Questionnaires

Daniel J. Buysse (United States)

9:00am – 9:05am

Panel Breakout 2: Actigraphy

Till Roenneberg (Germany)

9:05am – 9:10am

Panel Breakout 3: PSG

Thomas Penzel (Germany)

9:10am – 9:15am

Panel Breakout 4: Infrastructure models and opportunities

Shaun Purcell (United States)

9:15am – 10:15am

Panel Breakout Sessions

10:15am – 10:30am

Break

10:30am – 11:30am

Panel Synopsis Presentations

Daniel J. Buysse (United States); Till Roenneberg (Germany); Thomas Penzel (Germany); Shaun Purcell (United States)

11:30am – 11:45am

Summary statements



■ A critical review of orofacial myofunctional therapy & sleep disordered breathing: Phenotyping, clinical markers, and early intervention

1:00pm – 5:45pm | Room 224 | No additional cost

Chairs

Marc Richard Moeller (United States); Sharon Keenan (United States)

1:00pm – 1:17pm

Introduction: The emerging area of myofunctional therapy; why sleep disordered breathing?

Marc Richard Moeller (United States)

1:17pm – 1:44pm

Need for orthodontic treatment under the age of seven: A predictor of increased risk for sleep related breathing disorders (SRDB)

Kevin Boyd (United States)

1:44pm – 2:11pm

Stick your tongue out: OMT and its place in pediatric OSA

Rakesh Bhattacharjee (United States)

2:11pm – 2:38pm

Orofacial Myofunctional Therapy (OMT) for obstructive sleep apnoea

Brigitte Fung (Hong Kong)

2:38pm – 3:05pm

Impaired pharyngeal dilator muscle function in OSA; a phenotype for new modalities of treatment

Venkata Koka (France)

3:05pm – 3:30pm

Break

3:30pm – 3:57pm

Should the kids breathe through nose or mouth? Implications of early treatment of respiratory dysfunction

Takashi Ono (Japan)

3:57pm – 4:24pm

Oral dysfunction and sleep meet education: A collaborative four-part school-based model for screenings

Nicole Archambault (United States)

4:24pm – 4:51pm

A call for changes to sleep education and sleep screening

Sharon Keenan (United States)

4:51PM – 5:18PM

Oronasal abnormalities and dysfunctions in persistent sleep disordered breathing

Julia Cohen-Levy (France)

5:18pm – 5:45pm

Orofacial Myofunctional Therapy in the Mouth Breathing Patient: An Interdisciplinary Approach and Its Place in Sleep Medicine

Silke Weber (Brazil)

Management of sleep related breathing disorder seminar: A surgical perspective

2:00pm – 6:00pm | Room 121 | No additional cost

Chairs

Vikas Agrawal (India); Vijaya Krishnan (India)

2:00pm – 2:15pm

Awake and dynamic assessment of OSAS patient for sleep surgery

Nathan Hayward (Australia)

2:15pm – 2:30pm

Understanding the pathophysiology of OSAS with DISE and Dynamic MRI with 3D modelling imaging

Vijaya Krishnan (India)

2:30pm – 2:45pm

Effect of Dexmedetomidine and propofol on airway dynamics during DISE

Sandeep Bansal (India)

2:45pm – 3:00pm

How do we improve the CPAP compliance

Dipankar Datta (India)

3:00pm – 3:15pm

Which operation(s) should be selected for my patient?

Richard Lewis (Australia)

3:15pm – 3:30pm

Summary of Selected Major Observational Studies in Adult Sleep Surgery

Ed Weaver (United States)

3:30pm – 3:50pm

Panel discussion

Vijaya Krishnan (India)

3:50PM – 4:10PM

Break

4:10pm – 4:25pm

Surgical Anatomy of palate and tongue base to understand OSAS better

Vikas Agrawal (India)

4:25pm – 4:40pm

Bony framework surgery for OSAS – Airway aesthetics and Dynamics

M. Baskaran (India)

4:40pm – 4:55pm

Hypoglossal nerve implant – Is it the game changer?

Peter Baptista (Spain)

4:55pm – 5:10pm

Holistic management of OSAS

Song Tar Toh (Singapore)

5:10pm – 5:25pm

Surgical Tips and Pitfalls in the management of OSAS

Ranjini Raghavan (India)

5:25pm – 5:40pm

Summary of RCTs in Adult Sleep Surgery

Stuart MacKay (Australia)

5:40pm – 6:00pm

Panel discussion

Vikas Agrawal (India)

International Restless Legs Syndrome Study Group Annual Meeting & Course

8:00am – 9:00pm | Room 220 | \$165

Program Committee

Denise Sharon (United States); Garima Shukla (Canada); Rochelle Zak (United States); Cornelius Bachman (Germany)

8:00am – 8:30am

Networking and Coffee

Denise Sharon (United States); Garima Shukla (Canada); Rochelle Zak (United States); Cornelius Bachman (Germany)

8:30am – 8:45am

Welcome to Vancouver and Introductions

Denise Sharon (United States); Allan O'Bryan (United States)

08:45am – 9:00am

Animal models task force

Mauro Manconi (Switzerland); Diego García-Borreguero (Spain)

Behavioral Animal Models: When phenotype matters and objective markers are missing

Jerome Siegel (United States)

9:00am – 9:15am

Critical review of outcome measures of the past models: Rationale and need of consensus

Mauro Manconi (Switzerland)

9:15am – 9:30am

Expert Consensus Guideline for an animal model of RLS: How to reach a consensus on outcome measures in animal models: Methods and preliminary results

Aaro Salminen (Germany)

9:30am – 9:45am

Update on RLS animal models and iron

Richard Allen (United States)

9:45am – 10:00am

State of the research on animal model KO for BTBD9

Yuqing Li (United States)

10:00am – 10:15am

Animals models task force summary and update

Mauro Manconi (Switzerland)

10:15am – 10:30am

Coffee break

10:30am – 10:50am

RLS: leg movements identify arousal

Richard Allen (United States)

10:50am – 11:10am

Update on blood pressure and endothelial dysfunction in RLS

Yves Dauvilliers (France)

11:10am – 11:30am

New MRI findings in RLS

Ambra Stefani (Austria)

11:30am – 11:45am

A Proteomic and System Biology Approach Reveal Novel Biomarker Signatures for RLS

Raffaele Ferri (Italy)

11:45pm – 12:00pm

The lifespan course of short-interval, periodic and isolated leg movements during sleep

Raffaele Ferri (Italy)

12:00pm – 12:15pm

Iron treatment

Richard Allen (United States)

12:15pm – 1:00pm

Lunch break

Neurologic co-morbidities of RLS

Rochelle Zak (United States)

1:00pm – 1:03pm

Introduction

Garima Shukla (Canada)

1:03PM – 1:23PM

Restless legs syndrome and Parkinson's disease - the dopaminergic connection and treatment challenges

Luigi Ferini-Strambi (Italy)

1:23pm – 1:40pm

Restless legs syndrome in acute neurological conditions - lessons from stroke and acute neuropathies

Garima Shukla (Canada)

1:40pm – 2:00pm

How RLS contributes to quality of life in Multiple Sclerosis

Mauro Manconi (Switzerland)

Young Investigators

Arthur Walters (United States); Denise Sharon (United States); Rochelle Zak (United States); John Swieca (United States)

2:00pm – 2:15pm

Young Investigator Presentation #1

2:15pm – 2:30pm

Young Investigator Presentation #2

2:30pm – 2:45pm

Young Investigator Presentation #3

2:45pm – 3:00pm

Young Investigator Presentation #4

3:00pm – 3:15pm

Young Investigator Presentation #5

3:15pm – 3:30pm

Break

3:30pm – 3:45pm

IRLSSG Projects

Denise Sharon, Chair (United States)

Diagnostic accuracy of RLS screening tools

Stephany Fulda (Switzerland)

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

3:45pm – 4:00pm

Update on PLMS scoring program certification

Stephany Fulda (Switzerland)

4:00pm – 4:15pm

National RLS Opioid Registry: 1-2 year longitudinal results

John Winkelman (United States)

4:15pm – 4:30pm

Establishing RSD as a new diagnosis

Lourdes DelRosso (Peru)

4:30pm – 4:45pm

Pediatric RLS and GP Task Force update

Arthur Walters (United States)

4:45pm – 4:50pm

Ideas for projects from the attendees

4:50pm – 5:00pm

Outgoing chair summary

Diego García-Borreguero (Spain)

5:00pm – 5:15pm

Break

5:15pm – 6:00pm

Business Meeting

Diego García-Borreguero (Spain)

6:00pm – 9:00pm

Dinner

Trainee Research Day

8:00am – 4:00pm | Room 222 | No Additional Cost

This daylong event, sponsored by Canadian Sleep Society, Institute of Circulatory and Respiratory Health (ICRH) and the Canadian Sleep and Circadian Rhythms Network, has been designed by trainees for trainees in sleep research. The program will be relevant to a wide range of trainees. Participation is encouraged from trainees at all levels, from graduate students to fellows, working in basic and clinical research fields. The format of the program will include a mixture of data presentations by trainees and senior investigators, in addition to professional development sessions where attendees will get advice from experts on improving scientific communication skills. The trainee day will conclude with a social event and data blitz aimed at getting attendees to interact and have fun.

Management of sleep related breathing disorder seminar: A surgical perspective

2:00pm – 6:00pm | Room 121

Obstructive sleep apnea (OSA) is a disorder characterized by upper airway collapse during sleep. Awareness of cognitive impairment and cardiovascular morbidity associated with OSA has been increasing. Many diagnostic and treatment techniques to optimize treatment outcomes have been developed. It is essential for physicians to stay up-to-date on new technology and treatment approaches in order to provide optimal management of patients with OSA. This symposium will bring together experts in sleep surgery, both ENT surgeons and Faciomaxillary surgeons in a single platform from different parts of the world to discuss the various treatment options for OSA. The symposium will also feature lectures on the most current sleep apnea patient care by local and international experts. The goal is to educate the participants on the latest research and advancements in OSA treatment and also to get an overview of improving CPAP compliance.

BLUES Night

MONDAY NIGHT
SEPTEMBER 23, 2019
8:30PM – MIDNIGHT

ROOM 305
VANCOUVER
CONVENTION CENTRE



Max
Hirshkowitz

Ron
Richard

Roy
Felts

Morris
Chang

Todd
Eiken

Joe
Froelke

LIVE MUSICAL ENTERTAINMENT

COLD HORS D'OEUVRES | CASH BAR & DANCING | NO TICKET REQUIRED

World Sleep 2019

SEPTEMBER 20-25, 2019 | VANCOUVER, CANADA
THE BEST OF SLEEP MEDICINE & RESEARCH | worldsleepcongress.com



THE BEST OF SLEEP MEDICINE AND RESEARCH | worldsleepcongress.com

Tuesday, September 24 | 9:00am – 6:00pm | Vancouver Convention Centre



Sleep Research Society®
Advancing Sleep & Circadian Science

Canadian Sleep
Society



Société Canadienne
du Sommeil

SRS-CSS Frontiers Scientific Workshop

The Sleep Research Society (SRS) & Canadian Sleep Society (CSS) Frontiers Scientific Meeting is a 1-day workshop contained within the World Sleep scientific program. Register to attend this comprehensive and state-of-the-art update of the linking sleep to brain function and physiology in both experimental and population-based studies.

Summary

Sleep is important for the brain as well as the body. The workshop will include an exciting range of speakers that will present data linking sleep to brain function and physiology in both experimental and population-based studies. Our key speakers are renowned experts in the field of sleep and health (Dr. Phyllis Zee) and in the associations between sleep and cognitive function (Dr. Nadia Gosselin). Each featured presentation is followed by an oral symposium on a related theme with a broad range of speakers and topics.

Chairs

John Peever (Canada) | Kristen Knutson (United States)

**ATTEND THIS WORKSHOP AS PART OF
THE WORLD SLEEP 2019 PROGRAM**
worldsleepcongress.com/register

INVITED SPEAKER: PHYLLIS ZEE



9:00am – 10:00am
Sleeping Well and Staying in Rhythm:
Implications for brain and metabolic health
Phyllis Zee (United States)

INVITED SPEAKER: NADIA GOSSELIN



3:00pm – 4:00pm
**Obstructive sleep apnea and the risk of
cognitive decline in older adults**
Nadia Gosselin (Canada)

SLEEP: IMPACT ON PHYSIOLOGY AND PUBLIC HEALTH

10:15am – 10:40am
**Inflammatory and counter-inflammatory responses to
chronic sleep disruption in humans**
Monika Haack (United States)

10:40am – 11:05am
Sleep, recovery and human performance in elite athletes
Charles Samuels (Canada)

11:05am – 11:30am
**The epidemiology of sleep and population health
implications**
Chandra L. Jackson (United States)

11:30am – 11:55am
**Human sleep in comparative context: Exploring the link
between our evolutionary history, health and well-being**
David Samson (Canada)

SLEEP: IMPACT ON NEUROLOGICAL FUNCTION

4:15pm – 4:40pm
Chronic sleep loss neural injury: Play early, pay later
Sigrid Veasey (United States)

4:40pm – 5:05pm
**Links between global and local sleep disruption and
Alzheimer's disease pathophysiology**
Bryce Mander (United States)

5:05pm – 5:30pm
**REM sleep behavior disorder: Animal models and the
neuronal network involved**
Pierre-Hervé Luppi (France)

5:30pm – 5:55pm
**Obstructive sleep apnea and Alzheimer's disease:
Is amyloid the link between breathing and dementia?**
Yo-El Ju (United States)

K01: Insomnia: Public health burden and new trends in treatment development and dissemination

Charles Morin (Canada)

Keynote 8:00am – 8:45am | Ballroom A

S01: Opioids and sleep disordered breathing: From biomedical research to clinical practice

9:00am – 10:30am | Ballroom A

Chairs

Tetyana Kendzerska (Canada), Clodagh Ryan (Canada)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Pathophysiology of opioid-induced sedation and respiratory depression

Gaspard Montandon (Canada)

9:18am – 9:34am

The effects of acute and chronic opioid use on sleep architecture and respiration during sleep: Clinical and polysomnographic effects

Atul Malhotra (United States)

9:34am – 9:50am

How do we predict sleep apnea in patients on opioids? Clodagh Ryan (Canada)

9:50am – 10:06am

The relationship between opioid use in adults with suspected sleep-disordered breathing, positive airway pressure treatment prescription and associated long-term consequences

Tetyana Kendzerska (Canada)

10:06am – 10:22am

The treatment of sleep-disordered breathing in individuals on opioids

Sutapa Mukherjee (Australia)

10:22am – 10:30am

Conclusion

S02: Sleep, sleep disorders and perioperative care

9:00am – 10:30am | Room 118

Chair

John Fleetham (Canada)

9:00am – 9:02am

Introduction

9:02am – 9:22am

Sleep and anesthesia: The physiological common ground

Clifford B. Saper (United States)

9:22am – 9:42am

Obstructive sleep apnea, and obesity hypoventilation syndrome: Who should be assessed, and how should we optimize?

Frances Chung (Canada)

9:42am – 10:02am

Narcolepsy, restless legs syndrome, and parasomnias: Non-Respiratory sleep disorders in the perioperative environment

Dennis Auckley (United States)

10:02am – 10:22am

Sleep in the hospitalized patient: An under-appreciated influence on recovery?

David Hillman (Australia)

10:22am – 10:30am

Conclusion

S24: Prognostic value of the different available methods for upfront prediction of treatment outcome with non-CPAP therapy towards a more personalized treatment of obstructive sleep apnea

9:00am – 10:30am | Room 119

Chair

Marie Marklund (Sweden)

9:00am – 9:02am

Introduction

9:02am – 9:18am

What have we learned from the past about prediction of treatment outcome with non-CPAP treatment for sleep-related breathing disorders

Marc Braem (Belgium)

9:18am – 9:34am

The application of imaging to extract anatomical predictors of non-CPAP treatment success

Richard Schwab (United States)

9:34am – 9:50am

Multimodal prediction: Awake versus sleep-related assessments

Peter Cistulli (Australia)

9:50am – 10:06am

Feedback-Controlled Mandibular Positioner (F-RCMP) to predict oral appliance therapy outcome
Shouresh Charkhandeh (Canada)

10:06AM – 10:22AM

The role of pathophysiological phenotyping in predicting therapeutic outcome with upper airway stimulation and mandibular advancement device treatment

Olivier Vanderveken (Belgium)

10:22am – 10:30am

Conclusion

■ S04: The subjective experience of sleep: Emerging objective correlates

9:00am – 10:30am | Room 121

Chair

Francesca Siclari (Switzerland)

9:00am – 9:02am

Introduction

9:02am – 9:18am

When a gold standard isn't so golden: Predicting subjective sleep quality from sleep polysomnography

Jamie Zeitzer (United States)

9:18am – 9:34am

Rapid eye movement sleep, sleep continuity and slow wave sleep as predictors of cognition, mood, and subjective sleep quality in healthy men and women

Derk-Jan Dijk (United Kingdom)

09:34am – 09:50am

Results from a NREM/REM sleep awakening study in good sleepers and patients with insomnia

Dieter Riemann (Germany)

9:50am – 10:06am

Feeling awake while asleep: A high-density EEG assessment of sleep perception

Francesca Siclari (Switzerland)

10:06am – 10:22am

Subjective-objective sleep discrepancy is associated with alterations in regional glucose metabolism in patients with insomnia and good sleeper controls

Daniel Kay (United States)

10:22am – 10:30am

Conclusion

■ S05: Sleep and bidirectional changes in synaptic plasticity: The untold story

9:00am – 10:30am | Room 211

Chair

Marcos G. Frank (United States)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Sleep-dependent thalamocortical activity is crucial for visual system plasticity

Sara Aton (United States)

9:18am – 9:34am

Slow-wave sleep potentiates thalamocortical responsiveness and facilitates memory formation in mice

Igor Timofeev (Canada)

9:34am – 9:50am

Learning and sleep-dependent synaptic plasticity in the cortex

Wen Biao Gan (United States)

9:50am – 10:06am

Homeostatic regulation by GABA and glutamate receptors of cortical neurons in response to sleep deprivation

Barbara Jones (Canada)

10:06am – 10:22am

The tired hippocampus; elucidating the molecular underpinnings of sleep loss-induced memory impairments

Robbert Havekes (The Netherlands)

10:22am – 10:30am

Conclusion

■ S06: Effects of sleep and sleep loss on synaptic function

9:00am – 10:30am | Room 212

Chair

Chiara Cirelli (United States)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Sleep-dependent synaptic weakening across brain regions and during development

Chiara Cirelli (United States)

9:18am – 9:34am

A cortical neuron's view of sleep and wake

Steven Brown (Switzerland)

9:34am – 9:50am

Cortical synaptic plasticity during slow wave sleep-related activity

Ole Paulsen (United Kingdom)

9:50am – 10:06am

Regulation of hippocampal dendritic spines following sleep deprivation

Barbara Gisabella (United States)

10:06am – 10:14am

Conclusion

■ S07: Innovative multi-cultural approaches to sleep health education for children and families

9:00am – 10:30am | Room 219

Chair

Judith Owens (United States)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Sleep education for adolescents in Asia

Yun Kwok Wing (Hong Kong)

9:18am – 9:34am

Novel delivery methods for sleep education

Mirja Quante (Germany)

9:34am – 9:50am

Sleep education in the school setting: Pros and cons

Gabrielle Rigney (Australia)

9:50am – 10:06am

Multi-level sleep health education in low-income child care settings

Karen Bonuck (United States)

10:06am – 10:22am

Developing and testing a culturally and contextually-tailored sleep hygiene intervention for high-risk youth

Daphne Koinis-Mitchell (United States)

10:22am – 10:30am

Conclusion

■ S08: Sleep-disordered breathing and maternal and fetal outcomes of pregnancy

9:00am – 10:30am | Room 220

Chair

R John Kimoff (Canada)

9:00am – 9:02am

Introduction

9:02am – 9:25am

Sleep-disordered breathing in pregnancy: Definitions, diagnosis and prevalence

Susan Redline (United States)

9:25am – 9:48am

Sleep-disordered breathing and maternal outcomes of pregnancy

Ghada Bourjeily (United States)

9:48am – 10:06am

Impact of maternal sleep-disordered breathing on fetal/infant outcomes

Najib Ayas (Canada)

10:06am – 10:24am

Treatment of sleep-disordered breathing during pregnancy: PAP, oral appliances and beyond

Sushmita Pamidi (Canada)

10:24am – 10:30am

Conclusion

■ Oral abstracts

9:00am – 10:30am | Room 216

■ D01: Defining and identifying "restless sleep disorder" among sleep disorders of childhood

10:45am – 12:15pm | Room 118

Chair

Lourdes DelRosso (Peru)

10:45am – 10:47am

Introduction

10:47am – 11:07am

Clinical and video polysomnographic findings in children with restless sleep

Lourdes DelRosso (Peru)

11:07am – 11:27am

Diagnostic criteria for pediatric RLS, PLMD and proposed criteria for RSD

Daniel Picchietti (United States)

11:27am – 11:47am

Hypermotor insomnia and other insomnia types in childhood

Oliviero Bruni (Italy)

11:47am – 12:07pm

Effects of iron deficiency on brain development

Patricio Peirano (Chile)

12:07pm – 12:15pm

Conclusion

S09: Treatment modalities for sleep apnea patients with complex comorbidities

10:45am – 12:15pm | Room 119

Chair

Hiroko Tsuda (Japan)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Incidence and treatment of OSA in the psychiatric population

Nathaniel Marshall (Australia)

11:03am – 11:19am

CPAP treatment for patients with heart failure

John Fleetham (Canada)

11:19am – 11:35am

Does CPAP improve diabetes outcomes in OSA patients

Sushmita Pamidi (Canada)

11:35am – 11:51am

Oral appliances outcomes in diabetes and other complex cases

Tea Galic (Croatia)

11:51am – 12:07pm

Incidence of periodontal disease and treatment implications: Mask and oral appliance fitting

Maria Clotilde Carra (France)

12:07pm – 12:15pm

Conclusion

S10: Bridging basic research to clinical aspects in REM sleep behavior disorder: From bench to bed

10:45am – 12:15pm | Room 121

Chair

Ambra Stefani (Austria)

10:45am – 10:47am

Introduction

10:47am – 11:07am

Synucleinopathic degeneration of REM sleep circuits triggers RBD in mice

John Peever (Canada)

11:07am – 11:27am

Genetic studies provide further insights into pathogenetic mechanisms of RBD

Ziv Gan-Or (Canada)

11:27am – 11:47am

How basic science explains dream content, motor behaviors, and neurodegeneration in RBD

Ambra Stefani (Austria)

11:47am – 12:07pm

RBD associated with autoimmune disorder: Pathogenetic mechanisms explain clinical manifestations

Anna Heidebreder (Germany)

12:07pm – 12:15pm

Conclusion

S11: Large-scale genomic studies advancing understanding of sleep and circadian biology and disorders in humans

10:45am – 12:15pm | Room 211

Chair

Judette Louis (United States)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Emerging challenges and opportunities in human genomic studies of sleep and circadian biology

Judette Louis (United States)

11:03am – 11:19am

Accelerating gene discovery using diverse international resources: UK Biobank, TOPmed, and CHARGE

Richa Saxena (United States)

11:19am – 11:35am

Genetic variants influencing sleep and chronotype: Clinical and biological insights from the UK biobank

Martin Rutter (United Kingdom)

11:35am – 11:51am

Genetic variants and genomic profiles for sleep disordered breathing related traits in the NHLBI TOPmed consortium

Brian Cade (United States)

11:51am – 12:07pm

Investigating the biology of sleep-associated cardiometabolic traits using gene-sleep interactions: CHARGE

Raymond Noordam (The Netherlands)

12:07pm – 12:15pm
Conclusion

■ **S12: Using sleep to maximize the mental and cognitive health of young people around the world**
10:45am – 12:15pm | Room 212

Chair
Reut Gruber (Canada)

10:45am – 10:47am
Introduction

10:47am – 11:03am
Sleep education in UK high schools
Christopher Harvey (United Kingdom)

11:03am – 11:19am
Low vs high-intensity school sleep interventions for teenagers
Kate Bartel (Australia)

11:19am – 11:35am
Findings and next steps for delaying school start times for adolescents' sleep and health
Amy Wolfson (United States)

11:35am – 11:51am
Sleep behavior phenotypes in adolescents at risk for self-harm
Joshua J. Gooley (Singapore)

11:51am – 12:07pm
Discussion: Lessons learned and gaps remaining
Mary Carskadon (United States)

12:07pm – 12:15pm
Conclusion

■ **S13: Sleepy Heads and Anesthesia: Anesthetic implications of disorders of daytime hypersomnolence**
10:45am – 12:15pm | Room 219

Chair
Mandeep Singh (Canada)

10:45am – 10:47am
Introduction

10:47am – 11:07am
Unconsciousness, sleep and anesthesia: Shared mechanisms
Dennis Auckley (United States)

11:07am – 11:27am
Narcolepsy or idiopathic hypersomnia: What's the difference?
Lynn Marie Trotti (United States)

11:27am – 11:47am
Pharmacological treatment options and possible drug interactions with anesthesia management
Mandeep Singh (Canada)

11:47am – 12:07pm
Anesthetic considerations for patients with narcolepsy and idiopathic hypersomnia
David Hillman (Australia)

12:07pm – 12:15pm
Conclusion

■ **S14: Multidimensional sleep health: A new paradigm for understanding sleep-health relationships**
10:45am – 12:15pm | Room 220

Chair
Daniel J. Buysse (United States)

10:45am – 10:47am
Introduction

10:47am – 11:03am
Multidimensional sleep health: Can we define it? Does it matter?
Daniel J. Buysse (United States)

11:03am – 11:19am
The National Sleep Foundation's Sleep Health index: An assessment of national sleep health
Kristen Knutson (United States)

11:19am – 11:35am
Statistical approaches for analyzing multidimensional sleep health data
Meredith J. Wallace (United States)

11:35am – 11:51am
Multidimensional sleep health is more strongly associated with self-rated health than traditional predictors: The Catalan Health Survey
Jordi de Batlle (Spain)

11:51am – 12:07pm
Multidimensional sleep health and age-related functional outcomes
Katie L. Stone (United States)

12:07pm – 12:15pm
Conclusion

■ **Oral abstracts**

10:45am – 12:15pm | Room 221

■ **Technologist workshop**

10:45am – 12:15pm | Room 223

■ **Waking up to narcolepsy: Strategies to improving outcomes**

12:30pm – 2:00pm | Ballroom A

12:30pm – 12:35pm

Introduction

12:35pm – 1:00pm

Strategies for early and accurate diagnosis of narcolepsy

Thomas Scammell (United States)

1:00pm – 1:25pm

Treatments for narcolepsy: evaluating the landscape

Michael Thorpy (United States)

1:25pm – 1:50pm

Optimizing outcomes in pediatric patients

Kiran Maski (United States)

1:50pm – 2:00pm

Take-home tips for clinical practice

■ **Nox Medical Industry Workshop**

1:00pm – 1:45pm | Room 221

■ **ProSomnus Industry Workshop**

1:00pm – 1:45pm | Room 223

■ **K02: Adolescent sleep: Timing is everything... or is it?**

Mary Carskadon (United States)

Keynote 2:00pm – 2:45pm | Ballroom A

■ **K03: Oral appliance therapy for obstructive sleep apnea: Ready for prime time**

Peter Cistulli (Australia)

Keynote 2:00pm – 2:45pm | Room 118

■ **Meet the Professor Lunch**

2:00pm – 2:45pm | Room 121

■ **S15: Management of sleep disordered breathing in specific populations: New insights from recent publications**

3:00pm – 4:30pm | Ballroom A

Chairs

Najib Ayas (Canada); Motoo Yamauchi (Japan)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Management of sleep apnea in minimally symptomatic patients

Luciano Drager (Brazil)

3:22pm – 3:42pm

Management of sleep apnea in patients with heart failure

Matt Naughton (Australia)

3:42pm – 4:02pm

Management of sleep apnea in patients with spinal cord injury

David Berlowitz (Australia)

4:02pm – 4:22pm

Sleep apnea and kidney disease: A bidirectional relationship

Pat Hanly (Canada)

4:22pm – 4:30pm

Conclusion

■ **D02: Alternative diagnostic approaches to childhood obstructive sleep apnea**

3:00pm – 4:30pm | Room 118

Chair

Albert Martin Li (Hong Kong)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Pitfalls of polysomnography for childhood OSA, why is it failing us?

Rosemary Horne (Australia)

3:22pm – 3:42pm

Can parent-reported sleep symptom questionnaire and or overnight oximetry replace PSG?

Gillian Nixon (Australia)

3:42pm – 4:02pm

Combining imaging findings and symptoms in diagnosing OSA

Kate Chan (Hong Kong)

4:02pm – 4:22pm

Drug-induced sleep endoscopy is the way forward, where is the evidence?

An Boudewyns (Belgium)

4:22pm – 4:30pm

Conclusion

S16: Imaging and sleep apnea: Can we predict the presence of disease and treatment outcomes?

3:00pm – 4:30pm | Room 119

Chair

Fernanda Almeida (Canada)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Photography for the evaluation of facial profiles in obstructive sleep apnea

Kate Sutherland (Australia)

3:22pm – 3:42pm

Facial characteristics of children with OSA: Results of the PDSA cohort study

Fernanda Almeida (Canada)

3:42pm – 4:02pm

TAG-MRI phenotyping and predicting treatment outcomes

Peter Cistulli (Australia)

4:02pm – 4:22pm

The role of CBCT in the diagnosis and oral appliance treatment outcome

Bingshuang Zou (Canada)

4:22pm – 4:30pm

Conclusion

S17: Frontiers of dissemination of CBT for sleep and circadian problems in mental and physical health

3:00pm – 4:30pm | Room 121

Chair

Allison G. Harvey (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Sequencing internet-based and face-to-face CBT-I in a stepped-care model of insomnia management in primary care

Charles Morin (Canada)

3:18pm – 3:34pm

The short- and long-term efficacy of an unguided internet-based cognitive-behavioral therapy for insomnia: A large randomized controlled trial

Borge Sivertsen (Norway)

3:34pm – 3:50pm

Sleep as a novel therapeutic target for depression: A meta analysis of randomized controlled trials of digital CBT for insomnia

Colin Espie (United Kingdom)

3:50pm – 4:06pm

The Hypertension with Unsatisfactory Sleep Health (HUSH) study: A low-cost, pragmatic, patient-centered clinical trial

Daniel J. Buysse (United States)

4:06pm – 4:22pm

A transdiagnostic sleep and circadian treatment to improve severe mental illness outcomes in a community setting: The results of a randomized controlled trial

Allison G. Harvey (United States)

4:22pm – 4:30pm

Conclusion

S18: The molecular and physiological mechanisms of sleep

3:00pm – 4:30pm | Room 211

Chairs

Shoi Shi (Japan); Hiroaki Norimoto (Germany)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Genetic identification of cholinergic mechanisms controlling sleep and wakefulness

Yasutaka Niwa (Japan)

3:18pm – 3:34pm

Spatio-temporal structure of sleep oscillations in reptilian brain

Hiroaki Norimoto (Germany)

3:34pm – 3:50pm

Synaptic amPA receptor plasticity by learning and sleep

Daisuke Miyamoto (United States)

3:50pm – 4:06pm

Newly-identified sleep genes: The role of calcium dependent hyperpolarization pathway in sleep regulation

Shoi Shi (Japan)

4:06pm – 4:22pm

Genetic dissection of sleep in fruit flies

Hirofumi Toda (United States)

4:22pm – 4:30pm

Conclusion

S19: Novel strategies to personalize OSA treatment and care from adolescents to adults

3:00pm – 4:30pm | Room 212

Chairs

Susan Redline (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Pathophysiological phenotypes of OSA

Jayne Carberry (Australia)

3:22pm – 3:42pm

Novel targeted therapies for OSA in adults

Danny Eckert (Australia)

3:42pm – 4:02pm

Personalized approach for OSA in adolescence: Is it time to through away the CPAP?

Indra Narang (Canada)

4:02pm – 4:22pm

Aligning a personalized approach to OSA with patient centered outcomes

Clodagh Ryan (Canada)

4:22pm – 4:30pm

Conclusion

S20: Pathophysiological insights from animal models of restless legs syndrome

3:00pm – 4:30pm | Room 219

Chair

Yuqing Li (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Pathophysiological insights from the iron deficient rats

Yuan-Yang Lai (United States)

3:22pm – 3:42pm

Pathophysiological studies of RLS using BTBD9 mutant animal models

Yuqing Li (United States)

3:42pm – 4:02pm

MEIS1-based animal models and the pathophysiology of RLS

Aaro Salminen (Germany)

4:02pm – 4:22pm

Use of animal models for the pathophysiological study of RLS

Mauro Manconi (Switzerland)

4:22pm – 4:30pm

Conclusion

Oral abstracts

3:00pm – 4:30pm | Room 216

Technologist workshop

4:00pm – 5:00pm | Room 223

S21: The nature of arousals: An update for the 21st century

4:30pm – 6:00pm | Ballroom A

Chair

Régis Lopez (France)

4:30pm – 4:32pm

Introduction

4:32pm – 4:52pm

Cortical arousals: Determinants and role in obstructive sleep apnea

Magdy Younes (Canada)

4:52pm – 5:12pm

The relation of movements to cortical and autonomic arousals in sleep: Artificial intelligence – machine learning analyses

Richard Allen (United States)

5:12pm – 5:32pm

The problematic definition of arousals during SWS: Implications for the characterization of the NREM parasomnias

Régis Lopez (France)

5:32pm – 5:52pm

On the periodicity of arousals

Stephany Fulda (Switzerland)

5:52pm – 6:00pm

Conclusion

D03: Sleep medicine and research training opportunities throughout the world

4:30pm – 6:00pm | Room 118

Chair

Clete Kushida (United States)

4:32pm – 4:48pm

Sleep medicine and research training opportunities in North America

Clete Kushida (United States); Charles Samuels (Canada)

4:48pm – 5:04pm

Sleep medicine and research training opportunities in Asia

Hrudananda Mallick (India)

5:04pm – 5:20pm

Sleep medicine and research training opportunities in Europe

Zoran Dogas (Croatia)

5:20pm – 5:36pm

Sleep medicine and research training opportunities in Australia

Brendon Yee (Australia)

5:36pm – 5:52pm

Sleep medicine and research training opportunities in South America

Dalva Poyares (Brazil)

5:52pm – 6:00pm

Conclusion

S22: Advances in precision application of dental appliances: Indications, design, and prognostic risk

4:30pm – 6:00pm | Room 119

Chair

Fernanda Almeida (Canada)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

Oral appliance for Downs Syndrome

Fernanda Almeida (Canada)

4:48pm – 5:04pm

Application of oral appliance in Catathrenia (Groaning) / Long-term follow-up of oral therapy on OSA

Xuemei Gao (China)

5:04pm – 5:20pm

Mechanism and efficacy of magnetic levitation mandibular elevator in treatment of obstructive sleep apnea syndrome

Xilong Zhang (China)

5:20pm – 5:36pm

Prediction in obstructive sleep apnoea: Diagnosis, comorbidity risk, and treatment outcomes

Kate Sutherland (Australia)

5:36pm – 5:52pm

3D imaging application in OSA

Bingshuang Zou (Canada)

5:52pm – 6:00pm

Conclusion

S23: Using eHealth to bridge the gap between research and practice for insomnia: Examples from across the lifespan

4:30pm – 6:00pm | Room 121

Chair

Shelly Weiss (Canada)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

eHealth applications for infants and toddler sleep disturbances: Real world data and moving from efficacy to effectiveness

Jodi Mindell (United States)

4:48pm – 5:04pm

Development, evaluation and dissemination of Better Nights, Better Days for preschool and elementary school-aged children

Penny Corkum (Canada)

5:04pm – 5:20pm

Design and pilot RCT of a mHealth intervention for sleep promotion in adolescents

Robyn Stremmler (Canada)

5:20pm – 5:36pm

Development of Better Nights, Better Days-Youth: The importance of a user-centered design when working with young adults

Gabrielle Rigney (Australia)

5:36pm – 5:52pm

Real world evidence: Impact of digital therapeutic for insomnia in adults

Frances Thorndike (United States)

5:52pm – 6:00pm

Conclusion

S25: Sleep-wake disturbance and the aging brain: Insights into the impact of poor sleep and sleep-disordered breathing on neurodegeneration

4:30pm – 6:00pm | Room 212

Chair

Ruth M. Benca (United States)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

Introduction and Overview

Ruth M. Benca (United States)

4:48pm – 5:04pm

Altered circadian rest/activity rhythms and brain atrophy in cognitively normal older adults

Adam Spira (United States)

5:04pm – 5:20pm

Abnormal sleep neurophysiology in mild cognitive impairment and sleep-disordered breathing populations

Angela D'Rozario (Australia)

5:20pm – 5:36pm

Sleep disruption and Alzheimer's disease pathology: a mechanism for increased AD risk?

Bryce Mander (United States)

5:36pm – 5:52pm

What is the link between sleep-disordered breathing and neurodegeneration?

Sharon Naismith (Australia)

5:52pm – 6:00pm

Conclusion

S26: New insights on sleep at high altitude

4:30pm – 6:00pm | Room 219

Chairs

Nikolaus C. Netzer (Germany)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

The brain at altitude

Nikolaus C. Netzer (Germany)

4:48pm – 5:04pm

Cognitive decline after sleep at high altitude

Stephan Pramsohler (Germany)

5:04pm – 5:20pm

MRI studies on the brain after exposure to hypobaric hypoxia

Michael Decker, United States

5:20pm – 5:36pm

Individual influences on hypoxia and hypobaria induced periodic breathing

Rachel Turner (United Kingdom)

5:36pm – 5:52pm

The heart during sleep at high altitude

Marco Maggiorini (Switzerland)

5:52pm – 6:00pm

Conclusion

Oral abstracts

4:30pm – 6:00pm | Room 220

Oral abstracts

4:30pm – 6:00pm | Room 216

Poster session 2

5:30pm – 7:00pm | Exhibition Hall

Gala Dinner

6:00pm – 9:00pm | Banquet Room 301

Technologist Social Evening

6:00pm – 9:00pm | Foyer

Blues Night

9:00pm – 11:00pm

**K04: Sleep, insomnia and mental health:
A chance for prevention?**

Dieter Riemann (Germany)

Keynote 8:00am – 8:45am | Ballroom A

**K05: Interactions between sleep, circadian
rhythms and body weight regulation**

Eve Van Cauter (United States)

Keynote 8:00am – 08:45am | Room 211

**S27: Placing patient needs first: Designing
personalized care in sleep medicine**

9:00am – 10:30am | Ballroom A

Chair

Timothy I. Morgenthaler (United States)

9:00am – 9:02am

Introduction

9:02am – 9:22am

**Sleep medicine and the healthcare and patient
revolution**

Timothy I. Morgenthaler (United States)

9:22am – 9:42am

**Learning “what matters to patients”: a human-
centered design approach to insomnia and
sleep health**

Lauren Seymour (United States)

9:42am – 10:02am

**Improving shared decision making in sleep apnea
management: Technological tools and user
preferences**

Nick Bansback (Canada)

10:02am – 10:22am

**My genes, my sleep medicine; genomics and the
personalization of sleep medicine**

Simon Archer (United Kingdom)

10:22am – 10:30am

Conclusion

**S28: New insights into light’s non-visual impact on
sleep and circadian physiology**

9:00am – 10:30am | Room 118

Chair

Christian Cajochen (Switzerland)

9:00am – 9:02am

Introduction

9:02am – 9:18am

**More than just blue light? The effects of light on
circadian rhythms, sleep and performance in mice**
Stuart Peirson (United Kingdom)

9:18am – 9:34am

**Light and sleep homeostasis: A proof of concept
study from mice to humans**

Patrice Bourgin (France)

9:34am – 9:50am

**Daylight replications with LEDs: Effects on sleep,
circadian physiology and mood**

Oliver Stefani (Switzerland)

9:50am – 10:06am

Daylight and the human circadian clock

John Axelsson (Sweden)

10:06am – 10:22am

**The effect of daytime lighting on the quality of sleep
in human: From healthy people to caregivers**

Tomoko Wakamura (Japan)

10:22am – 10:30am

Conclusion

**S29: Memory processing as a biological drive for
sleep? The impact of waking cognition on subsequent
sleep: Evidence from basic and clinical research**

9:00am – 10:30am | Room 119

Chair

Francesca Conte (Italy)

9:00am – 9:02am

Introduction

9:02am – 9:18am

**Effects of experience and subsequent sleep on
visual system function**

Sara Aton (United States)

9:18am – 9:34am

**The need for sleep: Memory optimization and
enhancement. Insights from recent EEG-fMRI studies**

Stuart Fogel (Canada)

9:34am – 9:50am

Sleep's impact on semantic memory and creative problem solving

Penelope Lewis (United Kingdom)

9:50am – 10:06am

Sleep quality improvements after pre-sleep training

Francesca Conte (Italy)

10:06am – 10:22am

Effects of cognitive training on sleep quality among older adults with insomnia

Iris Haimov (Israel)

10:22am – 10:30am

Conclusion

S30: REM Sleep and insomnia: So emotional!

9:00am – 10:30am | Room 121

Chair

Célyne H. Bastien (Canada)

9:00am – 9:02am

Introduction

9:02am – 9:22am

Dream valence and next day mood in patients with insomnia

Megan R. Crawford (United Kingdom)

9:22am – 9:42am

REM sleep and arousal

Dieter Riemann (Germany)

9:42am – 10:02am

Dissipation of emotional distress

Rick Wassing (The Netherlands)

10:02am – 10:22am

Lucid dreaming as an adjunct treatment for insomnia

Jason Ellis (United Kingdom); Célyne H. Bastien (Canada)

10:22am – 10:30am

Conclusion

S31: New sleep circuits and their role in disorders

9:00am – 10:30am | Room 211

Chairs

Jimmy Fraigne (Canada); Carolina Gutierrez-Herrera (Switzerland)

9:00am – 9:02am

Introduction

9:02am – 09:22am

Pathological alterations in VTA-dopaminergic regulation of arousal

Ada Eban-Rotschild (United States)

9:22am – 9:42am

Sleep-regulating midbrain GABAergic circuitry

Yo Oishi (Japan)

9:42am – 10:02am

REM sleep circuit underlying REM sleep behavior disorder

Jimmy Fraigne (Canada)

10:02am – 10:22am

Thalamic contribution to sleep wake and schizophrenia

Carolina Gutierrez-Herrera (Switzerland)

10:22am – 10:30am

Conclusion

S03: Combination therapy approaches for OSA: Can we improve effectiveness?

9:00am – 10:30am | Room 119

Chair

Kate Sutherland (Australia)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Combining the two main device therapies: CPAP and oral appliances

Fernanda Almeida (Canada)

9:18am – 9:34am

Targeting both jaw and body position in supine OSA: Oral appliances and positional therapy

Marijke Deltjens (Belgium)

9:34am – 9:50am

Lifestyle intervention combined with OSA device treatment: CPAP and weight loss

Craig Phillips (Australia)

9:50am – 10:06am

Targeting pathophysiological mechanisms for combination therapy options

Scott Sands (United States)

10:06am – 10:22am

Combination drug therapy for the upper airway muscles

Luigi Taranto Montemurro (United States)

10:22am – 10:30am

Conclusion

■ S32: Cross-cultural sleep: Sleep around the world and across the lifespan

9:00am – 10:30am | Room 219

Chair

Jodi Mindell (United States)

9:00am – 9:02am

Introduction

9:02am – 9:22am

Sleep patterns and sleep ecology in young children around the world

Jodi Mindell (United States)

9:22am – 9:42am

Recent worldwide sleep patterns and problems during adolescence: An updated 2019 review and meta-analysis of age, region, and cultural influences

Michael Gradisar (Australia)

9:42am – 10:02am

Epidemiology of sleep disturbances among African, South East Asian and South American adults

Bizu Gelaye (United States)

10:02am – 10:22am

Sleep problems and health in adult populations: A global perspective

Saverio Stranges (Canada)

10:22am – 10:30am

Conclusion

■ SRS-CSS Frontiers: Sleeping well and staying in rhythm

9:00am – 10:00am | Room 220

Chair

Phyllis Zee (United States)

■ Oral abstracts

9:00am – 10:30am | Room 216

■ Technologist workshop

9:00am – 10:30am | Room 223

■ Exhibition

10:00am – 4:00pm | Exhibition Hall

■ SRS-CSS Frontiers: Sleep: Impact on physiology and public health

10:15am – 12:00pm | Room 220

Chairs

John Peever (Canada); Kristen Knutson (United States)

10:15am – 10:40am

Inflammatory and counter-inflammatory responses to chronic sleep disruption in humans

Monika Haack (United States)

10:40am – 11:05am

Sleep, recovery and human performance in elite athletes

Charles Samuels (Canada)

11:05am – 11:30am

The epidemiology of sleep and population health implications

Chandra L. Jackson (United States)

11:30am – 11:55am

Human sleep in comparative context: Exploring the link between our evolutionary history, health, and well-being

David Samson (Canada)

■ S33: Insomnia Symposium: Content TBD

10:45am – 12:15pm | Ballroom A

Chairs

Clete Kushida (United States); Yuichi Inoue (Japan)

■ D04: Melatonin use in children: The promise and the peril

10:45am – 12:15pm | Room 118

Chairs

Judith Owens (United States)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Update on the neurophysiology of melatonin in children and adolescents

Jonathan Lipton (United States)

11:03am – 11:19am

Safety of short term and long term pharmacologic treatment with melatonin in children

Inge van Geijlswijk (The Netherlands)

11:19am – 11:35am

Melatonin in children with autism and neurodevelopmental disorders: The latest evidence

Paul Gringras (United Kingdom)

11:35am – 11:51am

Establishing clinical guidelines for melatonin use in children

Oliviero Bruni (Italy)

11:51am – 12:07pm

“Vitamin M”: Melatonin and insomnia in children

Judith Owens (United States)

12:07pm – 12:15pm

Conclusion

S34: Sensory–motor network of the restless legs syndrome (RLS): Electrophysiology and imaging

10:45am – 12:15pm | Room 119

Chairs

Richard Allen (United States)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Restless legs syndrome as a network disorder

Yong Won Cho (Republic of Korea)

11:03am – 11:19am

The mechanism of sensory disorder in RLS based on MEG

Yuping Wang (China)

11:19am – 11:35am

Non-invasive brain stimulation and RLS: Clinical, electrophysiological and neuroplastic effects

Giuseppe Lanza (Italy)

11:35am – 11:51am

The sensory experience of RLS and its relationship to pain, itch and Tourette’s

John Winkelman (United States)

11:51am – 12:07pm

Peripheral mechanisms in restless legs syndrome

Dirk Czesnik (Germany)

12:07pm – 12:15pm

Conclusion

S35: Progression of childhood sleep-disordered breathing - natural and after intervention

10:45am – 12:15pm | Room 121

Chairs

Albert Martin Li (Hong Kong)

10:45am – 10:47am

Introduction

10:47am – 11:03am

What happens to a child with primary snoring with time, is he morbidity free?

Chun Ting Au (Hong Kong)

11:03am – 11:19am

Longitudinal follow-up data from a Chinese cohort to examine predictors of SDB resolution

Kate Chan (Hong Kong)

11:19am – 11:35am

Findings from Penn State longitudinal cohort to evaluate predictors for incident SDB

Edward Bixler (United States)

11:35am – 11:51am

The cohort study of Pediatric OSA following surgery treatment

Yu-Shu Huang (Taiwan)

11:51am – 12:07pm

Are OSA related complications reversible following intervention?

Rosemary Horne (Australia)

12:07pm – 12:15pm

Conclusion

S36: What else can we learn from sleep oscillations?

10:45am – 12:15pm | Room 211

Chairs

Antoine Adamantidis (Switzerland); Vladyslav Vyazovskiy (United Kingdom)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Cellular dynamics of thalamo-cortical circuits across sleep states

Antoine Adamantidis (Switzerland)

11:03am – 11:19am

Local and global aspects of sleep homeostasis

Vladyslav Vyazovskiy (United Kingdom)

11:19am – 11:35am

Harnessing olfactory bulb oscillations to perform fully brain-based sleep-scoring

Karim Benchenane (France)

11:35am – 11:51am

Brain oscillations, sleep states and consciousness

Melanie Boly (United States)

11:51am – 12:07pm

High-density EEG in sleep and mental disorders

Ruth M. Benca (United States)

12:07pm – 12:15pm

Conclusion

S37: Novel biomarkers in sleep and circadian research: Requirements and real-world applications

10:45am – 12:15pm | Room 212

Chairs

Simon Archer (United Kingdom)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Biomarkers for circadian rhythmicity: Considerations for development and validation

Jeanne Duffy (United States)

11:03am – 11:19am

Biomarkers for sleep: Considerations for development and validation

Julie Carrier (Canada)

11:19am – 11:35am

Microbiome related biomarkers of alertness during sleep and circadian disruption

Kenneth Wright (United States)

11:35am – 11:51am

Baseline predictors of drowsy driving performance

Joshua J. Gooley (Singapore)

11:51am – 12:07pm

Blood transcriptome-based biomarkers for the multi-level assessment of sleep and circadian perturbations in humans

Emma Laing (United Kingdom)

12:07pm – 12:15pm

Conclusion

S38: Sleep in elite athletes: Implications for performance and recommendations for optimal recovery

10:45am – 12:15pm | Room 219

Chairs

Shona Halson (Australia); Jacopo A. Vitale (Italy)

10:45am – 10:47am

Introduction

10:47am – 11:03am

The influence of chronotype and training schedules on athletes' sleep

Jacopo A. Vitale (Italy)

11:03am – 11:19am

How to assess athletes' sleep? The pros and cons of common methods

Mathieu Nedelec (France)

11:19am – 11:35am

The impact of long-haul travel on sleep and evidence-based solutions

Meeta Singh (United States)

11:35am – 11:51am

To nap or not to nap? Possible benefits and risks for athletes

Michele Lastella (Australia)

11:51am – 12:07pm

State of the art on non-invasive sleep hygiene strategies to improve athletes' sleep

Shona Halson (Australia)

12:07pm – 12:15pm

Conclusion

S39: Update on non OSA sleep breathing abnormalities: Upper airway resistance syndrome and inspiratory flow limitation
10:45am – 12:15pm | Room 221

Chairs

Luciana Palombini (Brazil); Dalva Poyares (Brazil)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Defining UARS: Which parameters should be scored? RERAs, IFL or both?

JL Pepin (France)

11:03am – 11:19am

UARS data from Follow Up of Sao Paulo epidemiological study

Luciana Palombini, Brazil

11:19am – 11:35am

Is there a specific UARS phenotype?

Avram Gold (United States)

11:35am – 11:51am

What are the evidences currently available that UARS is a distinct syndrome?

Christian Guilleminault (United States)

11:51am – 12:07pm

Discussion IFL: update on evidences and perspectives for consensus on the analysis and scoring of IFL in PSG among sleep specialists

David Rapoport (United States)

12:07pm – 12:15pm

Conclusion

Technologist workshop

10:45am – 12:15pm | Room 223

Technologist workshop

11:30am – 12:30pm | Room 223

Excessive daytime sleepiness in patients with OSA: Impact, causes and treatment strategies

12:30pm – 2:00pm | Ballroom A

12:30pm – 12:35pm

Introduction

12:35pm – 1:00pm

OSA patients with residual daytime sleepiness: Who are the patients? What are the causes?

Patrick Strollo (United States)

1:00pm – 1:25pm

Treatment of residual daytime sleepiness in OSA patients

Atul Malhotra (United States)

1:25pm – 1:50pm

Case presentations

Richard Bogan (United States)

1:50pm – 2:00pm

Take-home tips for clinical practice

Harmony Biosciences Industry Satellite Symposium

12:30pm – 2:00pm | Room 121

Insomnia in Alzheimer's disease: Sleep matters

12:30pm – 2:00pm | Room 220

K06: Sleep-related breathing disorders

Luciano Drager (Brazil)

Keynote 2:00pm – 2:45pm | Ballroom A

Meet the Professor Lunch

2:00pm – 2:45pm | Room 121

K07: Toward the mysteries of sleep

Masashi Yanagisawa (Japan)

Keynote 2:00pm – 2:45pm | Room 211

K08: Restless legs syndrome/periodic limb movements of sleep: New insights into neurobiology and treatment

Diego García-Borreguero (Spain)

Keynote 2:00pm – 2:45pm | Room 212

Technologist workshop

2:00pm – 3:30pm | Room 223

S40: New insights into the pathophysiology, clinical manifestations and treatment of sleep related eating disorder

3:00pm – 4:30pm | Ballroom A

Chairs

John Winkelman (United States); Yuichi Inoue (Japan)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

The borderlands of sleep related eating disorder

Carlos Schenck (United States)

3:18pm – 3:34pm

The associated factors of SRED in the general population

Yuichi Inoue (Japan)

3:34pm – 3:50pm

Sleep related eating disorder in psychiatric populations

Yun Kwok Wing (Hong Kong)

3:50pm – 4:06pm

Meal timing: Circadian control and metabolic consequences

Frank Scheer (United States)

4:06pm – 4:22pm

What works for the treatment of sleep-related eating disorder

John Winkelman (United States)

4:22pm – 4:30pm

Conclusion

D05: The International Sleep Research Training Program (IS RTP) of the World Sleep Society

3:00pm – 4:30pm | Room 118

Chairs

Clete Kushida (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:12pm

Sleep research opportunities at Stanford University

Clete Kushida (United States)

3:12pm – 3:22pm

Sleep research opportunities at Harvard University

Susan Redline (United States)

3:22pm – 3:32pm

Sleep research opportunities at the University of Oxford

Simon Kyle (United Kingdom)

3:32pm – 3:42pm

Sleep research opportunities at the University of Pennsylvania

Allan Pack (United States)

3:42pm – 3:52pm

Sleep research opportunities at the University of Sydney

Brendon Yee (Australia)

3:52pm – 4:02pm

Sleep research opportunities in Brazil

Dalva Poyares (Brazil)

4:02pm – 4:12pm

Sleep research opportunities in Germany

Thomas Penzel (Germany)

4:12pm – 4:22pm

Current trainee experience

Adell Xu (China)

4:22pm – 4:30pm

Conclusion

S41: Patient selection for adenotonsillectomy- what can the RCTs teach us and what's the way forward?

3:00pm – 4:30pm | Room 119

Chairs

Gillian Nixon (Australia); Evelyn Constantin (Canada)

3:00pm – 3:05pm

Introduction

3:05pm – 3:20pm

The impact of AT in pre-schoolers- results of the POSTA study

Karen Waters (Australia)

3:20pm – 3:35pm

The key lessons from CHAT for predicting surgical outcome

Carol Rosen (United States)

3:35pm – 3:50pm

Choosing candidates for AT- a surgeon's perspective

Robert Black (Australia)

3:50pm – 4:05pm

What's the way forward? Controversies, dilemmas and future research agendas

Catherine Hill (United Kingdom)

4:05pm – 4:30pm

Panel discussion/Q&A

■ S42: Treatment of insomnia in co-morbid obstructive sleep apnea and insomnia

3:00pm – 4:30pm | Room 121

Chairs

Leon Lack (Australia)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

The combination of CBTi and CPAP therapy in the treatment of co-morbid insomnia and sleep apnea

Alexander Sweetman (Australia)

3:22pm – 3:42pm

Treating COMISA in a multidisciplinary sleep clinic: Does sequence of treatment matter?

Jacon C. Ong (United States)

3:42pm – 4:02pm

Online and in-person Cognitive Behavioral Therapy for insomnia co-occurring with sleep apnea

Jack Edinger (United States)

4:02pm – 4:22pm

Using sleep coaches to provide integrated behavioral treatment for insomnia and PAP adherence in US veterans

Cathy Alessi (United States)

4:22pm – 4:30pm

Conclusion

■ S43: Genetic and epidemiological triggers of sleepiness: From natural variation to severe sleep disorders

3:00pm – 4:30pm | Room 211

Chair

Hanna M. Ollila (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Genetic association analyses for excessive daytime sleepiness

Heming Wang (United States)

3:18pm – 3:34pm

USF1 ties metabolism to chronotype and sleepiness

Nasa Sinnott-Armstrong (United States)

3:34pm – 3:50pm

Kleine Levin Syndrome is strongly associated with variants at TRANK1 locus and genes involved in the regulation of rhythmic behaviours

Aditya Ambati (United States)

3:50pm – 4:06pm

Electronic health records define novel genetic and environmental triggers for sleepiness and narcolepsy

Hanna M. Ollila (United States)

4:06pm – 4:22pm

CD8 T-cell autoreactivity in type 1 narcolepsy

Birgitte Kornum (Denmark)

4:22pm – 4:30pm

Conclusion

■ S44: Upper airway physiology and new treatment in patients with OSA

3:00pm – 4:30pm | Room 212

Chairs

Yuanming Luo (China)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Endoscopic laryngeal assessment: What is it and can it help those prescribing PAP therapy

Michael Polkey (United Kingdom)

3:18pm – 3:34pm

Coordination between respiratory pump and upper airway muscles in OSA

Yuanming Luo (China)

3:34pm – 3:50pm

New insight into arousal mechanism and its role on OSA phenotype

Peter Catcheside (Australia)

3:50pm – 4:06pm

Treatment of sleep apnea with transvenous electrical stimulation

Xilong Zhang (China)

4:06pm – 4:22pm

New development of drug targeting on upper airway dilator muscles in OSA

Andrew Wellman (United States)

4:22pm – 4:30pm

Conclusion

S45: New perspectives in the management of pediatric narcolepsy

3:00pm – 4:30pm | Room 219

Chairs

Michel Lecendreux (France)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Clinical features in the narcoleptic child: How clinical evaluation may orientate towards therapeutic decisions

Giuseppi Plazzi (Italy)

3:18pm – 3:34pm

Pediatric narcolepsy, auto-immunity and potential therapeutic outcomes

Lucie Barateau (France)

3:34pm – 3:50pm

Pediatric narcolepsy and psychiatric features and treatment issues

Paul Gringras (United Kingdom)

3:50pm – 4:06pm

Management of the pediatric narcoleptic patient

Michel Lecendreux (France)

4:06pm – 4:22pm

Directions for the future, what can we expect regarding narcolepsy and other disorders of EDS based on current research?

Yves Dauvilliers (France)

4:22pm – 4:30pm

Conclusion

SRS-CSS Frontiers: Obstructive sleep apnea and the risk of cognitive decline in older adults

3:00pm – 4:00pm | Room 220

Chair

Nadia Gosselin (Canada)

SRS-CSS Frontiers: Sleep: Impact on neurological function

4:15pm – 6:00pm | Room 220

Chairs

Kristen Knutson (United States); John Peever (Canada)

4:15pm – 4:40pm

Chronic sleep loss neural injury: Play early, pay later
Sigrid Veasey (United States)

4:40pm – 5:05pm

Links between global and local sleep disruption and Alzheimer's disease pathophysiology

Bryce Mander (United States)

5:05pm – 5:30pm

REM sleep behavior disorder: Animal models and the neuronal network involved

Pierre-Hervé Luppi (France)

5:30pm – 5:55pm

Obstructive sleep apnea and Alzheimer Disease: Is amyloid the link between breathing and dementia?

Yo-El Ju (United States)

Oral abstracts

3:00pm – 4:30pm | Room 216

Technologist workshop

3:45pm – 5:00pm | Room 223

S46: Central sleep apnea: PAP, ASV or Phrenic Nerve Stimulation?

4:30pm – 6:00pm | Ballroom A

Chair

Neomi Shah (United States)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

Epidemiology of sleep apnea in heart failure

Neomi Shah (United States)

4:48pm – 5:04pm

CPAP for central sleep apnea

Douglas Bradley (Canada)

5:04pm – 5:20pm

ASV for central sleep apnea

Virend Somers (United States)

5:20pm – 5:36pm

Phrenic nerve stimulation for central sleep apnea

David Rapoport (United States)

5:36pm – 5:52pm

Summary & discussion

Virend Somers (United States); Neomi Shah (United States)

5:52pm – 6:00pm

Conclusion

D06: And you thought CPAP adherence was hard: Weight management for patients with obstructive sleep apnea

4:30pm – 6:00pm | Room 118

Chair

Robert L. Owens (United States)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

Beyond the AHI: What else gets better with weight loss?

Indira Gurubhagavatula (United States)

4:48pm – 5:00pm

Impact of diet/exercise/behavior modification on weight in OSA

Susan Bartlett (Canada)

5:04pm – 5:20pm

A chance to cut is a chance to heal: Impact of surgery on weight in OSA

Sanjay R. Patel (United States)

5:20pm – 5:36pm

Red pill vs blue pill?: Impact of pharmacotherapy on weight in OSA

Daniel Besseson (United States)

5:36pm – 5:52pm

Delivering weight loss in a sleep clinic

Ron Grunstein (Australia)

5:52pm – 6:00pm

Conclusion

S47: From past, present, to precision: Contemporary sleep surgery

4:30pm – 6:00pm | Room 119

Chairs

Stanley Yung-Chuan Liu (United States); Clemens Heiser (Germany)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

Drug induced sleep endoscopy: Does it direct treatment? How else can we use it?

Nico de Vries (The Netherlands)

4:48pm – 5:04pm

Palate surgery

Olivier Vanderveken (Belgium)

5:04pm – 5:20pm

Tongue surgery

Peter Baptista (Spain)

5:20pm – 5:36pm

Upper airway stimulation

Clemens Heiser (Germany)

5:36pm – 5:52pm

Skeletal surgery

Stanley Yung-Chuan Liu (United States)

5:52pm – 6:00pm

Conclusion

S48: Insomnia and performance: From school age to workplace

4:30pm – 6:00pm | Room 121

Chair

Célyne H. Bastien (Canada)

4:30pm – 4:32pm

Introduction

4:32pm – 4:52pm

Sleepy Children: The impact of sleep restriction on daytime functioning

Penny Corkum (Canada)

4:52pm – 5:12pm

The associations between sleep and academic performance in adolescents with insomnia

Reut Gruber (Canada)

5:12pm – 5:32pm

Depressive and anxiety symptoms in college and university students: Insomnia and performance

Célyne H. Bastien (Canada)

5:32pm – 5:52pm

The impact of CBT for insomnia on workplace productivity; meta analysis of RCT data on a digital intervention

Colin Espie (United Kingdom)

5:52pm – 6:00pm
Conclusion

S49: Advances in the analysis of clinical polysomnography data
4:30pm – 6:00pm | Room 211

Chairs

Susan Redline (United States); Magdy Younes (Canada)

4:30pm – 4:32pm
Introduction

4:32pm – 4:52pm
Heart rate variability during polysomnography: Methods of assessment and clinical relevance
Thomas Penzel (Germany)

4:52pm – 5:12pm
EEG analysis: More than just sleep architecture (new EEG biomarkers)
Magdy Younes (Canada)

5:12pm – 5:32pm
Utilizing PSG signals to characterize obstructive sleep apnea subtypes and severity
Diego Mazzotti (United States)

5:32pm – 5:52pm
Leveraging existing polysomnographic datasets for discovery and replication
Susan Redline (United States)

5:52pm – 6:00pm
Conclusion

S50: Sleep, stroke and vascular dementia
4:30pm – 6:00pm | Room 212

Chairs

Melissa C. Lipford (United States)

4:30pm – 4:32pm
Introduction

4:32pm – 4:52pm
The evolution of sleep disordered breathing after stroke
Devin L. Brown (United States)

4:52pm – 5:12pm
Treating sleep apnea in the stroke patient: Alternative therapies when PAP isn't an option
Karl Droghamji (United States)

5:12pm – 5:32pm
Sleep apnea and vascular dementia of the binswanger type: A brewing storm
Antonio Culebras (United States)

5:32pm – 5:52pm
Relationships between RLS/PLMS and Cerebrovascular Disease
Mark Boulos (Canada)

5:52pm – 6:00pm
Conclusion

SRS-CSS Frontiers: Sleep: Impact on neurological function
4:15pm – 6:00pm | Room 220

Chairs

Kristen Knutson (United States); John Peever (Canada)

4:15PM – 4:40PM
Chronic sleep loss neural injury: play early, pay later
Sigrid Veasey (United States)

4:40PM – 5:05PM
Links between global and local sleep disruption and Alzheimer's disease pathophysiology
Bryce Mander (United States)

5:05PM – 5:30PM
REM sleep behavior disorder: animal models and the neuronal network involved
Pierre-Hervé Luppi (France)

5:30PM – 5:55PM
Obstructive sleep apnea and Alzheimer Disease: Is amyloid the link between breathing and dementia?
Yo-El Ju (United States)

Oral abstracts

4:30pm – 6:00pm | Room 216

Poster session 3

5:30pm – 7:00pm | Room 223

WSS Membership Meeting

7:00pm – 8:00pm | Room 118

World Sleep Day® Delegates Represent



• Albania • Algeria • Argentina • Armenia • Australia • Austria • Bahrain • Bangladesh • Belgium • Bolivia • Brazil • Bulgaria • Burkina Faso
• Caicos Islands • Canada • Chile • China • Colombia • Croatia • Czech Republic • Denmark • Egypt • El Salvador • Estonia • Finland
• France • Georgia • Germany • Guatemala • Greece • Hong Kong • Hungary • India • Indonesia • Israel • Iran • Ireland • Italy • Japan
• Jordan • Kenya • Kuwait • Latvia • Libya • Lithuania • Malaysia • Mexico • Netherlands • New Zealand • Nigeria • Norway • Pakistan
• Peru • Philippines • Poland • Portugal • Puerto Rico • Qatar • Republic of Korea • Republic of Moldova • Romania • Russia • Saudi Arabia
• Scotland • Serbia • Singapore • Slovenia • South Africa • Spain • Sweden • Switzerland • Taiwan • Thailand • Turkey • United Arab Emirates
• United Kingdom • Uruguay • USA • Venezuela • Vietnam

World Sleep Day

Distinguished Activity Awards

The Opening Ceremony of World Sleep 2019 will take place at the Vancouver Convention Center, the hub of the World Sleep 2019 congress. The ceremony will feature award presentations such as the top 2019 World Sleep Day events that took place in March. Join colleagues to celebrate the importance of sleep.

■ **K09: Biomarkers and determinants of drowsy driving: Advances in reducing crash risk**

Clare Anderson (Australia)

Keynote 8:00am – 8:45am | Ballroom A

■ **K10: Perspectives of neuroimaging in sleep disorders**

Seung Bong Hong (Republic of Korea)

Keynote 8:00am – 8:45am | Room 211

■ **S52: State-of-the-art of wearable technology and big data to advance sleep and circadian science**

9:00am – 10:30am | Ballroom A

Chair

Massimiliano de Zambotti (United States)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Intro to sleep in the digital health revolution

Sean Drummond (Australia)

9:18am – 9:34am

State-of-the art of wearable sleep technology

Massimiliano de Zambotti (United States)

9:34am – 9:50am

Sleep and circadian biomarkers: Toward new opportunities

Julie Carrier (Canada)

9:50am – 10:06am

Sleep faces big data: Potential and challenges

Shaun Purcell (United States)

10:06am – 10:22am

Future direction in wearable sleep technology: Short and long-term goals and needs

Sean Drummond (Australia)

10:22am – 10:30am

Conclusion

■ **D07: Capturing standardized outcome measures for registry based single N RCTs (nRCT=1)**

9:00am – 10:30am | Room 118

Chairs

Osman Ipsiroglu (Canada)

9:00am – 9:02am

Introduction

9:02am – 9:18am

The traditional use of actigraphy and modern actigraphy applications in smartphones

Mirja Quante (Germany)

9:18am – 9:34am

The variety of pulseoxymeters and their application in special patient populations

David Wensley (Canada)

9:34am – 9:50am

The use of home-based video-footage to identify contextual and personal factors affecting sleep and to differentiate discomfort and pain

Sue McCabe (Australia)

9:50am – 10:06am

How cell-phone based selfies can be used for vigilance detection

Gerhard Klöesch (Austria)

10:06am – 10:22am

The do's and don'ts of screening and home monitoring technologies for avoiding misinterpretations

Calvin Kuo (Canada); Mike Van der Loos (Canada)

10:22am – 10:30am

Conclusion

■ **S53: Electronic media and sleep: Where are we and where are we headed?**

9:00am – 10:30am | Room 119

Chairs

Jan Van den Bulck (United States)

9:00am – 9:02am

Introduction

9:02am – 9:18am

The association between electronic media use and sleep in adolescents, an update

Lauren Hale (United States)

9:18am – 9:34am

Social media and sleep: The adolescent perspective informing research and education

Holly Scott (United Kingdom)

9:34am – 09:50am

The lesser of many evils: Could a harm minimisation approach to reduce electronic media use improve young people's sleep?

Michael Gradisar (Australia)



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Sunday, September 22 | 8:00am – 9:00pm | Vancouver Convention Centre



INTERNATIONAL RESTLESS LEGS SYNDROME STUDY GROUP ANNUAL MEETING & COURSE

Summary

The International Restless Legs Syndrome Study Group (IRLSSG) will offer a full-day course on Sunday, September 22, 2019. Attendance is open to any sleep professional who is interested in RLS. A business meeting will be held after the course, which is only open to IRLSSG members.

Program Committee

Denise Sharon (United States); Federica Provini (Italy); Garima Shukla (Canada); Rochelle Zak (United States); Cornelius Bachman (Germany)

**COST \$165 | FREE TO IRLSSG MEMBERS
BECOME A MEMBER AT WWW.IRLSSG.ORG**

**REGISTRATION INCLUDES SESSIONS
LUNCH & NETWORKING DINNER**

Agenda

8:00am – 08:30am

Networking and Coffee

*Denise Sharon (United States); Federica Provini (Italy);
Garima Shukla (Canada); Rochelle Zak (United States)
Cornelius Bachman (Germany)*

8:30am – 8:45am

Welcome to Vancouver & Introductions

Denise Sharon (United States); Allan O'Bryan (United States)

ANIMAL MODELS TASK FORCE

Mauro Manconi (Switzerland); Diego García-Borreguero (Spain)

8:45am – 9:00am

Behavioral Animal Models: When phenotype matters and objective markers are missing

Jerome Siegel (United States)

9:00am – 9:15am

Critical review of outcome measures of the past models: Rationale and need of consensus

Mauro Manconi (Switzerland)

9:15am – 09:30am

Expert Consensus Guideline for an animal model of RLS: How to reach a consensus on outcome measures in animal models: Methods and preliminary results

Aaro Salminen (Germany)

9:30am – 09:45am

Update on RLS animal models and iron

Richard Allen (United States)

9:45am – 10:00am

State of the research on animal model KO for BTBD9

Yuqing Li (United States)

10:00am – 10:15am

Animals models task force summary and update

Mauro Manconi (Switzerland)

10:15am – 10:30am

Coffee break

10:30am – 10:50am

RLS: Leg movements identify arousal

Richard Allen (United States)

ATTEND THIS MEETING AS PART OF THE WORLD SLEEP 2019 PROGRAM



**INTERNATIONAL
RESTLESS LEGS SYNDROME
STUDY GROUP**

10:50am – 11:10am

Update on blood pressure and endothelial dysfunction in RLS

Yves Dauvilliers (France)

11:10am – 11:30am

New MRI findings in RLS

Ambra Stefani (Austria)

11:30am – 11:45am

A proteomic and system biology approach reveal novel biomarker signatures for RLS

Raffaele Ferri (Italy)

11:45am – 12:00pm

The lifespan course of short-interval, periodic and isolated leg movements during sleep

Raffaele Ferri (Italy)

12:00pm-12:15pm

Iron treatment

Richard Allen (United States)

12:15pm – 1:00pm

Lunch break

Neurologic co-morbidities of RLS

Rochelle Zak (United States)

1:00pm – 1:03pm

Introduction

Garima Shukla (Canada)

1:03pm – 1:23pm

Restless legs syndrome and Parkinson's disease - the dopaminergic connection and treatment challenges

Luigi Ferini-Strambi (Italy)

1:23pm – 1:40pm

Restless legs syndrome in acute neurological conditions - lessons from stroke and acute neuropathies

Garima Shukla (Canada)

1:40pm – 2:00pm

How RLS contributes to quality of life in Multiple Sclerosis

Mauro Manconi (Switzerland)

Young Investigators

*Arthur Walters (United States); Denise Sharon (United States);
Rochelle Zak (United States); John Swieca (United States)*

2:00pm – 2:15pm

Young Investigator Presentation #1

2:15pm – 2:30pm

Young Investigator Presentation #2

3:15pm – 3:30pm

Break

IRLSSG Projects

Denise Sharon (United States)

3:30pm – 3:45pm

Diagnostic accuracy of RLS screening tools

Stephany Fulda (Switzerland)

3:45pm – 4:00pm

Update on PLMS scoring program certification

Stephany Fulda (Switzerland)

4:00pm – 4:15pm

National RLS Opioid Registry: 1-2 year longitudinal results

John Winkelman (United States)

4:15pm – 4:30pm

Establishing RSD as a new diagnosis

Lourdes DelRosso (Peru)

4:30pm – 4:45pm

Pediatric RLS and GP Task Force update

Arthur Walters (United States)

4:45pm – 4:50pm

Ideas for projects from the attendees

4:50pm – 5:00pm

Outgoing chair summary

Diego García-Borreguero (Spain)

5:00pm – 5:15pm

Break

5:15pm – 6:00pm

Business meeting

Diego García-Borreguero (Spain)

6:00pm – 9:00pm

Dinner

2:30pm – 2:45pm

Young Investigator Presentation #3

2:45pm – 3:00pm

Young Investigator Presentation #4

3:00pm – 3:15pm

Young Investigator Presentation #5

9:50am – 10:06am

Limited media exposure is associated with poor sleep patterns in ultra-orthodox female adolescents: The forbidden fruit effect?

Tamar Shochat (Israel)

10:06am – 10:22am

Electronic media use and sleep among adults: Is it all the same?

Liese Exelmans (United States)

10:22am – 10:30am

Conclusion

S54: Sleep disorders as a risk factor for suicide and the impact of treating insomnia in suicidal patients

9:00am – 10:30am | Room 121

Chairs

William Vaughn McCall (United States)

9:00am – 9:02am

Introduction

9:02am – 9:22am

Overview of sleep disorders and suicide

Chris Drapeau (United States)

9:22am – 9:42am

Objective sleep markers of suicide risk: Polysomnography and actigraphy

Meredith Rumble (United States)

9:42am – 10:02am

REST-IT methods: The design of randomized clinical trials for suicidal outpatients

Andrew Krystal (United States)

10:02am – 10:22am

REST-IT results – sleep measures and suicidal ideation

William Vaughn McCall (United States)

10:22am – 10:30am

Conclusion

S55: What is slow-wave activity? And, can we manipulate it to our benefit?

9:00am – 10:30am | Room 211

Chair

Jennifer Goldschmied (United States)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Experience and sleep-dependent synaptic plasticity

Guang Yang (United States)

9:18am – 9:34am

Bidirectional links between slow wave activity and β -amyloid pathology and their functional significance

Bryce Mander (United States)

9:34am – 9:50am

I want to sleep deeper! How does cognition affect slow-wave sleep?

Björn Rasch (Switzerland)

9:50am – 10:06am

Selective Slow-wave Disruption in Healthy and Depressed Samples

Jennifer Goldschmied (United States)

10:06am – 10:22am

Slow wave activity: From basic knowledge to manipulation

Eden Debellemanniere (France)

10:22am – 10:30am

Conclusion

S56: Obstructive sleep apnea, cognitive dysfunction & neurodegeneration: Current understanding

9:00am – 10:30am | Room 212

Chair

Marta Kaminska, Canada

9:00am – 9:02am

Introduction

9:02am – 9:18am

Does OSA cause cognitive dysfunction and dementia? Epidemiology & mechanisms

Ivana Rosenzweig (United Kingdom)

9:18am – 9:34am

Cognitive defects associated with OSA: Comparison with other sleep disturbances, COPD and degenerative disorders

Melinda Jackson (Australia)

9:34am – 9:50am

Neuroimaging evidence of OSA effects on the brain

Nadia Gosselin (Canada)

9:50am – 10:06am

OSA and dementia: Biomarker evidence

Ricardo Osorio (United States)

10:06am – 10:22am

OSA in Parkinson's disease

Marta Kaminska (Canada)

10:22am – 10:30am

Conclusion

S57: Effects of perinatal sleep modulation in the mother and offspring: Evidences from preclinical research

9:00am – 10:30am | Room 219

Chairs

Monica Levy Andersen (Brazil); Gabriel Natan Pires (Brazil)

9:00am – 9:02am

Introduction

9:02am – 9:18am

Sleep during pregnancy and postpartum and its relationship with maternal behavior

Gabriel Natan Pires (Brazil)

9:18am – 9:34am

Functional impact of sleep apnea during pregnancy in mother and offspring: Epigenetic modifications associated with metabolic disorders

Rene Cortese (United States)

9:34am – 9:50am

Preoptic sleep regulation during the postpartum period

Luciana Benedetto (Uruguay)

09:50am – 10:06am

Sleep deprivation during pregnancy: Neurophysiological and cognitive effects in the offspring

Yu Tian Wang (Canada)

10:06am – 10:22am

Prenatal sleep deprivation and immature neuronal network in full term rat newborn

Kamalesh K. Gulia (India)

10:22am – 10:30am

Conclusion

S58: Sleep and memory over the lifespan

9:00am – 10:30am | Room 220

Chair

Kerstin Hoedlmoser (Austria)

9:00am – 9:02am

Introduction

9:02am – 9:22am

Functional impact of developmental changes in sleep microstructure on memory

Kerstin Hoedlmoser (Austria)

9:22am – 9:42am

Sleep benefits on memory encoding in adolescents and young adults

Michael Chee (Singapore)

9:42am – 10:02am

Boundaries for memory cueing and processing capabilities during sleep

Philippe Peigneux (Belgium)

10:02am – 10:22am

Do encoding deficits contribute to age-related changes in sleep-dependent memory consolidation?

Rebecca Spencer (United States)

10:22am – 10:30am

Conclusion

S59: Shift work in transportation systems

9:00am – 10:30am | Room 223

Chairs

Andrea Rodenbeck (Germany)

9:00am – 9:02am

Introduction

9:02am – 9:22am

Sleep in shift workers: Results from the updated, evidence-based German Guideline on Shift Work and Health

Céline Vetter (United States)

9:22am – 9:42am

Aircrew scheduling and sleepiness: A large EU study

Torbjörn Åkerstedt (Sweden)

9:42am – 10:02am

Interaction effects of workload and time awake on aircrew fatigue: Implications for duty time regulation

Daniel Aeschbach (Germany)

10:02am – 10:22am

The EU driving and rest period regulation and truck drivers' sleep and sleepiness

Mikael Sallinen (Finland)

10:22am – 10:30am

Conclusion

■ **Technologist workshop**

9:00am – 10:30am | Room 223

■ **Exhibition**

10:00am – 4:00pm | Exhibition Hall

■ **S60: New approaches in treating OSA in young subjects**

10:45am – 12:15pm | Ballroom A

Chair

Christian Guilleminault (United States)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Introduction: orofacial growth and OSA

Christian Guilleminault (United States)

11:03am – 11:19am

Short lingual frenulum: Diagnosis, and treatment including re-education

Audrey Yoon (United States)

11:19am – 11:35am

Maxillary retrusion with treatment with bone-anchored-maxillary-expansion

Stacey Quo (United States)

11:35am – 11:51am

Maxillary expansion using endoscopic-assisted-surgical expansion

Kasey Li (United States)

11:51am – 12:07pm

Neutral-mandibular-advancement-device with tongue beads used only during the sleep as myofunctional treatment

Yu-Shu Huang (Taiwan)

12:07pm – 12:15pm

Conclusion

■ **S61: Why the role of sleep in memory consolidation is overrated**

10:45am – 12:15pm | Room 118

Chair

Hans C. Dringenberg (Canada)

10:45am – 10:47am

Introduction

10:47am – 11:07am

Consolidation mechanisms are active during wake and sleep

Hans C. Dringenberg (Canada)

11:07am – 11:27am

Memory consolidation in facilitated by waking rest

Erin J. Wamsley (United States)

11:27am – 11:47am

No cognitive processing in unconscious states: Sleep is no exception

Robert P. Vertes (United States)

11:47am – 12:07pm

Altered sleep in aquatic mammals does not impair cognitive functions and performance

Oleg Lyamin (Russian Federation)

12:07pm – 12:15pm

Conclusion

■ **S62: The role of sleep in aging: Molecular insights related to inflammation**

10:45am – 12:15pm | Room 119

Chair

Sergio Tufik (Brazil)

10:45am – 10:47am

Introduction

10:47am – 11:07am

Effects of sleep on age-related conditions

Ronaldo Delmonte Piovezan (Brazil)

11:07am – 11:27am

Sleep disturbances and biological aging: The wear and tear of insufficient sleep

Judith Carroll (United States)

11:27am – 11:47am

Telomere length as a marker of sleep disturbances: A link between sleep and cellular senescence

Priscila Farias Tempaku (Brazil)

11:47am – 12:07pm

Mechanisms underlying the association between sleep-wake disruptions and Alzheimer's disease

Johathan Cedernaes (Sweden)

12:07pm – 12:15pm

Conclusion

■ S63: Biology and biomarkers of unexplained hypersomnolence

10:45am – 12:15pm | Room 121

Chairs

David T. Plante (United States)

10:45am – 10:47am

Introduction

10:47am – 11:07am

GABA-related hypersomnolence

Lynn Marie Trotti (United States)

11:07am – 11:27am

Neuroimaging findings in CNS hypersomnias

Nathan Cross (United States)

11:27am – 11:47am

Altered circadian period in idiopathic hypersomnia

Robert Thomas (United States)

11:47am – 12:07pm

Altered local slow wave activity in hypersomnolence disorder: A transdiagnostic process?

David T. Plante (United States)

12:07pm – 12:15pm

Conclusion

■ S64: The relationship between sleep and torpor: Circuits and mechanisms linking thermoregulation and sleep switch

10:45am – 12:15pm | Room 211

Chairs

Giovanna Zoccoli (Italy); Vladyslav Vyazovskiy (United Kingdom)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Sleep and thermoregulatory control by the preoptic area

Clifford B. Saper (United States)

11:03am – 11:19am

Neural circuitry binding sleep and temperature regulation

William Wisden (United Kingdom)

11:19am – 11:35am

Orexins as a link between thermoregulation, sleep and torpor

Giovanna Zoccoli (Italy)

11:35am – 11:51am

The relationship between torpor and sleep: Focus on cortical network activity and sleep homeostasis

Vladyslav Vyazovskiy (United Kingdom)

11:51am – 12:07pm

Neurochemical mechanisms driving sleep and thermoregulation in the circannual rhythm of hibernation

Kelly Drew (United States)

12:07pm – 12:15pm

Conclusion

■ S65: Reconsidering NREM parasomnia: Toward a better understanding of pathophysiology and treatment

10:45am – 12:15pm | Room 212

Chair

Geert Mayer (Germany)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Animal models for NREM parasomnia

Pierre-Hervé Luppi (France)

11:03am – 11:19am

Imaging findings and behavior in NREM parasomnia

Régis Lopez (France)

11:19am – 11:35am

Is there a genetic link to NREM parasomnia?

Anna Heidbreder (Germany)

11:35am – 11:51am

Neuronal networks from intracerebral recordings

Lino Nobili (Italy)

11:51am – 12:07pm

New approaches in polysomnography analysis of NREM parasomnia

Dagmar Krefting (Germany); Geert Mayer (Germany)

12:07pm – 12:15pm

Conclusion

■ S66: Social aspects of sleep

10:45am – 12:15pm | Room 219

Chairs

Tina Sundelin (Sweden)

10:45am – 10:47am

Introduction

10:47am – 11:07am

Effects of sleep loss on interpersonal communication and social impressions

Tina Sundelin (Sweden)

11:07am – 11:27am

The effect of total sleep deprivation in negotiations

Emma Halfmann (Germany)

11:27am – 11:47am

Sleepless and alone: The neural correlates of social withdrawal without sleep

Eti Ben Simon (United States)

11:47am – 12:07pm

The impact of social rejection on subjective and objective measures of sleep

Aric Prather (United States)

12:07pm – 12:15pm

Conclusion

■ S67: Depression and sleep: New insights in measurement and treatment

10:45am – 12:15pm | Room 220

Chair

Nicole Carmona (Canada)

10:45am – 10:47am

Introduction

10:47am – 11:03am

Predicting insomnia improvement in those with comorbid insomnia and depression

Colleen Carney (Canada)

11:03am – 11:19am

Multifaceted measurement of sleep and circadian factors in sleep and depression

Daniel Taylor (United States)

11:19am – 11:35am

Specificity of insomniatypic beliefs in predicting insomnia severity in those with depression

Nicole Carmona (Canada)

11:35am – 11:51am

Self-reported sleepiness versus pupillometrically measured sleepiness in depression

Kathryn Roecklein (United States)

11:51am – 12:07pm

Circadian preference as a moderator of depression outcome following cognitive behavioral therapy for insomnia plus antidepressant medications

Lauren Asarnow (United States)

12:07pm – 12:15pm

Conclusion

■ S68: On light, circadian rhythms and health

10:45am – 12:15pm | Room 223

Chair

Myriam Juda (Canada)

10:45am – 10:47am

Introduction

10:47am – 11:07am

Epidemiology of human light-sampling behaviour

Till Roenneberg (Germany)

11:07am – 11:27am

Daylight saving time and light exposure

Kenneth Wright (United States)

11:27am – 11:47am

A novel data-driven approach to probe the link between light and health

Céline Vetter (United States)

11:47am – 12:07pm

Circadian rhythms, light, melatonin, and pregnancy

Elizabeth Klerman (United States)

12:07pm – 12:15pm

Conclusion

■ Technologist workshop

11:30am – 12:30pm | Room 223

S69: Is Narcolepsy a Spectrum Disorder including IH, NT2 and NT1?

12:30pm – 2:00pm Ballroom A

Chairs

Ulf Kallweit (Germany); Michael Thorpy (United States)

12:30pm – 12:32pm

Introduction

12:32pm – 12:52pm

Hypocretin neurons in health and disease

Mehdi Tafti (Switzerland)

12:52pm – 1:12pm

The neuronal and csf hypocretin associations with REM sleep phenomena and narcolepsy

Thomas Scammell (United States)

1:12pm – 1:32pm

Environmental factors for the development of narcolepsy and IH

Fang Han (China)

1:32pm – 1:52pm

Similarities in the clinical features of IH, NT2 and NT1

Yves Dauvilliers (France)

Conclusion

1:52pm – 2:00pm

D08: Telemedicine in sleep medicine

12:30pm – 2:00pm I Room 118

Chair

Babak Amra (Islamic Republic of Iran)

12:30pm – 12:32pm

Introduction

12:32pm – 12:48pm

Telemedicine: What can be achieved through engineering

Thomas Penzel (Germany)

12:48pm – 1:04pm

Telemedicine guideline in sleep medicine

Christoph Schoebel (Germany)

1:04pm – 1:20pm

Effect of CPAP compliance and exercise in patients with OSA and heart failure

Lia Rita A. Bittencour (Brazil)

1:20pm – 1:36pm

Diagnostic telemedicine applications

Ingo Fietze (Germany)

1:36pm – 1:52pm

The smartphone tool – consumer and diagnostic apps

Yong K. Choi (United States)

1:52pm – 2:00pm

Conclusion

S70: Sleep and mental health in adolescents

12:30pm – 2:00pm I Room 119

Chairs

Fiona Baker (South Africa)

12:30pm – 12:32pm

Introduction

12:32pm – 12:52pm

Insufficient sleep and affective functioning in adolescents

Peter Franzen (United States)

12:52pm – 1:12pm

A longitudinal view on relationships between sleep, substance use, and mental health in adolescents

Aimee Goldstone (United States)

1:12pm – 1:32pm

The role of sleep in attention deficit hyperactivity disorder in adolescents

Reut Gruber (Canada)

1:32pm – 1:52pm

Efficacy of sleep interventions in at-risk adolescents

Matthew Blake (Australia)

1:52pm – 2:00pm

Conclusion

S71: Neuroscience and neuroimaging insights into central disorders of hypersomnolence

12:30pm – 2:00pm I Room 121

Chair

Rolf Fronczek (The Netherlands)

12:30pm – 12:32pm

Introduction

12:32pm – 12:52pm

Central disorders of hypersomnolence: An integrated animal / human perspective

John Peever (Canada)

12:52pm – 1:12pm

Structural and functional MRI findings in narcolepsy

Ysbrand Van Der Werf (The Netherlands)

1:12pm – 1:32pm

Is narcolepsy a progressive disorder?

A neuroimaging perspective

Rolf Fronczek (The Netherlands)

1:32pm – 1:52pm

Functional and structural neuroimaging of idiopathic hypersomnia

Thien Thanh Dang-Vu (Canada)

1:52pm – 2:00pm

Conclusion

■ S72: Infra-slow oscillations – the keepers of sleep?

12:30pm – 2:00pm | Room 211

Chair

Stephany Fulda (Switzerland)

12:30pm – 12:32pm

Introduction

12:32pm – 12:52pm

The 0.02 Hz oscillation times spontaneous transitions out of non-REM sleep

Anita Lüthi (Switzerland)

12:52pm – 1:12pm

Pupil size as a robust readout for cortical states changes in mice and humans

Daniel Huber (Switzerland)

1:12pm – 1:32pm

Deep description of infra-slow alterations in human non-REM sleep, dismantling age and mental health

Frederick D. Weber (The Netherlands)

1:32pm – 1:52pm

Infra-slow oscillations in healthy and disordered sleep

Stephany Fulda (Switzerland)

1:52pm – 2:00pm

Conclusion

■ S73: Upper airway stimulation therapy for obstructive sleep apnea: Theoretical considerations, clinical evidence, and implementation strategies

12:30pm – 2:00pm | Room 212

Chair

Karl Droghamji (United States)

12:30pm – 12:32pm

Introduction

12:32pm – 12:48pm

Neurophysiology of the upper airway and the mechanism of upper airway stimulation

Nico DeVries (The Netherlands)

12:48pm – 1:04pm

Efficacy and safety: A summary of clinical studies and experience

Karl Droghamji (United States)

1:04pm – 1:20pm

Patient screening, selection, and surgical device implantation

Maurits Boon (United States)

1:20pm – 1:36pm

Post-operative management and long-term considerations

Clemens Heiser (Germany)

1:36pm – 1:52pm

Practical aspects of initiating an upper airway stimulation program

Olivier Vanderveken (Belgium)

1:52pm – 2:00pm

Conclusion

■ S74: Sleep, mental health, and performance in elite athletes

12:30pm – 2:00pm | Room 219

Chairs

Michael Grandner (United States); Charles Samuels (Canada)

12:30pm – 12:32pm

Introduction

12:32pm – 12:52pm

Mental health in elite athletes and the role of sleep: An update on the International Olympic Committee consensus statement on mental health

Michael Grandner (United States)

12:52pm – 1:12pm

Assessment of sleep in elite athletes: Standardized approaches for when everyone is an outlier

Charles Samuels (Canada)

1:12pm – 1:32pm

Treating sleep problems and disorders in elite athletes: Adaptive solutions to varied clinical challenges

Jonathan Charest (Canada)

1:32pm – 1:52pm

Travel and sport: Current approaches to optimizing performance in the context of travel

Ian Dunican (Australia)

1:52pm – 2:00pm

Conclusion

S75: Role of sleep and sleep therapies in the pathogenesis and outcomes of neurologic disorders

12:30pm – 2:00pm | Room 220

Chair

Nancy Foldvary-Schaefer (United States)

12:30pm – 12:32pm

Introduction

12:32pm – 12:48pm

Role of Sleep in the neurobiology of Alzheimer's disease and mild cognitive impairment

Madeleine Grigg-Damberger (United States)

12:48pm – 1:04pm

Stroke and sleep: Pathogenic mechanisms and treatment effects

Brian Murray (Canada)

1:04pm – 1:20pm

Traumatic brain injury: What's sleep got to do with it?

Christian Baumann (Switzerland)

1:20pm – 1:36pm

Practical implications of sleep and sleep therapies on epilepsy

Nancy Foldvary-Schaefer (United States)

1:36pm – 1:44pm

Conclusion

S76: The future of assessing fitness to drive in sleep disorders

12:30pm – 2:00pm | Room 223

Chair

Mark Howard (Australia)

12:30pm – 12:32pm

Introduction

12:32pm – 12:52pm

The impact of sleep restriction and sleep disorders in road safety

Markku Partinen (Finland)

12:52pm – 1:12pm

What are the best biomarkers to determine fitness to drive in sleep apnea?

Pierre Philip (France)

1:12pm – 1:32pm

Novel methods to assess alertness failure and driving risk in sleep apnea

Andrew Vakulin (Australia)

1:32pm – 1:52pm

Ocular biomarkers for prediction and monitoring alertness in sleep apnea and shift work

Mark Howard (Australia)

1:52pm – 2:00pm

Conclusion

K11: Sleep apnea endotypes and phenotypes: Use of new technology in obstructive sleep apnea

Atul Malhotra (United States)

Keynote 2:00pm – 2:45pm | Ballroom A

K12: From somnolence in the general population to narcolepsy

Yves Dauvilliers (France)

Keynote 2:00pm – 2:45pm | Room 211

S77: Brain iron as a central factor in the pathophysiology of RLS: Emerging evaluation methods and therapeutic opportunities

3:00pm – 4:30pm | Ballroom A

Chair

Diego García-Borreguero (Spain)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Brain iron deficiency relation to dopamine dysfunction and augmentation in RLS

Christopher Earley (United States)

3:22pm – 3:42pm

Brain iron dysregulation in RLS relation to brain adenosine and glutamate

Sergi Ferre (Spain)

3:42pm – 4:02pm

MRI evaluation of regional brain iron relation to RLS symptoms and iron treatments

Richard Allen (United States)

4:02pm – 4:22pm

Transcranial sonography evaluation of substantia nigra iron: A potential clinical tool to predict IV iron treatment outcome

Celia Garcia Malo (Spain)

4:22pm – 4:30pm

Conclusion

D09: Innovative therapies for obstructive sleep apnea care delivery world wide

3:00pm – 4:30pm | Room 118

Chair

Harneet K. Walia (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Introduction to the quality measures and sleep apnea management group clinic for OSA

Harneet K. Walia (United States)

3:18pm – 3:34pm

Volume to value based model and population health initiatives for OSA in US

Nancy Foldvary-Schaefer (United States)

3:34pm – 3:50pm

Current OSA health care delivery in United Arab Emirates (UAE) and Asia

Preeti Devnani (United Arab Emirates)

3:50pm – 4:06pm

Current diagnostic and therapeutic strategies in Canada for OSA

Brian Murray (Canada)

4:06pm – 4:22pm

Novel strategies for sleep health service delivery in Australia

Ching-Li Chai-Coetzer (Australia)

4:22pm – 4:30pm

Conclusion

S78: The impact of short and disturbed sleep on pain: New mechanistic insights, sex differences, and clinical implications

3:00pm – 4:30pm | Room 119

Chairs

Monika Haack (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Do women and men respond differently to short or disrupted sleep? Inflammation, pain, and fatigue

Monika Haack (United States)

3:22pm – 3:42pm

Preoperative sleep disruption worsens surgical pain in the rat: Role of preoptic adenosine signaling in sleep-pain interactions

Giancarlo Vanini (United States)

3:42pm – 4:02pm

Effects of acute and chronic sleep disturbance on pain sensitivity and analgesic treatments in mice

Chloe Alexandre (United States)

4:02pm – 4:22pm

The effects of sleep disruption and loss on endogenous analgesia and opioidergic pain control

Michael Smith (United States)

4:22pm – 4:30pm

Conclusion

S79: Protective and risk factors of treating insomnia in youth

3:00pm – 4:30pm | Room 121

Chair

Eric Zhou (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Identifying protective and risk factors to improve the sleep health of the young

Kate Bartel (Australia)

3:18pm – 3:34pm

Non-pharmacological management of parasomnia in children

Seockhoon Chung (Republic of Korea)

3:34pm – 3:50pm

Cognitive-behavioural therapy for comorbid insomnia and depression in adolescents

Shirley Xin Li (Hong Kong)

3:50pm – 4:06pm

Treatment development for bedtime procrastination in young adults: The BED-PRO study

4:06pm – 4:22pm

Mobile phone use and sleep and mood disturbances in adolescents and young adults

Jihui Zhang (Hong Kong)

4:22pm – 4:30pm

Conclusion

S80: Functional networks of the sleepy and sleeping brain

3:00pm – 4:30pm | Room 211

Chairs

Jean-Marc Lina (Canada); Julie Carrier (Canada)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Introduction: An overview in functional connectivity in recent sleep studies

Jean-Marc Lina (Canada)

3:18pm – 3:34pm

From action potentials to neural oscillations: How brain regions exchange information across wakefulness and sleep

Umberto Olcese (The Netherlands)

3:34pm – 3:50pm

The neural correlates of sleep inertia

Raphael Vallat (United States)

3:50pm – 4:06pm

Abnormal brain connectivity and cognitive performance in OSA

Luigi Ferini-Strambi (Italy)

4:06pm – 4:22pm

NREM sleep functional connectivity: A window on the aging brain

Julie Carrier (Canada)

4:22pm – 4:30pm

Conclusion

S81: Sleep health disparities among children across three continents

3:00pm – 4:30pm | Room 212

Chairs

Monica Roosa Ordway (United States)

3:00pm – 3:02pm

Introduction

3:02pm – 3:18pm

Individual determinants of sleep in children living with socioeconomic adversity

Monica Roosa Ordway (United States)

3:18pm – 3:34pm

The impact of parental adverse childhood experiences on children's sleep in China

Guanghai Wang (China)

3:34pm – 3:50pm

Sleep insecurity within Australian communities and co-design of community interventions to support children's sleep health

Karen Thorpe (Australia)

3:50pm – 4:06pm

Social impact on children's health: The role of childcare

Sally Staton (Australia)

4:06pm – 4:22pm

Cross cultural (Asian, Australian, American) differences of SEM model of sleep: Putting it all together

Simon Smith (Australia)

4:22pm – 4:30pm

Conclusion

S82: Targeting sleep to improve mental health

3:00pm – 4:30pm | Room 219

Chair

Christoph Nissen (Switzerland)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

The effect of treating sleep in depression on emotion perception: Results from a randomized controlled trial of cognitive behavioural therapy for insomnia

Simon Kyle (United Kingdom)

3:22pm – 3:42pm

Text messages to maintain sleep, circadian, and health improvement 12-months following treatment for adolescents with an eveningness chronotype: A randomized controlled trial

Michael Dolsen (United States)

3:42pm – 4:02pm

Sleep and memory in medicated vs. unmedicated patients with major depression

Leonore Bovy (The Netherlands)

4:02pm – 4:22pm

Closed-loop modulation of sleep slow waves to treat major depression

Christoph Nissen (Switzerland)

4:22pm – 4:30pm

Conclusion

S83: Cluster analysis, biomarkers, and physiologic phenotyping: Towards a precision medicine approach to OSA?

3:00pm – 4:30pm | Room 220

Chairs

Tetyana Kendzerska (Canada); Glen Foster (Canada)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Cluster analysis of symptoms and polysomnographic data: A useful predictive tool?

Klar Yaggi (United States)

3:22pm – 3:42pm

Can biomarkers be used to predict adverse outcomes in patients with OSA?

Najib Ayas (Canada)

3:42pm – 4:02pm

Deep phenotyping using PSG: Limitations and future promises

Brad Edwards (Australia)

4:02pm – 4:22pm

Towards a precision based medicine approach to OSA

Robert L. Owens (United States)

4:22pm – 4:30pm

Conclusion

Technologist workshop

3:45pm – 5:00pm | Room 223

S84: Sleep & fatigue in healthcare professionals

3:00pm – 4:30pm | Room 223

Chairs

Antje Büttner-Teleagă (Republic of Korea)

3:00pm – 3:02pm

Introduction

3:02pm – 3:22pm

Delimitation fatigue, sleepiness and tiredness

Peter Geisler (Germany)

3:22pm – 3:42pm

Even night owls need sleep! Why night owls and morning larks need different work schedules: Different technologies and devices of Sleep and Fatigue measurements

Gerhard Klöesch (Austria)

3:42pm – 4:02pm

Fatigue and fatigue-related accidents in healthcare professionals

Maritta Orth (Germany)

4:02pm – 4:22pm

Sleep, well-being and ill-health in healthcare

Francesco Cappuccio (United Kingdom)

4:22pm – 4:30pm

Conclusion

S85: Genetics of sleep and its disorders:

An update

4:30pm – 6:00pm | Ballroom A

Chair

Allan Pack (United States)

4:30pm – 4:32pm

Introduction

4:32pm – 4:52pm

Recent advances in elucidating common genetic variants associated with sleep and sleep disorders

Richa Saxena (United States)

4:52pm – 5:12pm

Going from GWAS to identifying causative genes

Philip R. Gehrman (United States)

5:12pm – 5:32pm

Identifying extreme phenotypes: Using obstructive sleep apnea as an example

Ulysses J. Magalang (United States)

5:32pm – 5:52pm

Utilizing Large Biobanks for Studies of the Genetics of Sleep Disorders

Allan Pack (United States)

5:52pm – 6:00pm

Conclusion

D10: Sleep medicine in Latin America: Past, present and future

4:30pm – 6:00pm | Room 118

Chairs

Lourdes DelRosso (Peru)

4:30pm – 4:32pm

Introduction

4:32pm – 4:52pm

The road from neuroscience to sleep medicine

Marisa Pedemonte (Uruguay)

4:52pm – 5:12pm

Sleep societies and training programs in Latin America

Darwin Vizcarra (Peru)

5:12pm – 5:32pm

Current research and innovation in Latin America

Pablo Brockmann (Chile)

5:32pm – 5:52pm

The future of sleep medicine in Latin America

Monica Levy Anderson (Brazil)

5:52pm – 6:00pm

Conclusion

S86: Global perspectives on adolescent sleep and health: Predictors, treatments and policies

4:30pm – 6:00pm | Room 119

Chair

Lisa J. Meltzer (United States)

4:30pm – 4:32pm

Introduction

4:32pm – 4:48pm

Pre-pubertal sleep patterns forecast adolescent sleep preferences and mental health functioning

Candice A. Alfano (United States)

4:48pm – 5:04pm

Internet- and group-CBT for adolescents with insomnia; the contribution of mindfulness techniques, and the effects on sleep and mental health

Ed J. de Bruin (The Netherlands)

5:04pm – 5:20pm

Modifying the impact of eveningness chronotype ('Night-Owls') in youth: A randomized controlled trial

Allison G. Harvey (United States)

5:20pm – 5:36pm

Bright light therapy and physical activity for adolescents with delayed sleep-wake phase disorder: Effects on sleep and depression symptoms

Cele Richardson (Australia)

5:36pm – 5:52pm

Impact of delaying high school start times on adolescent sleep and health

Lisa J. Meltzer (United States)

5:52pm – 6:00pm

Conclusion

S87: REM Sleep Behavior Disorder and REM sleep without atonia across the lifespan

4:30pm – 6:00pm | Room 121

Chairs

Erik K. St. Louis (United States); Suresh Kotagal (United States)

4:30pm – 4:32pm

Introduction

4:32pm – 4:52pm

RSWA and RBD: Preclinical evidence for roles in normal motor development and disease

John Peever (Canada)

4:52pm – 5:12pm

RSWA and RBD in children and adolescents

Suresh Kotagal (United States)

5:12pm – 5:32pm

REM sleep behavior disorder in younger and older adults

Erik K. St. Louis (United States)

5:32pm – 5:52pm

Isolated RSWA: Normal variant or prodromal synucleinopathy?

Birgit Högl (Austria)

5:52pm – 6:00pm

Conclusion

S88: Neuroscience of dreaming

4:30pm – 6:00pm | Room 211

Chair

Martin Dresler (The Netherlands)

4:30pm – 4:32pm

Introduction

4:32pm – 4:52pm

The EEG correlates of dreaming

Francesca Siclari (Switzerland)

4:52pm – 5:12pm

The cerebral correlates of high dream recall frequency

Perrine Ruby (France)

5:12pm – 5:32pm

The cognitive neuroscience of lucid dreaming

Benjamin Baird (United States)

5:32pm – 5:52pm

Emotion and metacognition during sleep

Martin Dresler (The Netherlands)

5:52pm – 6:00pm

Conclusion

S89: Is obstructive sleep apnea a primary care disease?

4:30pm – 6:00pm | Room 212

Chair

Sachin R. Pendharkar (Canada)

4:30pm – 4:32pm

Introduction

4:32pm – 4:52pm

Diagnosis and treatment of OSA by primary care providers: The Australian Experience

Ching-Li Chai-Coetzer (Australia)

4:52pm – 5:12pm

Effectiveness of different models of primary care management of OSA: Lessons from Spanish randomized controlled trials

Fernando Masa (Spain)

5:12pm – 5:32pm

Challenges to the effective implementation of primary care management of OSA

Vishesh K. Kapur (United States)

5:32pm – 5:52pm

Community-based management of sleep disordered breathing in Alberta, Canada: Stakeholder perspectives and an integrated model of care

Sachin R. Pendharkar (Canada)

5:52pm – 6:00pm

Conclusion

Oral abstracts

4:30pm – 6:00pm | Room 219

Oral abstracts

4:30pm – 6:00pm | Room 220

Oral abstracts

4:30pm – 6:00pm | Room 216

Closing Ceremony

6:00pm – 7:00pm | Ballroom A

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

■ SLEEP DISORDERS PRIMARY CARE EDUCATION COURSE

This one-day course is predominately tailored to general practitioners who see patients with sleep disorders in their clinic. The course will cover a broad range of sleep related topics in both adult and pediatric patients, focusing on the most common disorders seen by practitioners. In general, the format will include a brief 15-minute lecture by local and international experts in the field, followed by 11 minutes of questions from the audience. The course will be limited to 200 attendees. The registration fee to attend is \$165 USD.

■ TECHNOLOGIST TRACK

The technologist track is a four-day program that will provide educational and networking opportunities for technologists and sleep professionals. A full-day course will be delivered on Sunday, September 22, 2019. Three 90-minute workshops will be presented each day of the congress, Monday through Wednesday, September 23-25, 2019. No additional registration fees apply.

■ TRAINEE RESEARCH DAY

This daylong event, sponsored by Canadian Sleep Society, Institute of Circulatory and Respiratory Health (ICRH) and the Canadian Sleep and Circadian Rhythms Network, has been designed by trainees for trainees in sleep research. The program will be relevant to a wide range of trainees. Participation is encouraged from trainees at all levels, from graduate students to fellows, working in basic and clinical research fields. The format of the program will include a mixture of data presentations by trainees and senior investigators, in addition to professional development sessions where attendees will get advice from experts on improving scientific communication skills. The trainee day will conclude with a social event and data blitz aimed at getting attendees to interact and have fun. Sunday, September 22, 2019 from 8:50 am to 5:30 pm.

Canadian Sleep
Society



Société Canadienne
du Sommeil

■ SRS-CSS FRONTIERS SCIENTIFIC MEETING

The Sleep Research Society (SRS) & Canadian Sleep Society (CSS) Frontiers Scientific Meeting is a 1-day workshop to be held on Tuesday, September 24, 2019. The program will provide a comprehensive and state-of-the-art update of the linking sleep to brain function and physiology in both experimental and population-based studies. Presentations include invited lecturers and symposia the SRS and CSS.



Sleep Research Society®

Advancing Sleep & Circadian Science

■ IRLSSG ANNUAL MEETING AND COURSE ON RESTLESS LEGS SYNDROME

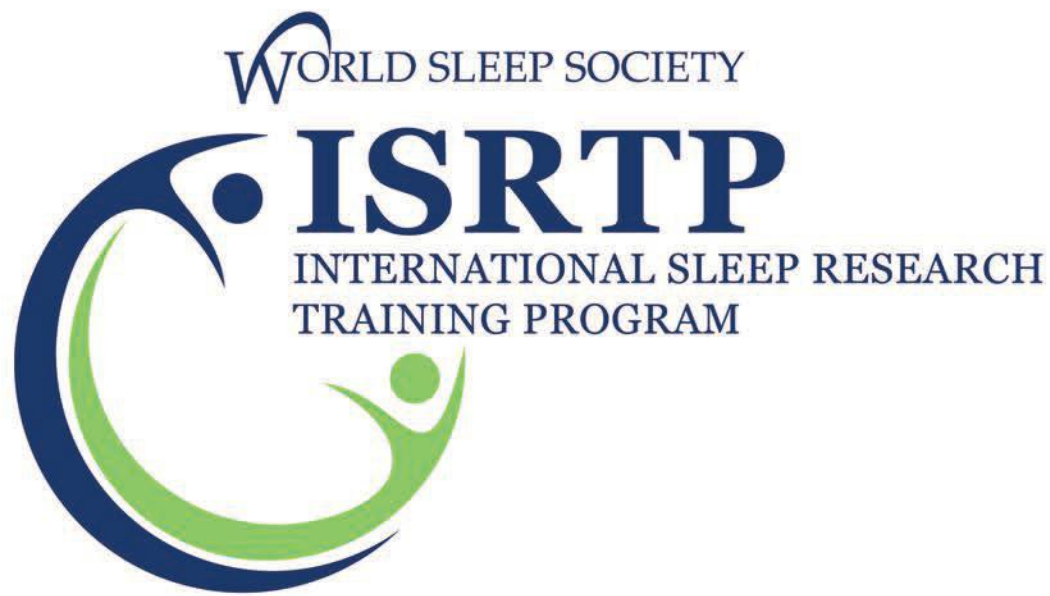
The International Restless Legs Syndrome Study Group (IRLSSG) will offer a full-day course on Sunday, September 22, 2019. Attendance is open to any sleep professional who is interested in RLS. A business meeting will be held after the course, which is only open to IRLSSG members. The registration fee to attend is \$165 USD, which includes the sessions, lunch and networking dinner.



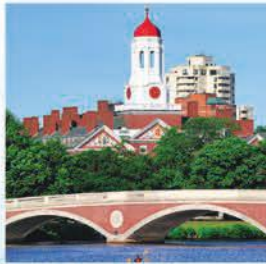
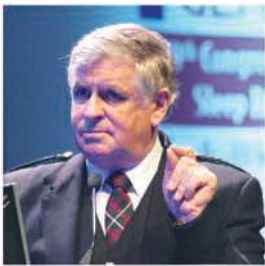
■ A CRITICAL REVIEW OF OROFACIAL MYOFUNCTIONAL THERAPY & SLEEP DISORDERED BREATHING: PHENOTYPING, CLINICAL MARKERS, AND EARLY INTERVENTION

Obstructive sleep apnea is increasingly common sleep disorder with heterogeneity in clinical presentation and pathophysiology. Increased understanding of the pathophysiology and phenotyping of SDB traits can improve the success rate of targeted treatment such as myofunctional therapy, alone or in combination with other treatments in mild and moderate OSA, highlighting the need for further research and the need to develop simple phenotyping tools for SDB related muscle function. Sunday, September 22, 2019 at 1:00pm.

Affiliate meeting space is available during World Sleep 2019 during the September 20-25, 2019 dates. Specialty groups are able to meet for up to a half day without cost. Complete the Affiliate Meeting Request Form before July 15, 2019 to be considered.



MENTORING & TRAINING SLEEP RESEARCH LEADERS



PHILIPS
This educational initiative is supported by Philips.

WORLD SLEEP SOCIETY
ADVANCING SLEEP HEALTH WORLDWIDE





PROGRAM OVERVIEW

Apply to join the ISRTP as a 1) MENTEE/TRAINEE, 2) MENTOR or 3) ISRTP SITE. The aims of the program are to offer training in the field of sleep research, to provide collaborative co-mentorship between mentors in the trainee's home institution and in the host country to promote coordinated, culture-appropriate career development, and to enrich the growing field of sleep medicine and research with future sleep research leaders. The ISRTP strives to connect institutions, societies and individuals to provide the best training for the next generation of sleep professionals.

CURRENT ISRTP MENTOR SITES

- Harvard University:
Division of Sleep Medicine at Harvard Medical School
- Stanford University: Division of Sleep Medicine
- University of Oxford:
Sleep and Circadian Neuroscience Institute
- University of Pennsylvania:
Center for Sleep & Circadian Neurobiology
- University of Sydney:
Woolcock Institute of Medical Research

KEY TOPICS COVERED IN MENTORSHIP

- Research study development, implementation and replication (including study design, selection of specific aims and outcomes, data analysis, authorship, and ethical concerns)
- Clinical exposure to management of sleep disorders
- Scientific communication skills (including presenting and publishing results)
- Obtaining and managing research funds
- Career development

KEY MENTEE OUTCOMES

- Acquisition of knowledge and understanding of sleep science
- Acquisition of research skills
- Clinical exposure to the management of sleep disorders
- Accepted manuscripts
- Funded grants
- Academic and societal leadership

Tuesday, September 24
3:00pm - 4:30pm

Panel Discussion Room 118, Vancouver Convention Centre

D05: The International Sleep Research Training Program (ISRTP) of the World Sleep Society

SUMMARY:

The purpose of this Discussion Group is for the Steering Committee of the ISRTP (comprised of the directors of the five mentor sites, and representatives from World Sleep Society's Education and Examination Committees) to discuss the goals, curricula, short-term and long-term learning objectives, outcomes, timeline, applicant selection process, ensuring the future success of the trainees and challenges for the program.

PRESENTATION:

3:00pm - 3:02pm	Introduction
3:02pm - 3:12pm	Sleep Research Opportunities at Stanford University Clete Kushida (United States)
3:12pm - 3:22pm	Sleep Research Opportunities at Harvard University Susan Redline (United States)
3:22pm - 3:32pm	Sleep Research Opportunities at the University of Oxford Simon Kyle (United Kingdom)
3:32pm - 3:42pm	Sleep Research Opportunities at the University of Pennsylvania Allan Pack (United States)
3:42pm - 3:52pm	Sleep Research Opportunities at the University of Sydney Brendon Yee (Australia)
3:52pm - 4:02pm	Sleep Research Opportunities in Brazil, Dalva Poyares (Brazil)
4:02pm - 4:12pm	Sleep Research Opportunities in Germany, Thomas Penzel (Germany)
4:12pm - 4:22pm	Current Trainee Experience Adell Xu (China)
4:22pm - 4:30pm	Conclusion



World Sleep 2019 is bringing the best research and education in sleep medicine to Vancouver. It is also bringing the bright minds behind the science together!

Plan to partake in networking events while attending congress to meet some of the names behind the research. Cost to attend events is included in the registration fee unless otherwise stated. Please make sure to wear your badge to non-ticketed events.

OPENING CEREMONY

Monday, September 22, 2019

The Opening Ceremony of World Sleep 2019 will take place at the Vancouver Convention Center, the hub of the World Sleep 2019 congress. The ceremony will feature award presentations, entertainment and networking. Join your colleagues to enjoy music, entertainment, and beverages from around the world.

WORLD SLEEP DAY NETWORKING EVENT

Monday, September 23, 2019 | 1:00pm - 2:00pm | Room 119

Join several of our World Sleep Day 2019 delegates and past Distinguished Activity Award winners at the World Sleep Day Networking Event in Vancouver! You did not need to host an event to join us. Hear from some of the delegates who hosted awareness events around the world.

GALA DINNER

Monday, September 23, 2019

Purchase a ticket or table to join colleagues at the Gala Dinner in Banquet Room 301 of the Vancouver Convention Centre.

BLUES NIGHT

Monday, September 23, 2019 | 8:30pm – Midnight

Celebrate sleep! Immediately following the Gala Dinner, join colleagues for live musical entertainment, cold hors d'oeuvres, cash bar and dancing in Banquet Room 305 of the Vancouver Convention Centre. Included in registration; no ticket needed

WORLD SLEEP SOCIETY MEMBERSHIP MEETING

Tuesday, September 24, 2019

All attendees of World Sleep 2019 are welcome to attend this meeting for important program. A member vote will be issued to select incoming Governing Council members. Join us in room 118 from 7:00–8:00pm.

CANADIAN SLEEP SOCIETY MEMBERSHIP MEETING

Join other members of the Canadian Sleep Society (CSS) to receive important updates on the organization. Visit www.css-scs.ca for details.

COFFEE BREAKS

Monday-Wednesday, September 23-25, 2019

Take a break from the science and stop in for a cup of coffee and meet with exhibitors. Available during exhibition hours.

AFFILIATE MEETINGS

View all Affiliate Meetings taking place at World Sleep 2019 and plan to attend!

POSTER SESSIONS

Sunday to Tuesday, September 22-24, 2019

View poster abstracts, connect with authors and learn from young investigator each day during the poster abstract sessions.

CLOSING CEREMONY

Wednesday, September 25, 2019

The Closing Ceremony will be in Ballroom A of the Vancouver Convention Center. All participants and exhibitors are invited to join. Before leaving, enjoy discussing the latest science and research you discovered at World Sleep 2019, as well as a special presentation from the hosts of the next congress: World Sleep 2021.

For your profession.

For your patients.

Join our distinguished membership community of physicians, researchers and sleep professionals.



**PAY LESS
TO GAIN
MORE**

*When registering before
April 30, 2019. All prices
in US Dollars.*

Dr. **Nonmember**
Registration
World Sleep 2019

Nonmember Registration.....	\$475.00
Full-day Course.....	\$165.00
CME credits.....	\$25.00
TOTAL	\$665.00

Dr. **New Member**
Registration
World Sleep 2019

Regular Annual Membership.....	\$55.00
Member Registration.....	\$350.00
Full-day Course.....	\$165.00
CME credits.....	\$25.00
TOTAL	\$595.00

TOTAL SAVINGS \$70!

Annual World Sleep Society Membership entitles you to a connection with other sleep medicine and research experts in more than 70 countries.

Join us for...

The Resources such as the *Sleep Medicine* journal

The Global Education Standards such as *International Sleep Medicine Guidelines*

The Networking such as the congress Opening Ceremony with nearly 3,000 international delegates

The Engagement & Advocacy such as World Sleep Day, a global awareness event that brings more than 70 countries together each March

Registration

Join thousands of sleep professionals from over 70 countries for the best in sleep medicine and research

What Does Registration Cover?

Registration includes Sunday evening's Opening Ceremony through Wednesday's closing ceremony (September 22-25, 2019). Scientific sessions include keynotes, symposia and abstracts. Registration also covers entrance to exhibit hall and select networking events. Technologist registration includes the above as well as all-day Sunday technologist program plus access to the main scientific content. Pre-congress courses (September 21-22, 2019) are an additional fee.

World Sleep 2019 Congress Registration Cost (in US dollars)

REGISTRATION	STANDARD	LATE/ON-SITE
TYPE	MAY 1, 2019 - AUG 15, 2019	AUG 16, 2019 - SEP 25, 2019
Delegate (WSS Member / CSS Member)	\$395	\$500
Delegate (Nonmember)	\$520	\$650
Delegate (All-Inclusive)	\$875	n/a
Fellow / Resident / Young Investigator (WSS Member / CSS Member)	\$350	\$425
Fellow / Resident / Young Investigator (Nonmember)	\$475	\$575
Technologist / Allied Health Professional (WSS Member / CSS Member)	\$250	\$350
Technologist / Allied Health Professional (Nonmember)	\$375	\$475
Student (WSS Member / CSS Member)	\$200	\$300
Student (Nonmember)	\$325	\$425
Additional Items (fixed price)		
Course (Full Day Delegate)	\$175	\$200
Course (Half Day Delegate)	\$125	\$150
Course (Full Day Technologist / Student)	\$125	\$140
Course (Half Day Technologist / Student)	\$90	\$115
CME Fee	\$25	\$25
Gala Dinner (Individual Ticket)	\$90	\$95
Gala Dinner (Table of 8)	\$720	\$950
Affiliate Meetings	\$	\$

Canadian Sleep Society Member Discount

Why join the Canadian Sleep Society? In addition to saving on your World Sleep 2019 conference registration, you are supporting the on-going objectives of the Canadian Sleep Society (CSS). As a CSS member, you'll benefit from activities and initiatives including biennial scientific conferences, publications (on pediatric sleep, oral appliance use for sleep apnea, and portable PSG monitoring), insomnia rounds for physicians, patient information brochures in French and English, Continuing Education Credit and Medical Education Programs, and collaboration with the Canadian Sleep and Circadian Network on research funding and knowledge mobilization initiatives. Already member of the Canadian Sleep Society (CSS)? To receive a discount on World Sleep 2019 registration, make sure your membership with the CSS is up-to-date.

Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

HOTELS

Find hotels closest to the Vancouver Convention Centre with the best rate guarantee from our hotel partner OnPeak. Find rates starting at \$185 per night.



**Vancouver Marriott
Pinnacle Downtown**
1128 West Hastings Street
Vancouver, BC V6E 4R5



0.20 Miles to event
\$311 CAD | average
nightly event rate
(approx \$234.00 USD)



**Four Seasons Hotel
Vancouver**
791 W Georgia Street
Vancouver, BC V6C 2T4



0.60 Miles to event
\$267 CAD | average
nightly event rate
(approx \$201.00 USD)



**Pinnacle Hotel
Harbourfront**
1133 West Hastings Street
Vancouver, BC V6E 3T3



0.30 Miles to event
\$237 CAD | average
nightly event rate
(approx \$179.00 USD)



**Westin
Bayshore**
1601 Bayshore Drive
Vancouver, BC V6G 2V4



0.50 Miles to event
\$299 CAD | average
nightly event rate
(approx \$225.00 USD)

With local concerts, cruises and sold out shows, Vancouver is going to be a busy city this September. Please book your hotel now to find the most affordable and convenient hotel rooms.

FLIGHTS

World Sleep 2019 has partnered with SkyTeam and Air Canada to offer attendees up to 15% off flights to Vancouver. Discover your flight discount on worldsleepcongress.com/flights.

CITY OF VANCOUVER

Vancouver has been ranked North America's top destination in addition to being named the highest-rated business meeting site. Join us in beautiful British Columbia and see if you agree.



WALKING & BIKING

Connected to the Convention Centre is a trail that visitors could spend an entire day exploring. Walk the scenic trail or rent a bicycle for more exploring. Bike rentals are available from Club 16 near the convention centre. One of Vancouver's top destinations is Stanley Park. Visit by bike for just \$12/hour with complimentary use of helmets and locks. Details, bike sizes and pricing are available through Club 16.

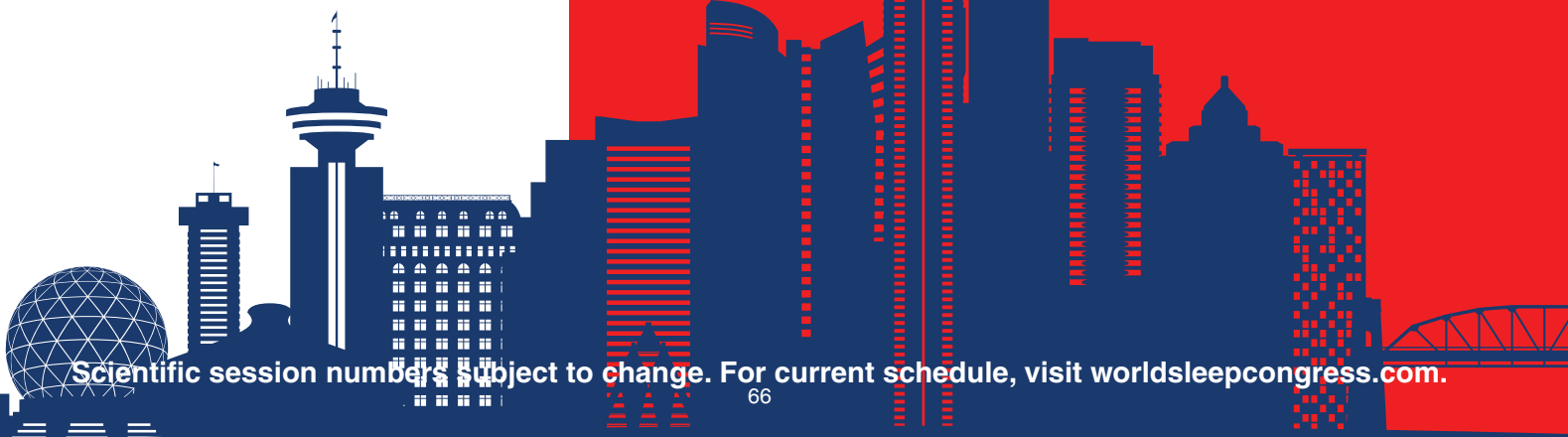


TOURS BY BUS, SEA & AIR

Landsea Tours & Adventures of Vancouver is pleased to offer all World Sleep 2019 delegates & travelling companions special rates on all scheduled sightseeing tours between September 18 – 27, 2019. Book through the secure online portal to receive 15% OFF tours.

SO MANY THINGS TO DO

1. Stanley Park
2. Granville Island
3. City Tours
4. Vancouver Seawall
5. Museum of Anthropology
6. Sightseeing Tours
7. The Liberty Distillery
8. Boat Tours
9. VanDusen Botanical Garden
10. Queen Elizabeth Park



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Vancouver Convention Centre

1055 Canada Pl
Vancouver, BC
V6C 0C3

WORLD SLEEP 2019

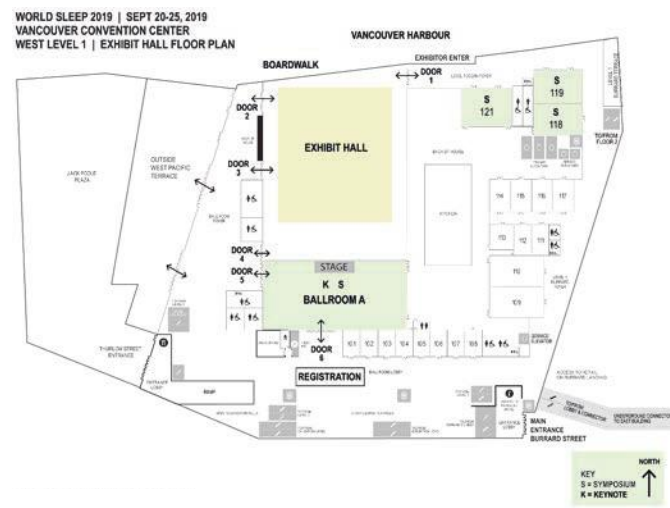
Will occur in the West Building on Levels 1 & 2.
www.vancouverconventioncentre.com

KEY LOCATIONS

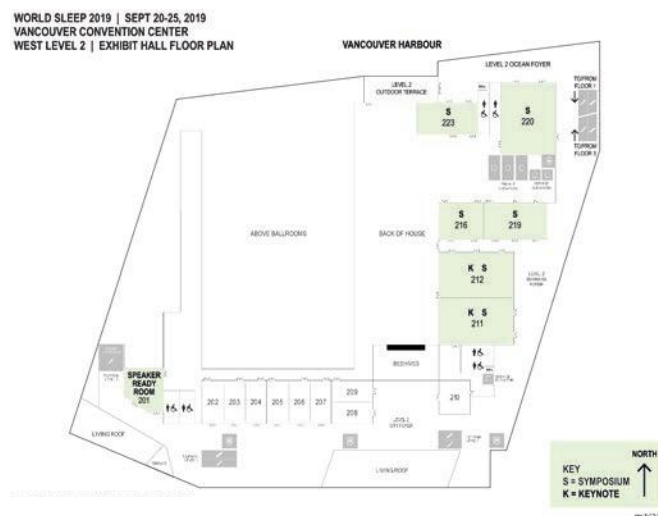
- Ballroom A & B: Keynotes
- Ballroom C & D: Exhibition & Posters
- Symposium Rooms
 - 121-122 • 217-219
 - 118-120 • 212-214
 - 220-222 • 211
 - 223-224
- Speaker Ready Room: 201
- Office Space: Rooms 215-216
- Courses: Rooms: 118-122
- Public lecture on Sunday: Rooms 109-110

VANCOUVER CONVENTION CENTRE FLOOR PLANS

West Level 1



West Level 2



Scientific session numbers subject to change. For current schedule, visit worldsleepcongress.com.

Industry-Supported Symposia & Workshops

World Sleep 2019 will include the following scientific symposia and workshops within the program. Boxed lunches are provided to satellite symposia attendees with first-come, first-served, 10 minutes prior to the session starting. Please contact the exhibitors directly or visit our online scientific program for additional information. Thank you to our industry supporters.

Monday, September 23, 2019

Satellite Symposia I 12:30pm - 2:00pm

12:20pm Box Lunches Served

Jazz Pharmaceuticals

Ballroom A

Waking up to narcolepsy: Strategies to improving outcomes

Eisai

Room 211

Philips

Room 219

Arbor Pharmaceuticals

Room 220

Industry Workshop I 1:00pm - 1:45pm

Nox Medical

Room 216

ProSomnus

Room 223

Tuesday, September 24, 2019

Satellite Symposia I 12:30pm - 2:00pm

12:20pm Box Lunches Served

Jazz Pharmaceuticals

Ballroom A

Excessive daytime sleepiness in patients with OSA: Impact, causes and treatment strategies

Harmony Biosciences

Room 121

Philips

Room 219

Merck

Room 220

Insomnia in Alzheimer's disease: Sleep matters



GOLD SPONSORS



Jazz Pharmaceuticals

PHILIPS

BRONZE SPONSORS



MERCK

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EXHIBITORS

Academy of Applied Myofunctional Sciences	HappiestBaby	Project Sleep
Academy of Orofacial Myofunctional Therapy	Harmony Biosciences	ProSomnus
Accreditation Commission for Health Care (ACHC)	HealthyStart by Ortho-Tain	ResMed
AirAvant Medical	Hypersomnia Foundation	Salimetrics
Air Nutri Solution Inc.	Inspire Medical Systems, Inc.	Sleep Multimedia
Arbor Pharma	International Pediatric Sleep Association (IPSA)	Somnics
Aurum Group	International RLS Study Group (IRLSSG)	SomnoMed
Avadel	IOPI Medical	SOMNOmedics GmbH
BRPT	Jazz Pharmaceuticals	Suven Life Sciences, Ltd
BRAEBON Medical Corporation	KEGO Corporation	Tanzen Medical
Cadwell Industries, Inc.	Kettering National Seminars	There's a Monster in My Closet, Inc.
CamNTech	Learner's Digest International	VitalAire
Canadian Sleep Society	MAC Research Limited	VoxMedia
Cerebra Health	Mainland Sleep Clinic	Wake Up Narcolepsy
Clinical Sleep Solutions	Medigas	XLEAR
Coastal Sleep Homecare Services	MedSleep	
Compumedics Neuroscan	Myerson Tooth / Frantz Design Inc.	
Condor Instruments	Narcolepsy Network	
Day4Naps	Narcolepsy UK	
Dreem	Natus Neuro	
Dymedix	Nox Medica	
Eisai	Oventus Medical	
Elsevier	Panthera Dental	
European Sleep and Research Society (ESRS)	Pascoe Canada	
Farm Lands Biotech	Phasya	
Fisher & Paykel Healthcare	Philips	
	Perfect Sleep Pad	

World Sleep 2019 sponsors & exhibitors as of June 1, 2019
(listed in alphabetical order)