

Canadian Sleep
Society



Société Canadienne
du Sommeil

CANADIAN SLEEP SOCIETY CONFERENCE

Hyatt Regency Hotel Calgary
APRIL 28-30, 2017

GENERAL
PROGRAM

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Welcome from the CSS President

Dear colleagues,



On behalf of the Canadian Sleep Society (CSS) and the Executive board of the society, I am delighted to welcome you to the 8th Congress of the CSS in Calgary, Alberta. Our biennial scientific conference is an opportunity to share scientific discoveries, network with colleagues, and learn about the latest innovations and technologies in the sleep field.

I would like to acknowledge and thank the numerous people who have worked to make the Calgary conference a success. The Professional Conference Organizers from Plan Ahead Events, Roberta Dexter and Nicole Pelletier, have been working tirelessly for many months on every aspect of the event. In addition, there are dozens of volunteers on the various working committees who are listed on the following pages; these individuals are essential to the success of this conference. The Chairs of these committees deserve a special recognition for their leadership. As Chair of the Scientific Program Committee, Pat Hanley has brought us a high-quality program and his team has reviewed the many submissions for symposia and abstracts. I would also like to thank John Peever, our current Vice-President Research for coordinating the review of our society awards. Chuck Samuels and his team on the Local Organizing Committee have worked on a myriad of details including accreditation, the public lectures, and social events. I would also like to acknowledge the support of Reut Gruber, our member-at-large (Media) board member for her work on media outreach. Once again, our Technologist (Michael Eden, Natalie Morin), Student (Samuel Laventure, Kevin Grace), and Dental (Luc Gauthier) representatives on the board have spearheaded excellent programs designed for their specific interests.

Whether this is your first time attending a Canadian Sleep Society conference, or you are a faithful member who has been to them all, I thank you for your participation and hope you learn new facts about sleep and meet new colleagues who share your interests. I also want to sincerely thank our sponsors and industry exhibitors that enable this conference to take place and add significantly to the spirit of discovery and innovation that marks the Canadian sleep meeting. Enjoy the event !

Kimberly Cote, PhD
President, CSS
Professor, Brock University

Mot de bienvenue de la présidente de la SCS

Chers collègues,



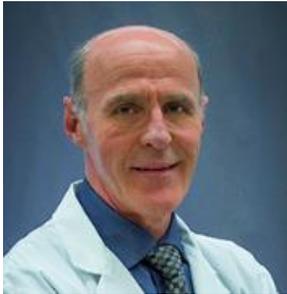
Au nom de la Société canadienne du sommeil (SCS) et du conseil exécutif de la société, je suis heureuse de vous accueillir au 8e Congrès de la SCS à Calgary, en Alberta. Notre conférence scientifique biennale est l'occasion de partager des découvertes scientifiques, de réseauter avec des collègues et de découvrir les dernières innovations et technologies dans le domaine du sommeil.

Je tiens à remercier les nombreuses personnes qui ont contribué à la réussite de la conférence de Calgary. Les organisateurs de la conférence professionnelle des événements Plan Ahead, Roberta Dexter et Nicole Pelletier, ont travaillées sans relâche pendant plusieurs mois sur tous les aspects de l'événement. En outre, des dizaines de bénévoles ont participé sur les différents comités de travail énumérés dans les pages suivantes; ces personnes sont essentielles au succès de cette conférence. Les présidents de ces comités méritent une reconnaissance spéciale pour leur leadership. En tant que président du comité du programme scientifique, Pat Hanley nous a apporté un programme de haute qualité et son équipe a examiné les nombreuses soumissions pour des symposiums et des résumés. J'aimerais également remercier John Peever, notre vice-président à la recherche actuel, qui a coordonné l'assignation des prix de notre société. Chuck Samuels et son équipe du Comité local d'organisation ont travaillé sur une myriade de détails, y compris l'accréditation, les conférences publiques et les événements sociaux. J'aimerais également souligner le soutien de Reut Gruber, membre du conseil d'administration pour son travail sur la sensibilisation des médias. Une fois de plus, nos représentants Technologue (Michael Eden, Natalie Morin), Étudiant (Samuel Laventure, Kevin Grace) et dentaire (Luc Gauthier) ont dirigé d'excellents programmes conçus pour leurs intérêts particuliers.

Que ce soit la première fois que vous assistez à une conférence de la Société canadienne du sommeil ou que vous ayez fidèlement participé à toutes les précédentes, je vous remercie de votre participation et j'espère que vous apprendrez de nouveaux faits sur le sommeil et rencontrerez de nouveaux collègues partageant vos intérêts. Je tiens également à remercier sincèrement nos commanditaires et les exposants de l'industrie qui permettent à cette conférence d'avoir lieu et d'ajouter de façon significative à l'esprit de découverte et d'innovation qui marque la réunion canadienne du sommeil. Profitez de l'événement!

Kimberly Cote, Ph.D.
Présidente, CSS
Professeur, Université Brock

Welcome from the CSS Conference Co-Chairs



On behalf of the Scientific Program Committee, I would like to welcome you to the Canadian Sleep Society meeting. We have an exciting program that features six keynote speakers, twelve scientific symposia and over one hundred original abstracts. Our keynote speakers are renowned experts in their field and will provide an international perspective on current developments and practice in sleep science and sleep medicine. Our scientific symposia cover a broad range of topics ranging from basic science to clinical care pathways. Presentation of original scientific research in both poster and oral formats will enable trainees to interact with the broader scientific sleep community.

I would like to thank the members of the Scientific Program Committee for their hard work in creating this program. An additional attraction this year is the inaugural satellite meeting that has been jointly organized by the Canadian Sleep Society (CSS) and Sleep Research Society (SRS). Special thanks to John Peever (CSS) and Sigrid Veasey (SRS) for their vision and leadership in organizing this one-day meeting, termed "New Frontiers in Sleep Mechanisms and Functions". The unique format will facilitate interaction between trainees, junior faculty and senior investigators on specific topics in sleep science. It is my hope and expectation that the scientific program will be informative and stimulating, that it will address the needs of the multidisciplinary sleep community in Canada, and will advance the clinical, educational and research objectives of CSS members.

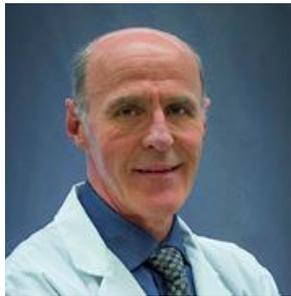
Patrick J Hanly MD, FRCPC, DABSM
Conference Co-Chair and Chair, Scientific Program Committee
Professor, Cumming School of Medicine, University of Calgary



It is a pleasure and honor to welcome all the attendees, speakers, sponsors and organizers to the 8th Congress of the Canadian Sleep Society to Western Canada and Calgary Alberta. We have put together a tremendous educational and social program to support and enhance the scientific program. Attendees will experience Western Hospitality at its best in the Calgary White Hat tradition! The social program should allow attendees to meet and socialize throughout the meeting in a comfortable setting which as all of us know is the time that the most productive and inspiring collaboration occurs and new lasting relationships are built. The educational program is truly innovative and in keeping with the spirit and values of the University of Calgary's Cumming School of Medicine Department of Continuing Medical Education and Professional Development, to provide educational programming that is challenging, practical and clinically relevant. Not only will CSS members benefit but we have continued and expanded the tradition of providing programs for primary care providers, added a full day of education specifically designed for pharmacists and behavioral therapists, improved the educational programming for dentists, and continued to provide excellent programming for our sleep technologists. The social committee has put together a spectacular Round 'em Up Gala event in the western tradition in a classic Calgary Venue, the Calgary Petroleum Club, featuring Drew Gregory the 2015 Alberta Country Music Awards Male artist of the year. Finally, we continue to reach out to the community with the public talk that features two of the meetings speakers, Dr. Amy Bender and Dr. Sam Kuna. Welcome All!

Charles H Samuels MD, CCFP, DABSM
Conference Co-Chair and Chair, Local Organizing Committee
Clinical Assistant Professor, Cumming School of Medicine, University of Calgary
President Elect, Canadian Sleep Society

Mot de bienvenue des coprésidents de la conférence



Au nom du Comité du programme scientifique, je vous souhaite la bienvenue à la conférence de la Société canadienne du sommeil. Nous avons un programme passionnant qui comprend six orateurs principaux, douze symposiums scientifiques et plus d'une centaine de résumés originaux. Nos conférenciers principaux sont des experts renommés dans leur domaine et fourniront une perspective internationale sur les développements actuels et la pratique dans la science du sommeil et la médecine du sommeil. Nos colloques scientifiques couvrent un large éventail de sujets allant de la recherche fondamentale aux voies de soins cliniques. La présentation de la recherche scientifique originale sous forme d'affiches et de présentations orales permettra aux stagiaires d'interagir avec la communauté scientifique du sommeil.

Je tiens à remercier les membres du Comité du programme scientifique pour leur travail acharné dans la création de ce programme. Une autre attraction cette année est la réunion satellite inaugurale qui a été organisée conjointement par la Société canadienne du sommeil (CSS) et Sleep Research Society (SRS). Un remerciement spécial à John Peever (CSS) et Sigrid Veasey (SRS) pour leur vision et leur leadership dans l'organisation de cette réunion d'une journée, appelée «Nouvelles frontières dans les mécanismes et les fonctions du sommeil». Le format unique facilitera l'interaction entre les stagiaires, le personnel enseignant junior et les chercheurs seniors sur des sujets spécifiques en science du sommeil. J'espère que le programme scientifique sera informatif et stimulant, qu'il répondra aux besoins de la communauté pluridisciplinaire du sommeil au Canada et fera progresser les objectifs cliniques, éducatifs et de recherche des membres du CSS.

Patrick J Hanly MD, FRCPC, DABSM
Coprésident de la conférence et
Président du Comité du programme scientifique
Professeur, École de médecine Cumming, Université de Calgary



C'est un plaisir et un honneur d'accueillir tous les participants, conférenciers, commanditaires et organisateurs du 8e Congrès de la Société canadienne du sommeil dans l'Ouest du Canada et à Calgary en Alberta. Nous avons mis sur pied un formidable programme éducatif et social pour soutenir et améliorer le programme scientifique. Les participants feront l'expérience de l'hospitalité de l'ouest à son meilleur dans la tradition du Chapeau Blanc de Calgary! Le programme social devrait permettre aux participants de rencontrer et de socialiser tout au long de la réunion dans un cadre confortable qui, comme nous le savons tous, est le moment où la collaboration la plus productive et inspirante se produit et de nouvelles relations durables sont construites. Le programme éducatif est réellement novateur et conforme à l'esprit et aux valeurs du département de formation médicale continue et de perfectionnement professionnel de l'Université de Calgary à Cumming School of Medicine, afin de fournir une programmation éducative stimulante, pratique et cliniquement pertinente. Non seulement les membres de la SCS en bénéficieront-ils, mais nous avons continué et élargi la tradition de fournir des programmes aux fournisseurs de soins primaires, ajouté une journée d'éducation spécialement conçue pour les pharmaciens et les thérapeutes comportementaux, amélioré la programmation éducative des dentistes et continué à offrir une excellente programmation pour nos technologues du sommeil. Le comité social a organisé un événement spectaculaire Round 'em Up Gala dans la tradition de l'ouest canadien dans une salle classique de Calgary, le Calgary Petroleum Club, mettant en vedette Drew Gregory, le gagnant du prix de l'artiste masculin de l'année 2015 en Alberta dans la catégorie Musique Country. Enfin, nous continuons à communiquer avec la communauté avec la conférence publique qui met en vedette deux des conférenciers des réunions, Dre Amy Bender et le Dr Sam Kuna. Bienvenue à tous!

Charles H Samuels MD, CCFP, DABSM
Coprésident de la conférence et
Président du Comité d'organisation local
Professeur adjoint clinique, École de médecine Cumming,
Université de Calgary
Président élu, Société Canadienne du Sommeil

Conference Committees

Scientific Program Committee

Chair:

Patrick J Hanly MD, FRCPC, D,ABSM, University of Calgary, Calgary, AB

Committee Members:

Kimberly Cote, PhD, Brock University, Niagara, ON
John Peever, PhD, University of Toronto, ON
Brian Murray, MD, FRCPC, D,ABSM, University of Toronto, Toronto, ON
Joanna MacLean, MD, PhD, FRCPC, University of Alberta, Edmonton, AB
Fernanda Almeida, DDS, MSc, PhD, University of British Columbia, Vancouver, BC
Charles M. Morin, PhD, D,ABSM, Université Laval, Québec, QC
Simon Warby, PhD, Université de Montréal, Montréal, QC

CSS-SRS Joint Task Force for 2017 Satellite Meeting

Co-chairs:

John Peever, PhD,
Sigrid Veasey, MD, PhD

Committee Members:

Richard Horner, PhD
Valérie Mongrain, PhD
James Krueger, PhD
Martical Hall, PhD

Trainee Representatives:

Kevin Grace, BSc
Ashley Ingiosi, PhD

Dental Program Committee

Program Chair:

Leslie Dort, DDS, MSc, Calgary, Alberta

Committee Members:

Don Farquhar, DDS, Midland, Ontario
Stacy Kreutz, DDS, Calgary, Alberta
Tara Anger-Anderson, DDS, Edmonton, Alberta
Ivonne Hernandez, DDS, MSc, Edmonton, Alberta

Local Organizing Committee

Chair:

Charles H. Samuels, MD, CCFP, D,ABSM, University of Calgary, Calgary, AB

Committee Members:

W. Jerome Alonso, MD, ABFM (Cert. Sleep Medicine), Calgary, AB
W. Joseph Askin, MD, FCFP, Somnologist (ESRS), Calgary, AB
Ms Lisa Atkins, B.Sc, B.Ed
Robert I Cohen MD, CCFP, Somnologist (ESRS), Calgary, AB
Leslie Dort, DDS, Dip ABDSM, University of Calgary, Calgary, AB
Atul Khullar, MD MSc FRCPC, DABPN, FAASM, University of Alberta, Edmonton, AB
Ms LeDawne Kroeker, Rana Respiratory Care Group
Andrea Loewen, MD, FRCPC, D,ABIM, University of Calgary, Calgary, AB
Candace Necyk, MSc, University of Alberta, Edmonton, AB
Brenda Pettigrew, RRT, Zephyr Sleep Technologies

Technologist Committee

Co-chairs:

Michael Eden, RPSGT, RST (ABSM) Cobourg, ON
Laree Fordyce RPSGT RST, Calgary, AB

Committee Members:

Natalie Morin, RPSGT, TEPM (polysomnographie), Ottawa, ON
Colin Massicotte RPSGT, Toronto, ON

Fundraising Committee

Kimberly Cote, PhD, Brock University, Niagara, ON
Helen Driver, PhD, RPSGT, DABSM, Somnologist, CCSH, Queens University, ON

Conference Management Team

Roberta Dexter, B.Admin, CMM
Nicole Pelletier, MBA

About the Canadian Sleep Society

The CSS is a professional association formed in June 1986 to further the advancement and understanding of sleep and its disorders.

The vision of CSS is:

“Healthy sleep for healthy Canadians”

MISSION STATEMENT: 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.

Past-Presidents of the Canadian Sleep Society

Roger Broughton, MD, PhD	1986-1988	Joseph De Koninck, PhD	1999-2002
Robert D. Ogilvie, PhD	1988-1990	Charles Morin, PhD	2002-2005
Meir H. Kryger, MD	1990-1993	Gilles Lavigne, DMD, PhD	2005-2008
Alistair MacLean, PhD	1993-1996	Helen S. Driver, PhD, RPSGT, DABSM	2008-2011
Charlie George, MD	1996-1999	Shelly Weiss, MD	2011-2014

AWARD WINNERS

The CSS is pleased to announce a number of society awards that will be presented in opening ceremonies. Awards are adjudicated by a combination of Executive board members, scientific program committee members, and Past-presidents.

Distinguished Scientist Award



The Canadian Sleep Society (CSS) is pleased to announce that the recipient of the 2017 Distinguished Scientist Award is Professor Barbara E. Jones PhD, FRSC, Professor Department of Neurology and Neurosurgery McGill University, Montreal Neurological Institute. This award is in recognition of a scientist who has made significant contributions to the field of sleep research in Canada.

Dr. Jones seeks to understand how the brain generates states of waking and sleep. She focuses on the neuroanatomical organization, chemical neurotransmitters and physiology of the specific neural circuits in the brainstem, hypothalamus and basal forebrain, which stimulate and maintain a waking state, as well as those which reciprocally arrest waking and promote sleep. To study these neural systems, her laboratory employs in vivo neurophysiological recording in naturally waking/sleeping rodents, combined with neuroanatomical and histochemical techniques. One major facet of her research program has been investigating the way in which cholinergic neurons in the brainstem and basal forebrain stimulate cortical activation with theta and gamma EEG activity during waking and paradoxical sleep. Her group has studied cholinergic along with other neuromodulatory systems, including noradrenergic, orexinergic and MCH neurons, and how they can modulate the functionally diverse glutamatergic and GABAergic neurons, which work in balance as the effector neurons for cortical activity and behavioral states. Most recently, her group has examined how these systems are regulated in a homeostatic manner to similarly regulate sleep and waking.

She will receive her award during the opening ceremonies on Saturday morning at 8:00 am. Professor Jones is also one of our keynote speakers during the scientific meeting this year. Come and join us for her address, scheduled on Saturday from 8:30 – 9:30 am titled *“Neural and Chemical Systems Mediating Sleep-wake States and their Homeostatic Regulation”*.

Roger Broughton Young Investigator Award Winner

The Roger Broughton Young Investigator Award honours the contributions of Dr. Roger Broughton, founding President of the Canadian Sleep Society (1986-88), and one of the founding figures of Canadian sleep research. The award will be made to a young scientist for important early career research contributions, rather than a single submitted abstract or paper.

Please join us in congratulating this year's winner, Stuart Fogel.

Stuart Fogel, PhD



Dr. Stuart Fogel is an Assistant Professor in the School of Psychology at the University of Ottawa, Director of Sleep Neuroscience at The Royal's Institute for Mental Health Research and an Adjunct Professor in the Department of Psychology at Western University. He received his PhD in Neuroscience at Queen's University from the Centre for Neuroscience Studies in 2010. He was a postdoctoral fellow at the University of Montreal in 2013 and held a position as a Research Scientist at the Brain and Mind Institute at Western University.

He helped lead the discovery that bursts of brain activity during sleep called "sleep spindles" are associated with overnight enhancement of newly formed memory, and are an electrophysiological marker of cognitive abilities. His research employs a unique combination of behavioural, cognitive, electrophysiological, functional and structural neuroimaging and is one of the few in the world to employ combined EEG-fMRI techniques to explore the function of sleep for memory and cognition. He has published over 30 highly cited peer-reviewed papers in high-impact journals (e.g., Nature Neuroscience, Cerebral Cortex, Plos Biology, Human Brain Mapping, and others), and has given dozens of talks about his research around the world. Funding from both Provincial and National funding agencies have supported Stuart's research throughout his training and career. He has played an active role on the Executive Committee of the Canadian Sleep Society, and his research is frequently talked about in the national and international media where he advocates for the importance of sleep to support good physical and mental health.

Stuart will receive his award during the opening ceremonies on Saturday morning at 8:00.

Past Winners of the Roger Broughton Young Investigator Award:

- 2004 Kimberly Cote
- 2007 John Peever and Penny Corkum
- 2009 Jean-Francois Gagnon
- 2011 Robyn Stremmler
- 2013 Antoine Adamantidis
- 2015 Jean-Philippe Chaput and Thanh Dang-Vu

CSS Technologist Service Award

This award honours and recognizes a CSS member who has made significant contributions to the growth and development of the sleep technology profession.

The CSS is pleased to present this year award to: **Laree Fordyce**, RPSGT, RST, CCRP, CSE, Calgary, Alberta

Student Outstanding Achievement Awards

This award is for the scientific merit of a single publication by a student in the field of sleep research. Funding for these awards is made through the CSS student fund – thank you to CSS members who made contributions to the student fund with their CSS registration.

The CSS is pleased to present this year's awards to:

1. **Richard Boyce**, Integrated Program in Neuroscience, McGill University, Montreal, Quebec for his innovative publication: *"Causal evidence for the role of REM sleep theta rhythm in contextual memory consolidation"*.
<http://utmemoryclub.com/wp-content/uploads/2013/07/causal-evidence-for-the-role-of-REM-sleep-theta-rhythm-in-contextual-memory-consolidation.pdf>
2. **Samuel Laventure**, Department of Psychology, University of Montreal, Montreal, Quebec, Functional Neuroimaging Unit, C.R.I.U.G.M., Montreal, Quebec for his innovative publication: *"NREM2 and Sleep Spindles Are Instrumental to the Consolidation of Motor Sequence Memories"*.
<http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1002429>

Both recipients will receive their awards during the opening ceremonies on Saturday morning at 8:00 am.

Student Abstract Prize Winner

Each year the CSS holds a competition for CSS student members for the best abstract submitted (to either SLEEP in the U.S., or CSS when conferences are held in Canada). The competition is open to trainees (undergraduate or graduate students) who are current CSS members. The award applicant must be the first author on the abstract presented at the CSS 2017 meeting in Calgary.

STUDENT ABSTRACT PRIZE WINNER – Sara Pintwala, PhD student at the University of the Toronto in the Department of Cells and Systems Biology

Abstract Title: *“Activation of glutamate cells in the subcoeruleus nucleus triggers cataplexy-like attacks in wild-type mice”*

Presentation time:

Symposium 7: Young Investigator Symposium on Sunday, April 30 beginning at 10:30 am

Canadian Sleep Society (CSS) / Institute for Circulatory and Respiratory Health (ICRH) Student Travel Awards

This is a travel award given to top rated abstracts to attend the Calgary conference.

Congratulations to the recipients of the 2017 ICRH Student Travel Awards:

- **Cloé Blanchette-Carrière**, Dream and Nightmare Laboratory, Center for Advanced Research in Sleep Medicine, Montreal
- **Sara Pintwala**, Department of Cell and Systems Biology, University of Toronto

KEYNOTE ADDRESSES: SUMMARY

Keynote 1 - Neural and Chemical Systems Mediating Sleep-wake States and their Homeostatic Regulation

Professor Barbara E. Jones PhD, FRSC, Professor Department of Neurology and Neurosurgery, McGill University, Montreal Neurological Institute

2017 Distinguished Scientist Award Winner

Saturday, April 29, 2017 8:30 – 9:30 am Grand Ballroom

Keynote 2 - Childhood Obstructive Sleep Apnea Syndrome: What We Know and What We Don't Know in 2017

Carole L. Marcus M.B.B.Ch., Distinguished Endowed Chair in Pediatrics Professor of Pediatrics, University of Pennsylvania, Director, Sleep Center, Children's Hospital of Philadelphia

Saturday, April 29, 2017 9:30 – 10:30 am Grand Ballroom

Keynote 3 - Developing Precision Sleep/Circadian Medicine

Allan I. Pack M.B.Ch.B., Ph.D., FRCP, John Miclot Professor of Medicine. Director, Center for Sleep and Circadian Neurobiology, Chief, Division of Sleep Medicine Perelman School of Medicine at the University of Pennsylvania

Saturday, April 29, 2017 4:30 – 5:30 pm Grand Ballroom

Keynote 4 - Insomnia - A Transdiagnostic Approach

Prof. Dieter Riemann Ph.D., Dipl. Psych, Department of Clinical Psychology and Psychophysiology, Centre for Mental Disorders, Freiburg University Medical Centre, Germany

Sunday, April 30, 2017 8:00 – 9:00 am Grand Ballroom

Keynote 5 - Speaking, Smiling and Gesturing During Sleep - Ethology of Nocturnal Behaviors

Isabelle Arnulf MD, PhD, Professor of Neurology, Pierre and Marie Curie University, Paris, France

Sunday, April 30, 2017 9:00 am – 10:00 am Grand Ballroom

Keynote 6 - Manual Scoring of Polysomnograms: What Are We Missing?

Magdy Younes MD, FRCPC, PhD, Distinguished Professor Emeritus, University of Manitoba

Sunday, April 30, 2017 3:30 – 4:30 pm Grand Ballroom

Keynote 1 - Neural and Chemical Systems Mediating Sleep-wake States and their Homeostatic Regulation

Professor Barbara E. Jones PhD, FRSC, Professor Department of Neurology and Neurosurgery, McGill University, Montreal Neurological Institute

2017 Distinguished Scientist Award Winner

Saturday, April 29, 2017 8:30 – 9:30 am Grand Ballroom

Different neural cell groups containing different neurotransmitters and projecting to different targets discharge in association with the three sleep-wake states and their polygraphic parameters. Determining the discharge profiles of such cell groups across the sleep-waking cycle reveals the way in which they can generate or modulate particular states or their principal features. Accordingly, noradrenergic locus coeruleus neurons were first found to discharge during waking in association with behavioral arousal and to cease firing during sleep, thus playing a role in promoting waking and behavioral arousal with postural muscle tone. Other neurotransmitter containing cell groups, notably the cholinergic neurons, have only recently been recorded using the juxtacellular technique, which permitted their identification, and thereby shown to discharge in association with EEG gamma and theta activity during active waking but also during paradoxical sleep with muscle atonia. These neuromodulators influence GABAergic and glutamatergic neurons which form the effector neurons through the brain and play different roles depending upon their specific receptors. The neuropeptides, orexin and MCH, also influence the effector systems in a reciprocal manner to promote arousal and sleep, respectively. These neuromodulatory and effector neurons are regulated in a homeostatic manner, which in turn underlies the homeostatic regulation of sleep-wake states.

Learning Objectives:

1. Review the major chemical neurotransmitter and neuromodulatory systems in the brain that regulate sleep-wake states.
2. Review the discharge profiles and interactions of these systems which generate the sleep-waking cycle.
3. Review the way in which these neural systems are homeostatically regulated such that sleep and waking are so regulated in turn.

Dr. Jones seeks to understand how the brain generates states of waking and sleep. She focuses on the neuroanatomical organization, chemical neurotransmitters and physiology of the specific neural circuits



in the brainstem, hypothalamus and basal forebrain, which stimulate and maintain a waking state, as well as those which reciprocally arrest waking and promote sleep. To study these neural systems, her laboratory employs *in vivo* neurophysiological recording in naturally waking/sleeping rodents, combined with neuroanatomical and histochemical techniques. One major facet of her research program has been investigating the way in which cholinergic neurons in the brainstem and basal forebrain stimulate cortical activation with theta and gamma EEG activity during waking and paradoxical sleep. Her group has studied cholinergic along with other neuromodulatory systems, including noradrenergic, orexinergic and MCH neurons, and how

they can modulate the functionally diverse glutamatergic and GABAergic neurons, which work in balance as the effector neurons for cortical activity and behavioral states. Most recently, her group has examined how these systems are regulated in a homeostatic manner to similarly regulate sleep and waking.

Keynote 2 - Childhood Obstructive Sleep Apnea Syndrome: What We Know and What We Don't Know in 2017

Carole L. Marcus M.B.B.Ch., Distinguished Endowed Chair in Pediatrics Professor of Pediatrics, University of Pennsylvania, Director, Sleep Center, Children's Hospital of Philadelphia

Saturday, April 29, 2017 9:30 – 10:30 am Grand Ballroom

The childhood obstructive sleep apnea syndrome (OSAS) is common, but much remains unknown about its pathophysiology, management, natural history and sequelae. This presentation will discuss evidence-based, state of the art knowledge on childhood OSAS, with emphasis on areas needing further research.

Learning Objectives

1. To review the epidemiology and pathophysiology of childhood OSAS
2. To evaluate management and sequelae of childhood OSAS
3. To discuss areas requiring future research.



Carole L. Marcus, MBBCh, is the director of the Sleep Center at Children's Hospital of Philadelphia, where she holds the Distinguished Endowed Chair in Pediatrics; and is a professor of pediatrics at the University of Pennsylvania. After graduating medical school at the University of the Witwatersrand in South Africa, she completed a residency/chief residency at State University of New York Brooklyn and a fellowship in pediatric pulmonology at Children's Hospital Los Angeles.

Dr. Marcus is a deputy editor for the journal SLEEP and has served on the board of directors of the Sleep Research Society, as chair of the American Academy of Pediatrics Subcommittee on Obstructive Sleep Apnea Syndrome, and on many American Thoracic Society committees. Her research interests are focused on the pathophysiology and management of pediatric obstructive sleep apnea; in particular, the developmental determinants of upper airway collapsibility, and the surgical and continuous positive airway pressure (CPAP) therapy management of childhood obstructive sleep apnea. She is a recipient of the American Academy of Sleep Medicine William C. Dement Academic Achievement Award.

Keynote 3 - Developing Precision Sleep/Circadian Medicine

Allan I. Pack M.B.Ch.B., Ph.D., FRCP, John Miclot Professor of Medicine. Director, Center for Sleep and Circadian Neurobiology, Chief, Division of Sleep Medicine Perelman School of Medicine at the University of Pennsylvania

Saturday, April 29, 2017 4:30 – 5:30 pm Grand Ballroom

One of the major goals of many areas of medicine is to develop a more personalized approach to diagnosis and treatment of disease. The fundamental concept is that individuals differ in terms of genetic/epigenetic influences that drive different presentations of disease, and different consequences. In the United States, major precision medicine initiatives have been started to address this concept. It seems that sleep/circadian disorders are ideally suited to this new approach. This will be illustrated by new approaches to one key sleep disorder—obstructive sleep apnea.

Objectives

1. To explain the concepts of personalized/precision medicine and P4 medicine.
2. To illustrate the approaches being used to advance this in the United States.
3. To illustrate how to apply these concepts using obstructive sleep apnea as an example.



Research Expertise: A major focus of Dr. Pack's current research is developing a personalized, precision medicine approach to sleep disorders, in particular obstructive sleep apnea. This involves developing biomarkers and elucidating gene variants conferring risk or protection. A particular issue in obstructive sleep apnea is that many patients with this disorder do not develop sleepiness. Determining molecular/genetic reasons for this is an area of focus. Dr. Pack has a major commitment to research training and currently directs a number of research training programs for graduate students and postdoctoral fellows.

Clinical Expertise: Dr. Pack's clinical expertise is in sleep disorders with a particular focus on diagnosis and management of obstructive sleep apnea. He is internationally recognized for his expertise in this area and has been listed in the Best Doctor's in the United States and in the Philadelphia region (Philadelphia Magazine).

Keynote 4 - Insomnia - A Transdiagnostic Approach

Prof. Dieter Riemann Ph.D., Dipl. Psych, Department of Clinical Psychology and Psychophysiology, Centre for Mental Disorders, Freiburg University Medical Centre, Germany
Sunday, April 30, 2017 8:00 – 9:00 am Grand Ballroom

Till recently, insomnia was differentiated into primary/ secondary forms, indicating that insomnia can be due to somatic or mental disorders, can be substance-related or can occur as a primary disorder, unrelated to other disorders. Even more sophisticated insomnia subtypes were described as psychophysiological, idiopathic or paradoxical forms. In contrast, DSM-5 introduced "insomnia disorder" as an umbrella category and NIH suggested a transdiagnostic approach towards insomnia with the RDoC criteria. Own work based on an extensive meta-analysis of the polysomnographic literature in mental disorders and insomnia indicates that insomniac symptoms like prolonged sleep latency or increased nocturnal awakenings are not specific for any given disorder but transdiagnostic in nature. The hyperarousal concept of insomnia, too, can be viewed as a transdiagnostic mechanism triggering and maintaining most insomnias.

Own work focusing on autonomic, neurophysiologic and neuroimaging studies in insomnia, accumulated evidence that "hyperarousal" on several levels, including subjective perception is not specific for insomnia subtypes. CBT-I, as first-line treatment for insomnia, in the meantime also has been proven to be effective in so-called "secondary" insomnias, including severe somatic or mental disorders.

Learning Objectives

1. Describe the diagnostic approach of DSM 5 towards insomnia
2. Describe the transdiagnostic nature of insomnia symptoms for mental disorders
3. Describe the major signs of hyperarousal for insomnia patients



Dieter Riemann obtained a Ph.D. in Psychology in 1988 and is a full Professor of Clinical Psychophysiology at the Centre for Mental Disorders of Freiburg University Medical Center/ Germany since 1993.

Since 2013, he heads his own Department at Freiburg University. From 2006 - 2008 he held an appointment as Adjunct Professor of Psychiatry at the University of Rochester Medical School/NY. From 2007-2013 he was a member of the APA's work group sleep disorders for DSM 5. Since 2008 he is the treasurer of the European Sleep Research Societies. In 2009 he founded the European Insomnia Network (EIN). Since 2015 he is a Visiting Professor at Oxford University (Nuffield Department of Clinical Neurosciences). He held several functions within the German sleep society and presently heads the steering committee for the clinical guideline on insomnia.

Prof. Reimann is a certified somnologist (German/ European Level) and is an accredited cognitive-behavioral therapist and supervisor for psychotherapy. He has been active in sleep medicine and sleep research for more than three decades and has published more than 350 peer-reviewed articles and given numerous presentations at national and international meetings. His present work focuses mainly on different aspects of insomnia including diagnostics, epidemiology, therapeutics and neurobiology.

Keynote 5 - Speaking, Smiling and Gesturing During Sleep - Ethology of Nocturnal Behaviors

Isabelle Arnulf MD, PhD, Professor of Neurology, Pierre and Marie Curie University, Paris, France

Sunday, April 30, 2017 9:00 am – 10:00 am Grand Ballroom

We are supposed to be quiet and immobile when sleeping, except for brief arousals and position changes. However, a fine examination of video and audio sounds during the night reveals numerous exceptions to this rule, including complex behaviors such as sleep talking, expressing facial emotions and gesturing. They can be seen in subjects with NREM and REM parasomnias, but also in normal adult subjects. These vocalizations, speeches, whispering and shouting, smiles, fear expressions, and movements have been insufficiently studied *per se*, whereas they can be seen as an extraordinary, open window upon mental content and brain functioning during sleep. What does the sleeping brain say? Are emotions visible on the sleeper face? What is the variety (and potential generators) of the behaviors observed in RBD and sleepwalking? We will expose the observations of several hundred of sleepers studied from an ethological point of view during the night.

Learning Objectives

1. To learn about the movements and behaviors displayed during sleep in patients with REM sleep behavior disorders, and to infer about their brain sources
2. To learn about sleep talking and what is said by the sleeping brain
3. To learn about facial expression during sleep



Isabelle Arnulf is a professor of neurology at the Pierre and Marie Curie University, Paris and head of the sleep disorders clinic at Pitié-Salpêtrière Hospital, Paris. Her research program is focused on neurological sleep disorders, mainly abnormal behavior during sleep (sleepwalking, REM sleep behavior disorders), sleep in Parkinson's disease and central hypersomnias.

Keynote 6 - Manual Scoring of Polysomnograms: What Are We Missing?

Magdy Younes MD, FRCPC, PhD, Distinguished Professor Emeritus , University of Manitoba
Sunday, April 30, 2017 3:30 – 4:30 pm Grand Ballroom

Manual scoring of polysomnograms is based on rules developed for visual scoring in the mid 1960's, at a time when personal computers had not yet even been invented. It is truly amazing that it is still the main tool for assessing sleep quality after 50 years of dramatic advances in digital technology. The EEG is full of information that cannot be quantified by the naked eye. Utilizing this information through digital analysis may greatly enhance the clinical usefulness of sleep studies. In this presentation, I will present some of the new developments in this area including the Odds-Ratio-Product (ORP) a continuous index of sleep depth/quality, scaling of arousal intensity, regional differences in sleep depth, quantitation of alpha intrusion and spindle characteristics (frequency, duration and intensity), speed with which deep sleep returns following arousals and awakenings, enhancements to the multiple sleep latency test, and use of digitally scored spindles, K complexes and delta wave duration to reduce inter-scorer variability in staging sleep.

Learning Objectives:

1. To appreciate the difficulty of evaluating sleep depth/quality from conventional scoring (R&K rules) of sleep data.
2. To learn about emerging technologies in evaluating sleep
3. To appreciate the potential clinical benefits of incorporating digital EEG analysis in routine polysomnography.



Dr. Younes is a world-renowned respiratory specialist and innovator. He is a Distinguished Professor Emeritus at the University of Manitoba in Winnipeg, Canada as well as a Senior Scholar in its Faculty of Medicine. He is also a research professor at the University of Calgary, Faculty of Medicine. Dr. Younes received his MD from the University of Alexandria in Egypt and went on to train in internal medicine and Respiriology at McGill University in Montreal, where he also obtained a PhD specializing in pulmonary physiology. He established the sleep laboratory at the Health Sciences Centre in Winnipeg in 1991 and was its director until he retired from active practice.

Dr. Younes has done extensive research in the areas of Respiriology and respiratory physiology including topics such as reflex control of breathing, control of breathing during exercise, the pathogenesis of respiratory failure, and sleep apnea. His research has resulted in 136 original peer-reviewed papers and 22 book chapters and reviews. His work, specifically on sleep apnea, has appeared in 19 influential peer-reviewed publications on the pathogenesis of the disorder. Dr. Younes was recently invited to write the chapter on sleep apnea in the authoritative Comprehensive Physiology (formerly the Handbook of Physiology), published by the American Physiological Society. A medical innovator from the beginning of his career, the development of the automatic sleep scoring system (Michele) is the latest in a series of inventions by Dr. Younes. These include proportional assist ventilation (PAV), mechanical ventilator design, and several methods for non-invasive determination of respiratory mechanics and monitoring of respiratory muscle pressure output in patients on mechanical ventilation. His inventions in the area of mechanical ventilation have been incorporated in several commercial ventilators used throughout the world.

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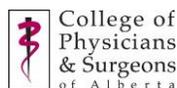
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Sponsored Breakfast Symposium Hosted by **MERCK**

Insomnia: Natural History, Burden and Treatment

Herald & Doll Room – Saturday, April 29, 2017 from 6:30 – 7:45 am

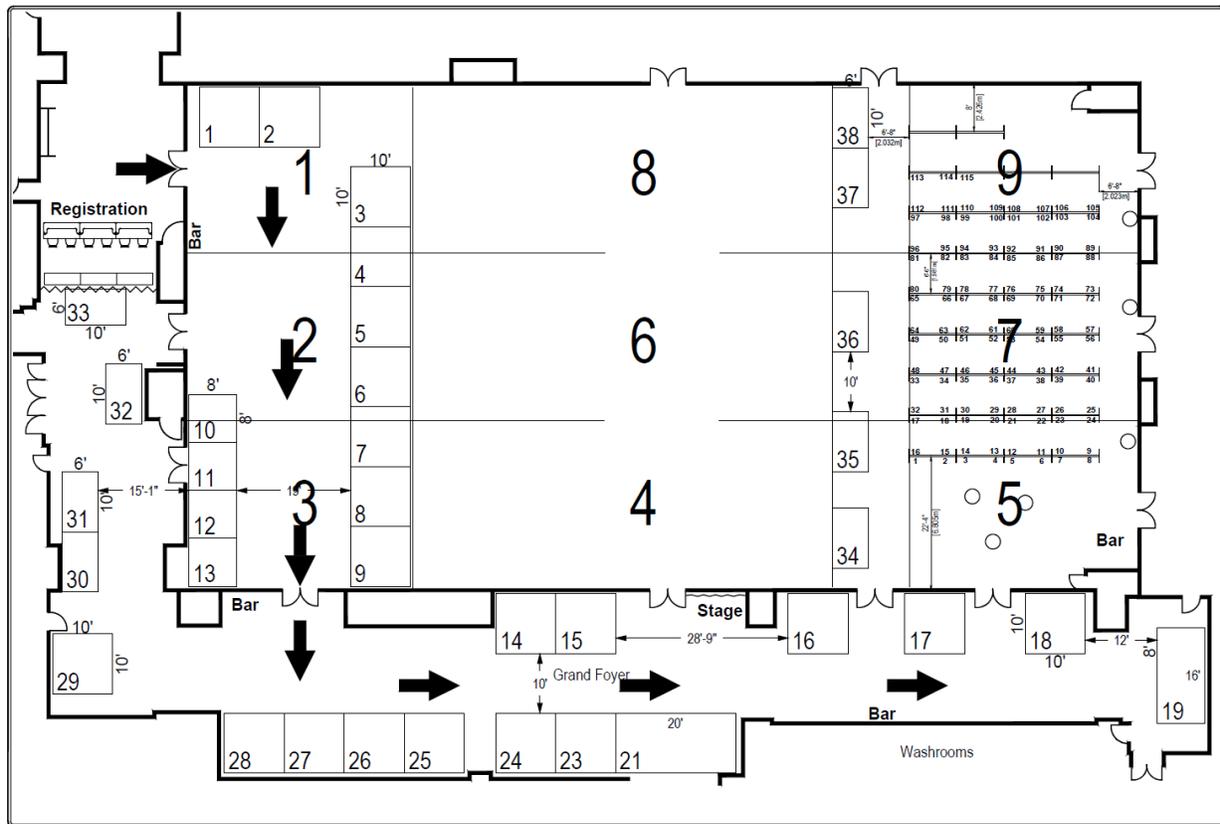
Speaker: Charles M. Morin PhD, Canada Research Chair in Behavioural Sleep Medicine, Université Laval

NOTE: This breakfast session is not a part of the CME accredited program

Braebon Dentists Luncheon - Saturday, April 29, 2017 from 1:00-2:30 pm; Walker Room



Conference and Exhibitor Floor Plan



Company	Booth #
Advanced Respiratory Care Network	12
American Association of Sleep Technologists	30
Aurum Group	2
Board of Registered Polysomnographic Technologists	11
Braebon Medical Corporation	9
Bresotec Inc.	10
Cerebra Health	8
Choice One Medical	14
College of Physicians and Surgeons of Alberta	26
Dr. Moscovitch & Associates, Sleep And Fatigue Institute	23
Drive Devilbiss Healthcare	1
Dymedix Diagnostics Inc.	37
Fisher and Paykel Healthcare	19 - 20
KEGO Corporation	5
McArthur Medical Sales Inc.	34
Medigas	21 - 22

Company	Booth #
Medreleaf Corp	36
MedSleep Inc	38
Natus Neurology	18
Neurovirtual USA, Inc	6
Pad A Cheek, Llc	7
Panthera Dental	17
Peak Medical Group	15
Philips	29
ProSomnus Sleep Technologies	4
Quality Sleep Care	13
RANA Respiratory Care Group	24
ResMed	25
Respiratory Homecare Solutions	28
SomnoMed	35
Sunset Healthcare Solutions	27
Vitalaire	16
Zephyr Sleep Technologies	3

Program Accreditation: CME, CEC and CDE Information

CME Credit Information for Physicians

Primary Care Education Course - College of Family Physicians of Canada

This program has been certified by the College of Family Physicians of Canada and the Alberta office for up to 6.25 Group Learning credits.

Primary Care Education Course - Royal College of Physicians and Surgeons of Canada – Section 1:

This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification program of The Royal College of Physicians and Surgeons of Canada, and accredited by the University of Calgary Office of Continuing Medical Education and Professional Development. Participants can claim up to a maximum of 6.25 study credits.

2017 Canadian Sleep Society Conference - Royal College of Physicians and Surgeons of Canada – Section 1:

This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification program of The Royal College of Physicians and Surgeons of Canada, and accredited by the University of Calgary Office of Continuing Medical Education and Professional Development. Participants can claim up to a maximum of 20.75 study credits.

CEC Credit Information for Technologists

Continuing Education Credits (CEC) for Technologists for attendance at CSS conferences are recognized by the Board of Registered Polysomnographic Technologists (BRPT) for RPSGT and the American Board of Sleep Medicine (ABSM) for RST.

Total number of CEC hours for attendance at the three-day program is 20.0. Broken down by day:

Friday - 7.0

Saturday - 6.5

Sunday - 6.5

CDE Credit Information for Dentists

The 8th Conference of the Canadian Sleep Society, April 28 -30, 2017 in Calgary AB has been approved for continuing education credits by the by the Alberta Dental Association + College.

This activity will be eligible for a maximum 20.5 dental continuing educations credit. Proof of attendance to individual courses hours will be required.

CEC Credit Information for Psychologists

Some associations recognize credits for professional development. Psychologists are encouraged to add their attendance at accredited events to their personal Continuing Professional Development portfolios.

CEU Credit Information for Pharmacists

Attendees to the Pharmacy Education Course are encouraged to submit this non-accredited learning activity for CEU requirements with the Alberta College of Pharmacists. The maximum CEU allowable is 6.0 hours.

Student Conference Highlights

As a trainee attending the 2017 Canadian Sleep Conference, we want to make you aware of some of the features of the meeting that may be of particular interest to you:

Canadian Sleep and Circadian Network Student Lounge

This is a great opportunity to mix, mingle and network with your peers anytime during the meeting in a space reserved for trainees.

AVAILABLE FRIDAY, SATURDAY & SUNDAY

Nelson 3

CSS-SRS New Frontiers Satellite Meeting Program - New Frontiers in Sleep Mechanisms and Functions

This event was programmed with students in mind and features a number of early career investigators.

FRIDAY, 28 APRIL, 8 AM – 4:30 PM

Imperial 4

Lunch with the Mentors

This is a great opportunity for trainees to interact with speakers/mentors in an informal small group setting. This lunch is occurring in conjunction with the CSS-SRS satellite meeting. Guest mentors will include: James Krueger, Barbara Jones, Allan Pack, Simon Warby, Valerie Mongrain, Keith Hengen, and Carolina Gutierrez Herrera.

FRIDAY, 28 APRIL, 12:45 – 1:45 PM

Imperial 6

Young Investigators Symposium

Be sure to attend this session and support your fellow trainees

SUNDAY, 30 APRIL, 10:30 AM – 12 PM

Imperial 4

Annual General Meeting (AGM) of the Canadian Sleep Society (CSS).

If you want to get more involved with the CSS or get a glimpse into the inner workings of the society be sure to attend the AGM.

FRIDAY, 28 APRIL, 4:30 – 6:00 PM

Stephen A/B

Welcome Reception

An opportunity to network with colleagues and vendors

FRIDAY, 28 APRIL, 6:30 – 8 PM

Exhibit Hall

Poster Reception

SATURDAY, 29 APRIL, 5:30 – 7 PM

Imperial 5, 7, 9

EDUCATION COURSES AT A GLANCE - Friday, April 28, 2017

NOTE: The education courses are not included in general conference registration and requires separate registration and an additional fee.

Primary Care Education Course

Imperial Room 8

8:00 am - 8:05 am	Introduction and Greetings
8:05 am - 8:30 am	Insomnia Guidelines
8:30 am - 9:10 am	Epidemiology and Burden of Insomnia
9:10 am - 10:00 am	Diagnosis and Treatment of Insomnia
10:00 am - 10:20 am	Health Break & Exhibits Open
10:20 am - 10:45 am	Primary Care CBT for Insomnia
10:45 am - 11:00 am	Panel Discussion
11:00 am - 11:50 am	Diagnosis and Treatment of Obstructive Sleep Apnea
11:50 am - 12:30 pm	Cardiovascular Consequences of Obstructive Sleep Apnea
12:30 pm - 12:40 pm	Panel Discussion
12:40 pm - 1:40 pm	Lunch & Exhibits Open
1:40 pm - 2:20 pm	Sleepiness and Society
2:20 pm - 2:50 pm	Pediatric Obstructive Sleep Apnea
2:50 pm - 3:10 pm	Health Break & Exhibits Open
3:10 pm - 3:30 pm	Pediatric Insomnia
3:30 pm - 3:50 pm	Workshop on Adolescent Delayed Sleep-Wake Phase Disorder (DSPD)
3:50 pm - 4:00 pm	Panel Discussion

CME Credit Information for Physicians

College of Family Physicians of Canada and Alberta

This program has been certified by the College of Family Physicians of Canada and the Alberta office for up to 6.25 Group Learning credits.

Royal College of Physicians and Surgeons of Canada – Section 1:

This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification program of The Royal College of Physicians and Surgeons of Canada, and accredited by the University of Calgary Office of Continuing Medical Education and Professional Development. Participants can claim up to a maximum of 6.25 study credits.

Psychologist Workshop on Insomnia

Herald Room

8:00 am - 4:00 pm	Workshop on Assessment and Treatment of Insomnia for Psychologists
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CEC Credit Information for Psychologists

Some associations recognize credits for professional development. Psychologists are encouraged to add their attendance at accredited events to their personal Continuing Professional Development portfolios.

Dental Education Course / Friday Program

Bannerman Room

8:00 am - 4:00 pm	Dental Education Course
8:00 am - 8:05 am	Introduction
8:05 am - 9:00 am	Sleep Disordered Breathing: Update on Pathophysiology and Diagnosis
9:00 am - 10:00 am	Normal and Not So Normal Sleep
10:00 am - 10:30 am	Health Break and Exhibits Open
10:30 am - 11:30 am	Oral Appliance Therapy and Adjunctive Treatments - Update
11:30 am - 12:30 pm	Pediatric OSA - Recognition and Treatment Options - the Dental Medical Interaction
12:30 pm - 1:30 pm	Lunch & Exhibits Open
1:30 pm - 2:30 pm	Maxillo-mandibular Advancement Surgery: Why is it the Most Effective Surgical Treatment Option for OSA
2:30 pm - 3:30 pm	Titration & Beyond - Optimizing OAT
3:30 pm - 4:00 pm	Establishing the Dental/Medical Team for OAT

CDE Credit Information for Dentists

The 8th Conference of the Canadian Sleep Society, April 28 -30, 2017 in Calgary AB has been approved for continuing education credits by the by the Alberta Dental Association + College.

This activity will be eligible for a maximum 20.5 dental continuing educations credit. Proof of attendance to individual courses hours will be required.

Pharmacy Education Course

Walker Room

8:00 am - 8:05 am	Welcome and Introduction
8:05 am - 8:55 am	Screening, Assessment and Diagnosis of Insomnia
8:55 am - 9:45 am	Treatment of Insomnia
9:45 am - 10:05 am	Health Break and Exhibits Open
10:05 am - 10:55 am	Obstructive Sleep Apnea
10:55 am - 11:45 am	Cardiovascular Consequences of Obstructive Sleep Apnea
11:45 am - 12:45 pm	Lunch & Exhibits Open
12:45 pm - 1:35 pm	Behavioral Therapy for Insomnia
1:35 pm - 2:25 pm	Circadian Rhythm Disorders and Treatment Options
2:25 pm - 2:45 pm	Health Break and Exhibits Open
2:45 pm - 3:45 pm	Sleep Disorders Related to Menopause

CEU Credit Information for Pharmacists

Attendees to the Pharmacy Education Course are encouraged to submit this non-accredited learning activity for CEU requirements with the Alberta College of Pharmacists. The maximum CEU allowable is 6.0 hours.

EDUCATION COURSES DETAILED AGENDAS - Friday, April 28, 2017

NOTE: The education courses are not included in general conference registration and requires separate registration and an additional fee.

Primary Care Education Course Imperial Ballroom 8

7 AM - 7 PM

Registration Open

8:00 am - 4:00 pm

Primary Care Education Course

This is a one-day continuing medical education event for family physicians, pediatricians, psychologists and allied medical professionals that aims to address their education needs in terms of the evaluation, diagnosis and management of sleep.

Chronic insomnia is very prevalent in the community and will be reviewed from both an adult and pediatric perspective. The latest TOP Insomnia Guidelines will be introduced along with cutting-edge treatment considerations and consequences of untreated insomnia. The prevalence of obstructive sleep apnea in the community is increasing and the impact on quality of life and its interaction with other medical and psychiatric disorders are well known. The local best practices on diagnosing obstructive sleep apnea and treating it from a personalized sleep medicine perspective with all modalities including CPAP, Dental Appliance and Surgery will be reviewed. The relationship of obstructive sleep apnea and cardiovascular disease will be discussed including the latest interventional SAVE study that challenges some of these concepts. An update on obstructive sleep apnea in pediatrics is welcomed as the prevalence of childhood obesity makes this an ongoing health issue. The sleepy teen will be also be tackled by the program understanding the prevalence, pathophysiology and clinical implications of delayed sleep phase in teens. The issue of sleepiness in society and its impact will be expertly reviewed in the context of long work hours, a 24/7 society, insufficient sleep and sleep disorders.

Program Learning Objectives:

1. To be able to be able to diagnose and treat patients presenting with the complaint of insomnia in the context of the potential consequences of the condition and to utilize tools that may be available in a primary care clinic or through collaboration with specialists in the community.
2. To be able to effectively communicate the importance and the proper conduct of a cognitive behavioral therapy program for insomnia.
3. To understand the significance of insufficient sleep in the community and to advocate for proper sleep behaviors and for patients to seek management of excessive daytime sleepiness.
4. To understand the conditions of hypersomnolence and their potential consequences and to manage the diagnosis and treatment of the causative conditions.
5. To understand the consequences of sleep disordered breathing in the adult and pediatric populations and the proper diagnosis and management of these conditions.
6. To be able to identify and treat the causes of insomnia in childhood including primary insomnia and circadian rhythm disorders.

Sponsored by



8:00 am - 8:05 am

Introduction and Greetings

Robert Cohen M.D., CCFP, Somnologist (European Sleep Research Society), Sleep Physician, Centre for Sleep & Human Performance

8:05 am - 8:30 am

Insomnia Guidelines

Charles Samuels M.D., CCFP, DABSM, Medical Director, Centre for Sleep & Human Performance

The Alberta Medical Association Toward Optimized Practice (AMA TOP) Insomnia Clinical Practice Guidelines are the only formal guideline designed for Primary Care Practitioners in Canada and form the basis of what will be a national clinical practice guideline for the diagnosis and management of insomnia. The guideline update began in 2014 and was released in early 2016 and was a collaborative effort including experts in various areas of insomnia diagnosis and management from across the country. Dr. Samuels has chaired the project from the beginning in 2006/2007 and will give a practical presentation on how to implement the guideline into a busy primary care practice and adapt the guideline to various primary care practitioner settings.

Learning Objectives

1. Be able to apply the TOP guidelines for patients with insomnia.
2. Implement a behavioral and pharmacological strategy for insomnia based on the guidelines.

8:30 am - 9:10 am

Epidemiology and Burden of Insomnia

Charles M. Morin PhD, Canada Research Chair in Behavioural Sleep Medicine, Université Laval

Chronic insomnia is a prevalent health complaint that carries significant burden for the individual and society. This presentation will summarize the evidence about the long-term consequences of insomnia on quality of life, risks for depression and hypertension, and its impact on disability and absenteeism from work, and on health care costs.

Learning Objectives:

1. To learn about the natural history and prognosis of insomnia
2. To identify long-term consequences associated with persistent insomnia

- 9:10 am - 10:00 am **Diagnosis and Treatment of Insomnia**
 Atul Khullar MD MSc FRCPC (Psychiatry) DABPN (Cert. Sleep Medicine), Medical Director, Northern Alberta Sleep Clinic
 The session will review the concept of insomnia as a problem that needs significant attention to multiple parts of the patient's health. Diagnosis and treatment will be reviewed with a strong focus on co-morbidities and how they influence the management plan. Effective utilization of the limited resources in Canada will also be discussed.
 Learning Objectives:
 1. Overview of Insomnia management and available therapeutic options
 2. Review the DSM-V changes in the paradigm of insomnia
 3. Review of resources of management for insomnia in Canada
- 10:00 am - 10:20 am **Health Break & Exhibits Open**
- 10:20 am - 10:45 am **Primary Care CBT for Insomnia**
 Speaker: Tammy Moroz PhD, Sleep Psychologist, FMC Sleep Centre
 This session will provide an overview of Cognitive Behavioral Therapy for insomnia (CBT-I), a structured program that helps identify and replace thoughts and behaviors that cause or worsen sleep problems with habits that promote sound sleep. Unlike sedative medication, CBT-I addresses the underlying causes of sleep problems. It is recommended as an initial intervention in sleep guidelines and is effective in the treatment of chronic primary and comorbid insomnia, including with older adults and chronic hypnotic users.
 Learning Objectives
 1. Identify the cognitive strategies of CBT-I that recognize and change beliefs that affect the ability to sleep.
 2. Identify the behavioural strategies of CBT-I that modify sleep behaviors to promote consolidated sleep including, stimulus control and
 3. Identify the relative benefits of CBT-I relative to hypnotic medication.
- 10:45 am - 11:00 am **Panel Discussion**
 Charles Samuels M.D., CCFP, DABSM, Medical Director, Centre for Sleep & Human Performance
 Charles M. Morin PhD, Canada Research Chair in Behavioural Sleep Medicine, Université Laval
 Atul Khullar MD MSc FRCPC (Psychiatry) DABPN (Cert. Sleep Medicine), Medical Director, Northern Alberta Sleep Clinic
 Speaker: Tammy Moroz PhD, Sleep Psychologist, FMC Sleep Centre
- 11:00 am - 11:50 am **Diagnosis and Treatment of Obstructive Sleep Apnea**
 Jerome W. Alonso MD, Medical Director, Canadian Sleep Consultants
 Robert Cohen M.D., CCFP, Somnologist (European Sleep Research Society), Sleep Physician, Centre for Sleep & Human Performance
 Obstructive Sleep Apnea (OSA) is a very common sleep disorder that can disturb sleep with daytime consequences of sleepiness, fatigue and neurocognitive symptoms. Mood, weight, cardio-metabolic health, drowsy driving risk and overall quality of life can be impacted by untreated OSA. There is ambulatory and lab based sleep testing available to diagnose OSA with benefits and limitations that should be decided upon after identifying a patient's pre-test probability for OSA, available resources and goals of testing made in the context of known comorbid sleep disorders and medical disorders. The gold standard treatment for OSA remains CPAP therapy. The other treatment options for OSA are dental appliance therapy and surgical management. The treatment of OSA should be individualized to try and best meet the goals of the patient from both health and symptomatic perspectives.
 Learning Objectives:
 1. To be familiar with the prevalence, clinical presentation, anatomical predispositions and consequences of Obstructive Sleep Apnea
 2. To be able to best diagnose OSA with taking into account the pre-test probability, available resources, comorbid sleep and medical
 3. To be able to understand the treatment options for OSA including CPAP therapy, dental appliance and surgical management, and best
- 11:50 am - 12:30 pm **Cardiovascular Consequences of Obstructive Sleep Apnea**
 Sachin R. Pendharkar MD FRCPC, Associate Professor, University of Calgary
 Obstructive sleep apnea (OSA) is a common chronic medical condition characterized by intermittent airway obstruction, sleep disruption and sympathetic activation. OSA has been associated with a number of risk factors for cardiovascular disease as well as adverse cardiovascular outcomes. In this session, the pathophysiologic and epidemiologic basis for these associations will be reviewed. Furthermore, the role of OSA treatment, including recent controversies arising from large randomized trials, will be discussed.
 Learning Objectives:
 At the end of the this session, the participant will be able to:
 1. Describe the pathophysiology of obstructive sleep apnea (OSA) and how it may contribute to the development of cardiovascular disease.
 2. Describe the epidemiology of cardiovascular risk factors in patients with OSA and associated clinical outcomes.
 3. Discuss the potential benefit of OSA treatment on cardiovascular risk, including current clinical controversies.
- 12:30 pm - 12:40 pm **Panel Discussion**
 Jerome W. Alonso MD, Medical Director, Canadian Sleep Consultants
 Robert Cohen M.D., CCFP, Somnologist (European Sleep Research Society), Sleep Physician, Centre for Sleep & Human Performance
 Sachin R. Pendharkar MD FRCPC, Associate Professor, University of Calgary
- 12:40 pm - 1:40 pm **Lunch & Exhibits Open**

- 1:40 pm - 2:20 pm **Sleepiness and Society**
 Allan I. Pack M.B.Ch.B., Ph.D., FRCP, John Mielot Professor of Medicine. Director, Center for Sleep and Circadian Neurobiology, Chief, Division of Sleep Medicine Perelman School of Medicine at the University of Pennsylvania
 Sleepiness is common in our society. There are multiple causes for this. These include chronic insufficient sleep and sleep disorders which are very prevalent. Inadequate sleep leads to multiple adverse consequences, some of which are behavioral, e.g., increased risk of crashes, but others are cardiometabolic.
 This presentation will review the basic biology of sleep and circadian rhythm and discuss different types of insufficient sleep. The consequences of these will be described. The role of the common disorder—obstructive sleep apnea—will also be discussed.
 Sleepiness can be dealt with by a change in public policy—the Sleep Revolution—described by Adriana Huffington.
 The overall objectives are as follows:
 1. To explain the mechanism of sleep/circadian biology and relevance to sleepiness in our society.
 2. To describe different types of sleep deprivation, causes and consequences.
 3. To familiarize the audience about obstructive sleep apnea—risk factors, diagnosis and treatment, and consequences.
 4. To discuss public policy initiatives to address the issue of sleepiness in our society.
- 2:20 pm - 2:50 pm **Pediatric Obstructive Sleep Apnea**
 Joanna E. MacLean MD, PhD, FRCPC, Assistant Professor, University of Alberta; Stollery Children’s Hospital
 Pediatric obstructive sleep apnea is a common sleep disorder affecting 3% of children. In addition to disrupting sleep, pediatric obstructive sleep apnea leads to difficulties with attention and learning, metabolic disturbance, and increased risk for hypertension. For children with obstructive sleep apnea in Canada, there continues to be variable access to appropriate diagnostic testing and often long wait times for adenotonsillectomy, one of the mainstays of treatment.
 At the end of this session, participants will be able to:
 1. Understand the current epidemiology and important contributing factor for pediatric obstructive sleep apnea;
 2. Evaluate options for the assessment of pediatric obstructive sleep apnea and determine when referral to sleep specialists is needed;
 3. Assess treatment options for pediatric obstructive sleep apnea.
- 2:50 pm - 3:10 pm **Health Break & Exhibits Open**
- 3:10 pm - 3:30 pm **Pediatric Insomnia**
 Adetayo Adeleye MD, MSc, FRCPC., Clinical Lecturer, Alberta Children’s Hospital; University of Calgary.
 Pediatric insomnia, most often expressed as bedtime resistance and or night time awakenings is common in toddlers and preschool children. These same behaviors may persist into school age when appropriate limits which emphasize sleep as a priority are not in place.
 Following this presentation, participants will be able to:
 1. Identify some of the common causes of pediatric insomnia.
 2. Understand management strategies that promote sleep for the child and family.
 3. Recognize risk factors that should prompt further evaluation.
- 3:30 pm - 3:50 pm **Workshop on Adolescent Delayed Sleep-Wake Phase Disorder (DSPD)**
 W. Joseph Askin M.D., F.C.F.P., Somnologist (European Sleep Research Society), Sleep Physician, Centre for Sleep and Human Performance
 Following a case presentation, participants will be able to:
 1. Discuss the “two-process model” of homeostatic and circadian regulation of sleep and wakefulness.
 2. Outline the diagnostic criteria for and proposed pathophysiology of DSPD
 3. Recommend various management options to patients with DSPD
- 3:50 pm - 4:00 pm **Panel Discussion**
 Joanna E. MacLean MD, PhD, FRCPC, Assistant Professor, University of Alberta; Stollery Children’s Hospital
 Adetayo Adeleye MD, MSc, FRCPC., Clinical Lecturer, Alberta Children’s Hospital; University of Calgary.
 W. Joseph Askin M.D., F.C.F.P., Somnologist (European Sleep Research Society), Sleep Physician, Centre for Sleep and Human Performance



Dental Education Course / Friday Dental Program

Bannerman Room

7 am - 7 pm	Registration Open
7:55 am - 4:00 pm	<p>Dental Education Course</p> <p>This course is intended to aid in the establishment and expansion of dental sleep medicine in your clinical dental practice.</p> <p>The course will have a clinical focus when addressing patient selection, treatment options, oral appliance selection, record taking, titration and long term follow up of oral appliance patients. The course includes a review of normal sleep and the role of sleep in maintaining health. An update will be given on the new recommendations for sleep duration as well as the impact of sleep disorders on the individual and society. The pathophysiology of sleep disordered breathing and the latest finding on the comorbidities of snoring and sleep apnea will be addressed.</p>
7:55 am - 8:00 am	<p>Introduction</p> <p>Leslie Dort Leslie Dort, DDS, Diplomate, ABDSM, University of Calgary</p>
8:00 am - 9:00 am	<p>Sleep Disordered Breathing: Update on Pathophysiology and Diagnosis</p> <p>Patrick J. Hanly MD, FRCPC, D,ABSM, Professor, University of Calgary</p> <p>The talk will focus on obstructive sleep and sleep hypoventilation. The risk factors, pathophysiology and potential complications of these respiratory sleep disorders will be reviewed. Diagnostic testing of simple and complex disease will be discussed. Finally, the impact of co-morbidities on the management of sleep-disordered breathing will be illustrated with case presentations.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. To review the pathophysiology of sleep-disordered breathing 2. To recognize the strengths and limitations of diagnostic testing 3. To understand the indications and options for therapy
9:00 am - 10:00 am	<p>Normal and Not So Normal Sleep</p> <p>Christine Chang MD, FRCPC, Staff Physician & Staff Psychiatrist , Foothills Medical Centre</p> <p>Objectives:</p> <ol style="list-style-type: none"> 1. Demonstrate a basic understanding of what happens during sleep, as well as theories as to why humans sleep. 2. List recommended amounts of sleep, and potential health consequences if one has an inadequate amount of sleep. 3. Describe the presentation and basic management principles of common sleep disorders.
10:00 am - 10:30 am	<p>Health Break and Exhibits Open</p> <p>Exhibition Hall, Imperial 1,2,3 & Foyer</p>
10:30 am - 11:30 am	<p>Oral Appliance Therapy and Adjunctive Treatments - Update</p> <p>Speaker: Jean-Francois Masse DMD M.Sc., Invited Professor, Faculty of Dentistry, Laval University</p> <p>A review of some of the current optimization techniques which can be used to help improve treatment success in oral appliance therapy</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> Appreciate the importance of treating OSA through a collaborative approach Identify trending in the treatment of OSA Recognizing predictors in treatment success
11:30 am - 12:30 pm	<p>Pediatric OSA - Recognition and Treatment Options - the Dental Medical Interaction</p> <p>Manisha Witmans MD, University of Alberta</p>
12:30 pm - 1:30 pm	<p>Lunch & Exhibits Open</p> <p>Exhibition Hall, Imperial 1,2,3 & Foyer</p>
1:30 pm - 2:30 pm	<p>Maxillo-mandibular Advancement Surgery: Why is it the Most Effective Surgical Treatment Option for OSA</p> <p>Tina Meisami BSc, DDS, FRCDC, Oral & Maxillofacial Surgeon, Faculty of Dentistry, University of Toronto</p>
2:30 pm - 3:30 pm	<p>Titration & Beyond - Optimizing OAT</p> <p>Don Farquhar DDS, D.ABDSM, Huronia Dental Centre</p> <p>This session examines appropriate initial treatment position and oral appliance titration to optimize results. The use of home monitors and determination of treatment efficacy will be discussed.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Improve understanding of appropriate initial treatment position and protrusive record options. 2. Understand the use of home sleep apnea monitors. 3. Optimize oral appliance treatment efficacy.
3:30 pm - 4:00 pm	<p>Establishing the Dental/Medical Team for OAT</p> <p>Chairperson: Leslie Dort Leslie Dort, DDS, Diplomate, ABDSM, University of Calgary</p> <p>Panelist: Christine Chang MD, FRCPC, Staff Physician & Staff Psychiatrist , Foothills Medical Centre</p> <p>Panelist: Patrick J. Hanly MD, FRCPC, D,ABSM, Professor, University of Calgary</p> <p>Panelist: Jean-Francois Masse DMD M.Sc., Invited Professor, Faculty of Dentistry, Laval University</p> <p>Panelist: Manisha Witmans MD, University of Alberta</p> <p>Panelist: Tina Meisami BSc, DDS, FRCDC, Oral & Maxillofacial Surgeon, Faculty of Dentistry, University of Toronto</p> <p>Panelist: Don Farquhar DDS, D.ABDSM, Huronia Dental Centre</p>

Pharmacy Education Course

Walker Room

7:00 am - 7:00 pm	Registration Open
8:00 am - 4:00 pm	<p>Pharmacy Education Course</p> <p>This is a one-day continuing education event for pharmacists that aims to address their education needs in terms of the screening, assessment, management and therapeutic treatment of sleep.</p> <p>Chronic insomnia is very prevalent in the community and will be reviewed in detail with pharmacist as the targeted audience. Given pharmacists' expanded scope of practice in Alberta, the ability to understand, assess and manage sleep related disorders is critical. Screening, assessing and diagnosing insomnia will be introduced along with the latest TOP Insomnia Guidelines with cutting-edge treatment considerations and consequences of untreated insomnia. The benefits and risks associated with current drug therapies, such as benzodiazepines and non-benzodiazepines, will be discussed by experts in the field to provide pharmacists with the confidence to intervene and de-prescribe where appropriate. Cognitive Behavioral Therapy for Insomnia (CBT-I), a non-drug treatment option recommended as an initial intervention in sleep guidelines, will be discussed in detail and tailored towards how pharmacists can utilize such a program in practice to care for their patients. In addition, circadian sleep disorders will be reviewed and the evidence around current treatments for these disorders will be presented, including melatonin and light therapy. From a special populations perspective, insomnia related to menopause is prevalent and the screening and management of insomnia in women with menopause will be discussed in detail. The best local practices on screening and assessing for obstructive sleep apnea will be introduced, followed by treatment options and how pharmacists can refer, educate and monitor patients with this condition. The relationship of obstructive sleep apnea and cardiovascular disease will be discussed including the latest interventional SAVE study that challenges some of these concepts.</p> <p>Program Learning Objectives:</p> <ol style="list-style-type: none"> 1. To be able to screen and assess patients presenting with the complaint of insomnia in the context of the potential consequences of the condition and to utilize tools that may be available to pharmacists. 2. To be able to effectively manage drug therapy in the treatment of insomnia, understanding the risks and benefits related to different drug choices such as benzodiazepines, non-benzodiazepines and antihistamines. 3. To be able to effectively communicate the importance and the proper conduct of a cognitive behavioral therapy program for insomnia. 4. To be able to manage circadian sleep disorders utilizing available evidence of current drug and non-drug treatment options such as melatonin and light therapy. 5. To be able to screen for and identify patients at risk of or experiencing obstructive sleep apnea and understand the treatment options available for this condition to refer, educate and monitor patients. 6. To understand the cardiovascular consequences related to obstructive sleep apnea, the evidence related to this relationship, and how to manage patients at potential risk.
8:00 am - 8:05 am	<p>Welcome and Introduction</p> <p>Chairperson: Candace Neczyk MSc, BScPharm, Clinical Assistant Professor, Pharmacy and Pharmaceutical Sciences, University of Alberta</p>
8:05 am - 8:55 am	<p>Screening, Assessment and Diagnosis of Insomnia</p> <p>Speaker: Atul Khullar MD MSc FRCPC (Psychiatry) DABPN (Cert. Sleep Medicine), Medical Director, Northern Alberta Sleep Clinic</p>
8:55 am - 9:45 am	<p>Treatment of Insomnia</p> <p>Speaker: James MacFarlane Ph.D, D.ABSM, Assistant Professor of Pediatrics and Psychiatry, University of Toronto</p>
9:45 am - 10:05 am	Health Break and Exhibits Open
10:05 am - 10:55 am	<p>Obstructive Sleep Apnea</p> <p>Speaker: Carol Chung MD FRCPC, Clinical lecturer. Department of Respiriology and Sleep Medicine, University of Alberta</p> <p>An overview of OSA will be provided. This talk aims at providing pharmacists with the basic knowledge of OSA that they may find relevant in their day to day practice.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. Overview of OSA - what it is and what are the risk factors 2. Screening and diagnosis of OSA – tests available and evidence of screening 3. Treatment options of OSA – pros/cons, efficiency of each
10:55 am - 11:45 am	<p>Cardiovascular Consequences of Obstructive Sleep Apnea</p> <p>Speaker: Owen Lyons MB BCh BAO, MRCPI, Respiriologist and Sleep Physician, Women's College Hospital and University Health Network, Toronto, Assistant Profess</p>
11:45 am - 12:45 pm	Lunch & Exhibits Open
12:45 pm - 1:35 pm	<p>Behavioral Therapy for Insomnia</p> <p>Speaker: Tavis Campbell PhD. R.Psych., Professor, Department of Psychology, University of Calgary</p>
1:35 pm - 2:25 pm	<p>Circadian Rhythm Disorders and Treatment Options</p> <p>Speaker: Marie Dumont Ph.D. Neurosciences, Professor, Department of Psychiatry, University of Montreal</p> <p>The physiological pathways underlying the effects of light exposure and melatonin on circadian rhythms will be described, and the general principles governing their effects will be reviewed. The characteristics of circadian sleep-wake disorders will be presented, as well as the symptoms of the most common circadian disorders including delayed sleep phase disorder, shift work and jet lag disorders, and the non-24 rhythm often observed in blind individuals. Recent research concerning the use of controlled light exposure and exogenous melatonin to help patients with circadian disorders will be presented.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. To understand the mode of action of light therapy and exogenous melatonin on circadian rhythms. 2. To know the main characteristics of circadian rhythms disorders. 3. To learn current knowledge concerning the use of light therapy and melatonin in the management of circadian rhythm disorders.
2:25 pm - 2:45 pm	Health Break and Exhibits Open
2:45 pm - 3:45 pm	<p>Sleep Disorders Related to Menopause</p> <p>Speaker: Jerome W. Alonso MD, Medical Director, Canadian Sleep Consultants</p>
3:45 pm - 4:00 pm	<p>Closing</p> <p>Chairperson: Candace Neczyk MSc, BScPharm, Clinical Assistant Professor, Pharmacy and Pharmaceutical Sciences, University of Alberta</p>

Psychologist Workshop on Insomnia

Herald Room

8:00 am - 4:00 pm

Workshop on Assessment and Treatment of Insomnia for Psychologists

Judith R. Davidson Ph.D., C.Psych., Associate professor of Psychology and Oncology , Queen's University

This workshop is for psychologists or psychologists-in-training who wish to offer effective treatment for insomnia, the most common sleep disorder. The workshop will cover the assessment, diagnosis and evidence-based treatment of chronic insomnia. Because the treatment of choice is Cognitive Behavioural Therapy for Insomnia, or "CBT-I", most of the day will involve learning about this treatment, its components, and how to do it. This is one of the most rewarding therapies for a psychologist to provide. There will be opportunity to ask questions and to consider, in very practical ways, how you can provide insomnia treatment at your site.

Learning Objectives

Through participation in this workshop, you will:

- understand the definition and diagnosis of insomnia
- know how to do an insomnia assessment interview
- explain Cognitive Behavioural Therapy for Insomnia (CBT-I)
- understand why it is important for Canadians to have access to CBT-I
- characterize the homeostatic and circadian processes that regulate sleep
- apply the CBT-I technique of sleep scheduling (sleep restriction therapy with stimulus control) to "prescribe" and adjust a sleep window
- apply CBT-I techniques for de-arousal (dealing with racing thoughts)
- have tools for tracking clinical outcomes

CONFERENCE PROGRAM AT A GLANCE

Agenda at a Glance – Friday, April 29, 2017

Friday, April 28, 2017 Agenda at a Glance			
7:00 am - 7:00 pm	Registration Open, Foyer		
8:00 am - 4:00 pm	CSS-SRS New Frontiers Satellite Meeting Imperial 4	Technologist Day Stephen A/B	Dental Education Program Bannerman
4:30 pm to 6:00 pm	Annual General Meeting (AGM) of the Canadian Sleep Society (CSS) Stephen A/B		
6:30 pm - 8:00 pm	Welcome Reception <i>Sponsored by Respiratory Homecare Solutions & Fpm Solutions: Cpap And Medical Devices</i> Exhibit Hall & Foyer		

CSS-SRS New Frontiers Satellite Meeting Imperial 4

8:00 am - 9:45 am	Session I: Connectomics: Circuit Control of Sleep-wake Behaviors
8:00 am - 8:30 am	Identification of Novel Circuits Controlling Arousal
8:30 am - 9:00 am	Role of REM Sleep in Memory Consolidation
9:00 am - 9:30 am	The Hypothalamic and Thalamic Connectome and its Role in Sleep Control
9:30 am - 9:45 am	Session I: General Discussion
9:45 am - 10:00 am	Health Break & Exhibits Open
10:00 am - 11:00 am	Keynote: Integrating new circuits and laying out remaining big questions
11:00 am - 12:45 pm	Session II: Synptomics: Building or Breaking Synapses in Sleep?
11:00 am - 11:30 am	The Role of Sleep in Neuronal Activity Homeostasis
11:30 am - 12:00 pm	Sleep Homeostasis and Synaptic Plasticity Elements
12:00 pm - 12:30 pm	Role of Sleep in Synapse and Memory Formation
12:30 pm - 12:45 pm	Session II: General Discussion
12:45 pm - 1:45 pm	Trainee-Mentor Lunch
1:45 pm - 2:45 pm	Keynote - Sleep's Influence on Learning and Memory
2:45 pm - 4:30 pm	Session III: Genomics: Mechanisms of Sleep Regulation
2:45 pm - 3:15 pm	The Genetics of Fly Sleep
3:15 pm - 3:45 pm	Mechanisms of Sleep Control in Worms
3:45 pm - 4:15 pm	Circuits Mediating Sleep Homeostasis
4:15 pm - 4:30 pm	Session III: General Discussion

Friday Technologist Program

Stephen A\B

7:45 am - 8:00 am	Welcome
8:00 am - 8:30 am	Credentials and Exam Prep
8:30 am - 9:15 am	Case Studies
9:15 am - 10:00 am	Parasomnias
10:00 am - 10:15 am	Health Break and Exhibits Open
10:15 am - 11:00 am	ALS and Sleep
11:00 am - 12:00 pm	Narcolepsy
12:00 pm - 1:00 pm	Lunch & Exhibits Open
1:00 pm - 1:45 pm	Respiratory Anatomy & Physiology
1:45 pm - 2:30 pm	Obesity Hypoventilation
2:30 pm - 3:15 pm	Humidification and Presssure Relief for PAP Therapy
3:15 pm - 4:00 pm	Difficult and Challenging PAP Titrations

Friday Dental Program

Bannerman

8:00 am - 8:05 am	Introduction
8:05 am - 9:00 am	Sleep Disordered Breathing: Update on Pathophysiology and Diagnosis
9:00 am - 10:00 am	Normal and Not So Normal Sleep
10:00 am - 10:30 am	Health Break and Exhibits Open
10:30 am - 11:30 am	Oral Appliance Therapy and Adjunctive Treatments - Update
11:30 am - 12:30 pm	Pediatric OSA - Recognition and Treatment Options - the Dental Medical Interaction
12:30 pm - 1:30 pm	Lunch & Exhibits Open
1:30 pm - 2:30 pm	Maxillo-mandibular Advancement Surgery: Why is it the Most Effective Surgical Treatment Option for OSA
2:30 pm - 3:30 pm	Titration & Beyond - Optimizing OAT
3:30 pm - 4:00 pm	Establishing the Dental/Medical Team for OAT

Agenda at a Glance – Saturday April 29, 2017

Saturday, April 29, 2017 Agenda at a Glance							
	General Sessions			Technologist Program	Dental Program		
ROOM	Imperial 4	Imperial 6	Imperial 8	Stephen A/B	Bannerman		
7:00 am - 7:00 pm	Registration Open. Foyer						
6:30 am - 7:45 am	Breakfast Symposium - Insomnia : Natural History, Burden and Treatment, <i>Sponsored by Merck</i> Charles M. Morin PhD, Canada Research Chair in Behavioural Sleep Medicine, Université Laval Herald & Doll						
7:30 AM	Poster Installation, Imperial 5, 7, 9						
8:00 AM	Opening Ceremonies and Awards Imperial 4,6,8						
8:30 AM	Keynote 1 - Neural and Chemical Systems Mediating Sleep-wake States and their Homeostatic Regulation Professor Barbara E. Jones PhD, FRSC, Professor Department of Neurology and Neurosurgery, McGill University						
9:30 AM	Keynote 2 - Childhood Obstructive Sleep Apnea Syndrome: What We Know and What We Don't Know in 2017 Carole L. Marcus M.B.B.Ch., Distinguished Endowed Chair in Pediatrics Professor of Pediatrics, University of Pennsylvania						
10:30 AM	Health Break & Exhibits Open, <i>Sponsored by Peak Sleep Clinic</i> Exhibit Hall and Foyer						
11:00 AM	Symposium 1 Sleep and the Aging Brain	Symposium 2 Emerging Innovations in Health Service Delivery for Sleep-Disordered Breathing	Symposium 3 Are There Markers of Insomnia? From Hyperarousal to Genetics	AMA TOP Insomnia Guidelines	Orthodontics and Pediatric OSA		
12:00 PM				Optimizing Sleep and Travel in Canadian Olympic Sports	Training the Tongue and Treating OSA		
1:00 PM	Royal College Diploma in Sleep Disorder Medicine Herald	Insomnia Interest Group Doll	Lunch & Exhibits Open Exhibit hall and Foyer		Lunch and Dental Group Business Meeting <i>Sponsored by Braebon</i> Bannerman		
2:00 PM	Symposium 4 Classical and Novel Molecular Pathways of Sleep Regulation	Symposium 5 Sleep and Renal Function: A Bidirectional Relationship	Symposium 6 Sleep in Children with Neurodevelopmental Disabilities	Pediatric Sleep			
2:30 PM							Forum - Dental Sleep Medicine Research in Canada
3:00 PM						Filters and Technical Troubleshooting	
3:30 PM				Medical Issues in the Sleep Lab			
4:00 PM	Health Break & Exhibits Open, Exhibit Hall & Foyer						
4:30 PM	Keynote 3 - Developing Precision Sleep/Circadian Medicine Allan I. Pack M.B.Ch.B., Ph.D., FRCP, John Miclot Professor of Medicine, University of Pennsylvania						
5:30 PM	Poster Reception, <i>Sponsored by Merck & Sound Sleep Solutions</i> Imperial 5, 7, 9						
7:00 PM	Pediatric Sleep Interest Group (PSIG) Meeting Doll						
7:30 pm - 10:30 pm	Round 'em Up Gala Reception at the Calgary Petroleum Club <i>Tickets Required</i>						

Agenda at a Glance – Sunday, April 30 2017

Sunday, April 30, 2017 Agenda at a Glance						
	General Sessions			Technologist Program		Dental Program
ROOM	Imperial 4	Imperial 6	Imperial 8	Stephen A	Stephen B	Bannerman
7:00 am - 4:00 pm	Registration Open, Foyer					
8:00 AM	Keynote 4 - Insomnia - A Transdiagnostic Approach Prof. Dieter Riemann Ph.D., Dipl. Psych, Freiburg University Medical Centre, Germany Imperial 4,6,8					
9:00 AM	Keynote 5 - Speaking, Smiling and Gesturing During Sleep - Ethology of Nocturnal Behaviors Isabelle Arnulf MD, PhD, Professor of Neurology, Pierre and Marie Curie University, Paris, France					
10:00 AM	Health Break & Exhibits Open					
10:30 AM	Symposium 7 Young Investigator Symposium	Symposium 8 Sleep in Elite Athletes: Current Research and Clinical Insights	Symposium 9 Taking Polysomnography Outside of the Laboratory	Pap and ASV Workshop		Oral Appliance Therapy & The Edentulous Patient
11:30 AM						
12:00 PM	ICRH Strategic Directions and Opportunities for the Sleep Research Community Doll			Lunch & Exhibits Open, Exhibit Hall and Foyer		Lunch & Exhibits Open
12:30 PM						The OSA/TMD/Bruxism Connection. Does it Exist? When Should we Treat?
1:00 PM	Symposium 10 OSA in the Elderly and Risk of Cognitive Decline	Symposium 11 Predicting Oral Appliance Therapy Outcome: New Methods and Tests	Symposium 12 Do Dreams and Nightmares Affect Memory Consolidation?	Integrating Polyvagal Theory into Pain Management	L'influence de la lumière et du rythme circadien sur le sommeil	Difficult Case Presentations
1:30 PM				Scoring Bootcamp		
2:00 PM						
3:00 PM	Health Break					
3:30 PM	Keynote 6 - Manual Scoring of Polysomnograms: What Are We Missing? Magdy Younes MD, FRCPC, PhD, Distinguished Professor Emeritus, University of Manitoba					
4:30 PM	Conference Wrap-up					

Social Program

CSS Annual General Meeting

Conference Centre: Stephen A/B, Friday, April 28 at 4:30 – 5:30 pm

All current members of the CSS are invited to attend the CSS AGM. Don't miss important updates on society finances, reports from board members, and plans for the future. This is your chance to have a say in activities and initiatives of the society.

Welcome Reception

Conference Foyer & Exhibit Hall, April 28, 6:30 pm - 8:00 pm

All attendees and exhibitors are invited to this reception hosted in the Foyer and Exhibit Hall for an opportunity to enjoy a drink and network. The White Hat Ceremony is a long-standing tradition in Calgary, a symbol of the Western hospitality and good cheer we like to share with visiting guests. The white Smithbilt hat has been bestowed on numerous celebrities and dignitaries on their visits to our city since the 1950s, when Calgary's Mayor, Don MacKay, started the tradition.

Sponsored by  and 

Poster Reception

Conference Foyer & Exhibit Hall, Saturday, April 29, 5:30 - 7:00 pm

Come out and meet the authors of over 100 posters on new scientific findings, network, discuss the buzz about the conference, and have some wine and cheese of course.

Sponsored by  and 

Round ‘em Up Gala Reception

Join us for a special social event at the Calgary Petroleum Club

Saturday, April 29, 2017, 7:30 - 10:30 pm

Featuring 2015 Alberta Country Music Awards Male Artist of the Year:

Drew Gregory



The Petroleum Club is Calgary's premier business club located in the heart of downtown Calgary and just a short walk from the Hyatt Regency Hotel. Rooted in history since 1948, this private club will open its door for conference attendees on Saturday night.

Tickets: \$60 for conference attendees and their guests; \$30 for students. Tickets are available for purchase as part of your registration. A special menu is planned for the evening and a cash bar will be available for beverage purchase at the social.



CONFERENCE PROGRAM DETAILED AGENDAS - Friday, April 28, 2017

CSS-SRS New Frontiers Satellite Meeting Program-New Frontiers in Sleep Mechanisms and Functions

Imperial Ballroom 4

7:00 am - 7:00 pm	Registration Open
8:00 am - 4:00 pm	<p>CSS-SRS New Frontiers Satellite Meeting - New Frontiers in Sleep Mechanisms and Functions</p> <p>This 1-day meeting will provide a comprehensive and state-of-the-art update of the basic mechanisms and functions underlying sleep in both health and disease. It will feature scientific talks and discussions that focus on:</p> <ol style="list-style-type: none"> 1. How the brain functions to generate and control sleep and wakefulness; 2. How changes in brain activity during sleep impacts its function during waking; 3. How the genome impacts the control of brain function during sleep. <p>Sponsored by</p> 
8:00 am - 9:45 am	<p>Session I: Connectomics: Circuit Control of Sleep-wake Behaviors</p> <p>This session will examine how brain circuits communicate to produce normal sleep and how sleep can impact the circuits that enable learning and memory.</p> <p>Learning objectives:</p> <ol style="list-style-type: none"> 1. To understand how the CNS controls arousal 2. To understand CNS control of both slow-wave sleep and REM sleep 3. To understand how sleep impacts learning and memory
8:00 am - 8:30 am	<p>Identification of Novel Circuits Controlling Arousal</p> <p>Jimmy J. Fraigne PhD, Research Associate, University of Toronto</p> <p>Synchronizing arousal and motor activity is required for performing purposeful behaviors like locomotion and even for maintaining simple body posture. Failure of this coupling leads to dissociative states such as cataplexy (i.e. sudden muscle paralysis while awake) or abnormal movement in sleep (i.e., sleep walking or REM sleep behavior disorder). Using optogenetics, we identified a novel dopamine arousal circuit in the hypothalamus that functions to couple arousal and motor activity.</p>
8:30 am - 9:00 am	<p>Role of REM Sleep in Memory Consolidation</p> <p>Sylvain Williams PhD, McGill University</p>
9:00 am - 9:30 am	<p>The Hypothalamic and Thalamic Connectome and its Role in Sleep Control</p> <p>Carolina Gutierrez Herrera PhD, Research Associate, University of Bern</p>
9:30 am - 9:45 am	Session I: General Discussion
9:45 am - 10:00 am	Health Break & Exhibits Open
10:00 am - 11:00 am	<p>Keynote: Integrating new circuits and laying out remaining big questions</p> <p>Yang Dan PhD, Howard Hughes Medical Institute Investigator and Professor of Neurobiology, University of California, Berkeley</p> <p>In this presentation I will summarize our recent effort to understand the neuronal circuits controlling REM and non-REM sleep. We use a variety of modern techniques, including optogenetics, imaging, and virus-assisted circuit tracing. I will illustrate how these approaches can lead to new insights into the brain mechanisms regulating sleep.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. To identify neurons in the brain that are important for controlling sleep 2. To map the connections in the sleep control network 3. To understand the mechanisms underlying sleep pressure
11:00 am - 12:45 pm	<p>Session II: Synaptomics: Building or Breaking Synapses in Sleep?</p> <p>This session examines how sleep impacts cells and their communication pathways, and it examines how sleep loss can impair the ability of cells to communicate effectively in both health and disease.</p> <p>Learning objectives:</p> <ol style="list-style-type: none"> 1. To understand how sleep impacts the ability of brain cells to communicate effectively 2. To understand how different types of sleep impact cell-to-cell communication processes 3. To understand how sleep loss impairs cell synapses
11:00 am - 11:30 am	<p>The Role of Sleep in Neuronal Activity Homeostasis</p> <p>Keith Hengen PhD, Assistant Professor, Department of Biology, Washington University in St. Louis</p> <p>Homeostatic plasticity allows neural networks to achieve a paradoxical balance of rapid modifiability and long term stability. By studying homeostatic processes in freely behaving animals, we revealed a set of arousal state-dependent rules. These data suggest that temporal segregation of plasticity mechanisms subserves state-specific functions such as homeostasis and memory consolidation.</p>
11:30 am - 12:00 pm	<p>Sleep Homeostasis and Synaptic Plasticity Elements</p> <p>Valerie Mongrain PhD, Research Professor, Université de Montréal</p> <p>Our work has revealed that different cell adhesion proteins shaping synaptic functioning and plasticity have roles in the regulation of sleep state quantity and quality. The presentation will feature results indicating that mice with mutations in cell adhesion elements have several alterations in electroencephalographic activity, including in sleep slow waves, and that wakefulness and sleep impacts the expression of these elements. The transcriptional machinery and intracellular mechanisms likely impacting cell adhesion protein expression during sleep deprivation will also be discussed.</p>
12:00 pm - 12:30 pm	<p>Role of Sleep in Synapse and Memory Formation</p> <p>Guang Yang PhD, Assistant Professor, NYU School of Medicine</p> <p>How sleep helps learning and memory remains unknown. Using in vivo two-photon imaging, we longitudinally observed how postsynaptic dendritic spines in the mouse cortex are formed and maintained during sleep and after learning. Our recent findings indicate that sleep contributes to learning and memory storage by promoting learning-dependent synapse formation and maintenance on selected branches of pyramidal neurons.</p>

12:30 pm - 12:45 pm **Session II: General Discussion**

12:45 pm - 1:45 pm **Trainee-Mentor Lunch**

1:45 pm - 2:45 pm **Keynote - Sleep's Influence on Learning and Memory**

Bruce McNaughton PhD, Professor, University of Lethbridge, AB

Damage to the hippocampal formation (HC) results in severe deficits in the acquisition of two types of memory, which are categorized as "episodic memory" and

At the end of this talk, participants should:

1. Understand and describe the basic hierarchical/ modular structure of the cortical memory system
2. Understand and explain why hippocampal damage leads to impaired episodic and semantic learning
3. Be able to describe the process of memory trace reactivation during sleep from the cellular/neurophysiological perspective

2:45 pm - 4:30 pm **Session III: Genomics: Mechanisms of Sleep Regulation**

This session is aimed at examining how genes impact sleep and how sleep can impact gene expression. This session focuses on sleep in humans, mice and flies and looks for commonality in sleep mechanisms between species

Learning objectives:

1. To understand how different genes impact sleep and wakefulness
2. To understand and identify which genes are impaired in candidate sleep disorders
3. To understand if genes expression levels can impair sleep amounts

2:45 pm - 3:15 pm **The Genetics of Fly Sleep**

Susan T. Harbison PhD, Earl Stadtman Tenure-Track Investigator, National Heart Lung and Blood Institute

One intriguing observation about sleep is that some individuals need to sleep longer than others. The basis for this need can be revealed through the identification of genetic factors contributing to individual differences. This presentation will discuss how artificial selection coupled with whole-genome DNA sequence data can be used to localize genes affecting variation in night sleep duration in *Drosophila melanogaster*. Extreme (9.97 hours) divergences in night sleep duration are traceable to changes in the allele frequency of genomic variants over time.

3:15 pm - 3:45 pm **Mechanisms of Sleep Control in Worms**

David M. Raizen MD, PhD, DABSM, Associate Professor of Neurology, University of Pennsylvania

Dr. Raizen will present a neural and neurochemical basis of sleep during sickness. The mechanism was elucidated in his and other labs using invertebrate animal models.

3:45 pm - 4:15 pm **Circuits Mediating Sleep Homeostasis**

Sha Liu Ph.D., Postdoctoral Fellow, Johns Hopkins University School of Medicine

Prolonged wakefulness leads to an increased pressure for sleep, but how this homeostatic drive is generated and subsequently persists is unclear. Recently, from a neural circuit screen in *Drosophila*, we identified the first neural circuit whose brief activation induces homeostatic sleep drive even in fully rested animals, a phenotype never previously observed in any organism. In addition, we demonstrated that neural plasticity of this circuit underlies generation and persistence of sleep drive. This paradigm-shifting mechanism provides an explanation for the gradual build-up and dissipation of sleep drive, as well as a new conceptual framework for future investigations into the homeostatic regulation of sleep.

4:15 pm - 4:30 pm **Session III: General Discussion**

4:30 pm - 6:00 pm **Annual General Meeting (AGM) of the Canadian Sleep Society (CSS)**

All current member of the CSS are invited to attend the AGM. Don't miss important updates on society finances, reports from board members, and plans for the future. This is your chance to have a say in activities and initiatives of the society.

6:30 pm - 8:00 pm **Welcome Reception**

An opportunity to enjoy a drink and network. Includes a traditional White Hat Ceremony.

All attendees and exhibitors are invited to this reception hosted in the Foyer and Exhibit Hall for an opportunity to enjoy a drink and network. The White Hat Ceremony is a long-standing tradition in Calgary, a symbol of the Western hospitality and good cheer we like to share with visiting guests. The white Smithbilt hat has been bestowed on numerous celebrities and dignitaries on their visits to our city since the 1950s, when Calgary's Mayor, Don MacKay, started the tradition.



Technologist Program: Friday, April 28, 2017

Stephen A/B

7:00 am - 7:00 pm	Registration Open
7:45 am - 8:00 am	<p>Welcome</p> <p>Michael Eden RPSGT, RST, Chair of Education Committee, Canadian Sleep Society</p> <p>Welcome address and opening of Education Day</p>
8:00 am - 8:30 am	<p>Credentials and Exam Prep</p> <p>Speaker: Laree Fordyce B.Tech, RPSGT, RST, CCRP, Technical Director, Sound Sleep Solutions</p> <p>Learning Objectives</p> <ul style="list-style-type: none"> Pathways to RPSGT/RST. To prepare Polysomnographic Technologists to write and pass the BRPT or AASM registration exams. To earn RPSGT and/or RST credentials
8:30 am - 9:15 am	<p>Case Studies</p> <p>Speaker: Dr. Satyendra Sharma MD, FRCPC, FCCP, FAASM, Medical Director, Centre of Sleep and Chronobiology, University of Manitoba</p> <p>This will be an interactive session where audience will be encouraged to participate in discussions.</p> <p>Learning Objectives: The objective is to prepare for challenging cases that will present in the sleep laboratory:</p> <ol style="list-style-type: none"> 1. Case presentation and discuss the legal implications of decisions about driving 2. Case presentation and discuss violent behavior during sleep 3. Case presentation and discuss sexual behavior during sleep
9:15 am - 10:00 am	<p>Parasomnias</p> <p>Speaker: Jesse Tallon BHSc. RRT, PSGT, Director of Operations, Quality Sleep Care</p> <p>Interesting cases involving parasomnias.</p> <p>Learning Objectives</p> <ul style="list-style-type: none"> To understand how patients will present in the sleep lab, and how to diagnose these disorders.
10:00 am - 10:15 am	Health Break and Exhibits Open
10:15 am - 11:00 am	<p>ALS and Sleep</p> <p>Andrea Loewen MD, FRCPC, DABIM (Sleep), Respiratory and Sleep Medicine at Alberta Health Services, University of Calgary</p> <p>Discussion about sleep in patients with Amyotrophic Lateral Sclerosis (ALS).</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> To educate technologists and clinicians about ALS and how it presents in sleep facilities.
11:00 am - 12:00 pm	<p>Narcolepsy</p> <p>Speaker: Dr. Indra Narang MEDSCI, MBBCH, FRCPC, MD, Associate Professor, University of Toronto</p> <p>New and innovative research in the field of Narcolepsy.</p> <p>Learning Objectives</p> <ul style="list-style-type: none"> To understand how patients with Narcolepsy are diagnosed and treated for the disorder.
12:00 pm - 1:00 pm	Lunch & Exhibits Open
1:00 pm - 1:45 pm	<p>Respiratory Anatomy & Physiology</p> <p>Speaker: Debra Medin Med RRT RPSGT, Clinical Resource Specialist, Pulmonary, Children's Hospital of Wisconsin</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"> Interpret a number of blood gas results as they relate to sleep-disordered breathing. Distinguish the abnormalities of blood gas exchange as these relate to obstructive and central breathing events during sleep.
1:45 pm - 2:30 pm	<p>Obesity Hypoventilation</p> <p>Speaker: Dr. Willis Tsai MD, FRCPC, FAASM, MSc, Clinical Professor, University of Calgary</p> <p>Discussion about Obesity Hypoventilation.</p> <p>Learning Objectives</p> <ul style="list-style-type: none"> To understand this patient population and how they present in the sleep laboratory. To learn specific respiratory patterns
2:30 pm - 3:15 pm	<p>Humidification and Presssure Relief for PAP Therapy</p> <p>Speaker: James Sayegh RPSGT, Fisher & Paykel Healthcare</p> <p>An understanding of the importance and role of humidification in PAP therapy, as well as the role and proper use of pressure relief technologies during PAP titrations and once the patient is at home. The overall impact on compliance will also be discussed.</p>
3:15 pm - 4:00 pm	<p>Difficult and Challenging PAP Titrations</p> <p>Speaker: Michele Ostrowski R.PSG.T, Sleep Consultant, MICHELE Sleep Consulting</p> <p>Review simple to complex sleep disordered breathing.</p> <p>Titration of simple to complex sleep disorder breathing.</p> <p>Learning objectives:</p> <ul style="list-style-type: none"> To better understand the differences in many types of sleep disorder breathing, titration and treatment options.

4:30 pm - 6:00 pm **Annual General Meeting (AGM) of the Canadian Sleep Society (CSS)**
 All current member of the CSS are invited to attend the AGM. Don't miss important updates on society finances, reports from board members, and plans for the future. This is your chance to have a say in activities and initiatives of the society.

6:30 pm - 8:00 pm **Welcome Reception**
 An opportunity to enjoy a drink and network. Includes a traditional White Hat Ceremony.
 All attendees and exhibitors are invited to this reception hosted in the Foyer and Exhibit Hall for an opportunity to enjoy a drink and network. The White Hat Ceremony is a long-standing tradition in Calgary, a symbol of the Western hospitality and good cheer we like to share with visiting guests. The white Smithbilt hat has been bestowed on numerous celebrities and dignitaries on their visits to our city since the 1950s, when Calgary's Mayor, Don Mackay, started the tradition.



CONFERENCE PROGRAM DETAILED AGENDAS - Saturday, April 29, 2017

Saturday Scientific Program

7:00 am - 7:00 pm Registration Open
 6:30 am - 7:45 am **Breakfast Symposium - Insomnia : Natural history, Burden and Treatment**
 Speaker: Charles M. Morin PhD, Canada Research Chair in Behavioural Sleep Medicine, Université Laval
 Vendor presentation (no CE).
 Breakfast included. Limited space. Registration required.

Sponsored by  MERCK

7:30 am - 8:00 am Poster Installation
 8:00 am - 8:30 am **Opening Ceremonies and Awards**
 8:30 am - 9:30 am **Keynote 1 - Neural and Chemical Systems Mediating Sleep-wake States and their Homeostatic Regulation**
 Professor Barbara E. Jones PhD, FRSC, Professor Department of Neurology and Neurosurgery, McGill University, Montreal Neurological Institute
 Different neural cell groups containing different neurotransmitters and projecting to different targets discharge in association with the three sleep-wake states and their polygraphic parameters. Determining the discharge profiles of such cell groups across the sleep-waking cycle reveals the way in which they can generate or modulate particular states or their principal features. Accordingly, noradrenergic locus coeruleus neurons were first found to discharge during waking in association with behavioral arousal and to cease firing during sleep, thus playing a role in promoting waking and behavioral arousal with postural muscle tone. Other neurotransmitter containing cell groups, notably the cholinergic neurons, have only recently been recorded using the juxtacellular technique, which permitted their identification, and thereby shown to discharge in association with EEG gamma and theta activity during active waking but also during paradoxical sleep with muscle atonia. These neuromodulators influence GABAergic and glutamatergic neurons which form the effector neurons through the brain and play different roles depending upon their specific receptors. The neuropeptides, orexin and MCH, also influence the effector systems in a reciprocal manner to promote arousal and sleep, respectively. These neuromodulatory and effector neurons are regulated in a homeostatic manner, which in turn underlies the homeostatic regulation of sleep-wake states.
 Learning Objectives:
 1. Review the major chemical neurotransmitter and neuromodulatory systems in the brain that regulate sleep-wake states.
 2. Review the discharge profiles and interactions of these systems which generate the sleep-waking cycle.
 3. Review the way in which these neural systems are homeostatically regulated such that sleep and waking are so regulated in turn.

9:30 am - 10:30 am **Keynote 2 - Childhood Obstructive Sleep Apnea Syndrome: What We Know and What We Don't Know in 2017**
 Carole L. Marcus M.B.B.Ch., Distinguished Endowed Chair in Pediatrics Professor of Pediatrics, University of Pennsylvania, Director, Sleep Center, Children's Hospital of Philadelphia
 The childhood obstructive sleep apnea syndrome (OSAS) is common, but much remains unknown about its pathophysiology, management, natural history and sequelae. This presentation will discuss evidence-based, state of the art knowledge on childhood OSAS, with emphasis on areas needing further research.
 Learning Objectives
 1. To review the epidemiology and pathophysiology of childhood OSAS
 2. To evaluate management and sequelae of childhood OSAS
 3. To discuss areas requiring future research.

10:30 am - 11:00 am **Health Break & Exhibits Open**
 Sponsored by  PEAK SLEEP CLINIC

11:00 am - 1:00 pm **Symposium 1 - Sleep and the Aging Brain: Harnessing Translational Physiology to Study the Impact of Risk and Protective Factors in Health**
 Chairperson: Marc Poulin, University of Calgary
 This symposium will address the important and emerging area of sleep and its relevance to the aging brain, changes in sleep and sleep architecture in Alzheimer disease and related dementias, the impact of genetic risk factors on sleep, and the role of interventions such as exercise on improving sleep quality and architecture.

Learning Objectives

1. Identify mechanisms by which sleep loss disrupts brain function, including cerebral and cognitive integrity in older humans.
2. Understand key interactions between aging and sleep, and the relationship between Alzheimer disease and related dementias, and sleep.
3. Identify key genetic risks for sleep related brain injury and neurodegeneration, and to explore the potential bidirectional pathways between risks and injury/disease onset and progression.

Speaker 1: Sigrid Veasey, University of Pennsylvania

Title: Chronic sleep loss: fueling Alzheimer's disease in the locus coeruleus.

Speaker 2: Julie Carrier, Université de Montréal

Title: Brain mechanisms and functional impact of age-related changes in sleep

Speaker 3: Glenn Landry, University of British Columbia

Title: Relationship between sleep quality and cognitive function in older adults.

Speaker 4: Lauren Drogos, University of Calgary

Title: Effect of APOE e4 genotype on objective but not subjective sleep quality in a population of healthy older adults: results from the Brain in Motion study

Speaker 5: David Hogan, University of Calgary

Title: Sleep, Sleep Disorders and the Canadian Longitudinal Study on Aging

11:00 am - 1:00 pm **Symposium 2 - Emerging Innovations in Health Service Delivery for Sleep-Disordered Breathing**

Chairperson: Sachin R. Pendharkar MD FRCPC, Associate Professor, University of Calgary

Sleep-disordered breathing (SDB) is common and has significant medical consequences. Treatment of SDB can improve health outcomes and is cost effective. Delays in access to diagnostic testing and treatment have been described in many jurisdictions and have stimulated interest in alternative care delivery models. The purpose of this session is to describe emerging research on a number of innovations intended to improve access to care for patients with SDB. These include the use of clinical pathways to enable primary care physicians to diagnose and treat SDB; management of SDB of varying severity and complexity by non-physician healthcare providers; and telemedicine as a means to provide care to patients in rural and remote areas. The symposium will also describe different service delivery models for SDB across Canada, highlighting interprovincial disparities and the importance of a standardized approach to improve the quality of SDB care for Canadians. This is a topical symposium that is aimed at sleep clinicians and health services researchers who are interested in exploring different models of care for SDB.

Learning Objectives

1. The attendee will recognize the challenges with timely access to diagnosis and management of sleep-disordered breathing.
2. The attendee will be able to describe recent innovations in care delivery for patients with sleep-disordered breathing, taking into account patient complexity.
3. The attendee will appreciate the variability of care delivery across Canada and potential impacts on patient care.

Speaker 1: Mark Fenton, University of Saskatchewan.

Title: Primary Care Pathways for Obstructive Sleep Apnea

Speaker 2: Sachin Pendharkar, University of Calgary

Title: The Use of Alternative Care Providers in the Management Of Sleep-Disordered Breathing Across the Severity Spectrum

Speaker 3: Sam Kuna, University of Pennsylvania

Title: The Reach of Telemedicine for Sleep Disordered Breathing

Speaker 4: Najib Ayas, University of British Columbia

Title: Service Delivery Models for Sleep-Disordered Breathing: A Cross-Canada Comparison

11:00 am - 1:00 pm **Symposium 3 - Are There Markers of Insomnia? From Hyperarousal to Genetics**

Chairperson: Célyne Bastien Ph.D, Laval University

Insomnia (as defined by the DSM-5) is an important health issue and afflicts up to 10% of the general population. Insomnia not only leads

Learning Objectives

1. To introduce markers of insomnia
2. To discuss the hyperarousal concept of insomnia on an integrative level.
3. To highlight the importance of novel research approaches and theories for further progress in the field

Speaker 1: Dieter Riemann, University Medical Center Freiburg

Title: Chronic insomnia and hyperarousal - where do we stand today?

Speaker 2: Célyne Bastien, PhD, Laval University

Title: Neurophysiological Measures of Misperception

Speaker 3: Ivy Chen, Laval University

Title: Cortisol and heart rate variability in insomnia

Speaker 4: Simon Warby, University of Montreal

Title: Genetics of insomnia

1:00 pm - 2:00 pm **Lunch & Exhibits Open**

Sponsored by



1:00 pm - 2:00 pm **Royal College Diploma in Sleep Disorder Medicine**

John Fleetham MD FRCP(C), Professor of Medicine, University of British Columbia

Update on the current status of the Royal College Diploma in Sleep Disorder Medicine including application process, curriculum and evaluation.

Learning Objective:

To understand the current status of the Royal College Diploma program in Sleep Disorder Medicine including application process, curriculum and evaluation

1:00 pm - 2:00 pm **Insomnia Interest Group**

2:00 pm - 4:00 pm **Symposium 4 - Classical and Novel Molecular Pathways of Sleep Regulation**

Chairperson: Emma O'Callaghan, Université de Montréal

The symposium will present novel findings of Canadian and American research regarding the molecular basis of sleep regulation. Dr. O'Callaghan will initially give a 5-minute overview of the overall symposium, and describe the progress of the field in the last decades in delineating the molecular mechanisms of sleep regulation. This overview will begin with those mechanisms originally identified in sleep regulation, and track the progression of the field to the present research efforts to understand the regulation of sleep. Then, presentations will be given by the proposed speakers which will consist of 20-25 minute presentations of their recent discoveries. Each presentation will be followed by a 10-minute questions and answers session.

Learning Objectives

1. To highlight some advances made in the previous decades in delineating molecular mechanisms of sleep regulation, and the important contribution of the North-American research community to it.
2. To emphasize the strength of basic research in Canada and America and the plethora of molecular techniques employed to understand sleep regulation and recovery.
3. To present new research findings on pathways classically implicated in sleep regulation and present novel pathways that contribute to the regulation of sleep.

Speaker 1: Emma O'Callaghan, Department of Neuroscience, Université de Montréal

Title: From Classic to Novel Molecular Mechanisms of Sleep Regulation

Speaker 2: Danilo De Gregorio, Affiliation Department of Psychiatry, McGill University

Title: Distinct and opposite roles of melatonin MT1 and MT2 receptors in sleep.

Speaker 3: James Krueger, Washington State University

Title: The initiation of sleep within small networks

Speaker 4: Kazue Samba, Department of Medical Neuroscience, Dalhousie University, Canada.

Title: The role of glial glutamate transporter-1 in synaptic dynamics regulating sleep/wake-promoting neurons

2:00 pm - 4:00 pm **Symposium 5 - Sleep and Renal Function: A Bidirectional Relationship**

Chairperson: Patrick J. Hanly MD, FRCPC, D,ABSM, Professor, University of Calgary

It has been recognized for some time that individuals with end-stage renal disease (ESRD) have a high prevalence of sleep apnea and non-respiratory sleep disorders. More recently, there has been growing interest and evidence that intermittent hypoxia associated with sleep apnea can injure the kidney. Consequently, there is a bidirectional relationship between sleep and renal function that has many clinical implications for patients with pre-dialysis dependent chronic kidney disease (CKD) and those who have reached ESRD and are dialysis-dependant. Experimental animal data will be presented that show how hypoxia can damage the kidney (Dr Ayas). The clinical implications of this phenomenon for patients with sleep apnea will be reviewed (Dr Hanly). The pathogenesis and management of sleep apnea in patients who have ESRD will be discussed (Dr Lyons). Finally, the role of non-respiratory sleep disorders and how sleep can be improved in patients with ESRD will be addressed (Dr Novak). This symposium combines both basic science and translational research and will be of interest to investigators who are interested in the pathogenesis of sleep disorders and to clinicians who care for the growing number of patients who have impaired sleep and kidney function.

Learning Objectives

1. To understand how hypoxia can injure the kidney
2. To explore the potential relevance of OSA to patients with chronic kidney disease
3. To understand the pathogenesis and management of sleep apnea in patients with end-stage renal disease
4. To learn how sleep can be improved in patients with end-stage renal disease

Speaker 1: Najib Ayas, MD, University of British Columbia

Title: Effect of intermittent hypoxia on the kidney: Evidence from animal models

Speaker 2: Patrick Hanly, MD, University of Calgary

Title: Effect of sleep apnea on the kidney: Evidence from human studies

Speaker 3: Owen Lyons, MD, University of Toronto

Title: Sleep-disordered breathing in End-Stage Renal Disease (ESRD)

Speaker 4: Marta Novak, MD, PhD, University of Toronto

Title: Non-respiratory sleep disorders in End-Stage Renal Disease (ESRD)

2:00 pm - 4:00 pm **Symposium 6 - Sleep in Children with Neurodevelopmental Disabilities: What is Similar and What is Different, and is a Transdiagnostic**
 Chairperson: Penny Corkum, Dalhousie University
 The prevalence of sleep disorders in typically developing children is high (~30%), but in children with neurodevelopmental disabilities (NDDs) sleep disorders (with insomnia being the most common) are reported with prevalence rates up to 90%. There is growing evidence that sleep disorders have a significant impact on a child's psychosocial and physical well-being, as well as being associated with increased symptomology, lower responses to treatment, and with increased family stress. Unfortunately, sleep is not routinely assessed in these children and when disorders are identified, treatment options are limited. To date, most research has examined the sleep disorders associated with specific conditions and the treatment needs for these populations. Case studies will be used to illustrate the characteristics, evaluation, and treatment for sleep problems in a range of conditions (i.e., Epilepsy, Down Syndrome, Cerebral Palsy, Autism Spectrum Disability, Fetal Alcohol Spectrum Disability, and ADHD). The literature will be summarized in terms of prevalence and characteristics, as well as best practice evaluation and treatment for sleep disorders (with a specific focus on insomnia). We will then highlight a transdiagnostic approach to treatment of insomnia for children with NDDs and lead a discussion about the potential benefits and downfalls of this approach.

Learning Objectives

1. Understand the sleep characteristics of youth with neurodevelopmental disorders (NDDs)
2. Learn about the best practices for treatment of sleep problems in children with NDDs
3. Explore the similarities and differences in sleep characteristics and best practice treatment across NDDs and the value of taking a transdiagnostic approach

Speaker 1: Shelly Weiss, MD, FRCPC, Pediatric Neurologist, Hospital for Sick Children, Professor, Faculty of Medicine, University of Toronto
 Title: Pediatric Sleep and Epilepsy: Common bedfellows

Speaker 2: Osman Ipsiroglu, MD, PhD, Sleep/Wake Behaviour Clinic and Research Lab, Department of Paediatrics, BC Children's Hospital, University of British Columbia
 Title: Sleep Disorders in Children and Adolescents with Down Syndrome

Speaker 3: Cary Brown, PhD, Professor, Faculty of Rehabilitation Medicine, University of Alberta
 Title: Sleep Deficiency in Children with Cerebral Palsy: Environmental Modifications

Speaker 4: Roger Godbout, PhD, Professor of Psychiatry, Université de Montréal
 Title: Sleep Problems in Autism Spectrum Disorder: Etiology and Treatment

Speaker 5: Ana Hanlon-Dearman, MD MSc FRCPC FAAP, Medical Director Child Development Clinic, Medical Director Manitoba FASD Centre/MB FASD Network, Child Development Clinic/Manitoba FASD Centre SSCY Centre

Title: Sleep challenges in children with FASD and best practice recommendations for management

Speaker 6: Gabrielle Rigney, PhD, Post-doctoral Fellow, Department of Psychology and Neuroscience, Dalhousie University

Title: Trans-diagnostic approach to intervention for insomnia in children with NDDs

4:00 pm - 4:30 pm **Health Break & Exhibits Open**

4:30 pm - 5:30 pm **Keynote 3 - Developing Precision Sleep/Circadian Medicine**

Allan I. Pack M.B.Ch.B., Ph.D., FRCPC, John Miclot Professor of Medicine. Director, Center for Sleep and Circadian Neurobiology, Chief, Division of Sleep Medicine Perelman School of Medicine at the University of Pennsylvania

One of the major goals of many areas of medicine is to develop a more personalized approach to diagnosis and treatment of disease. The fundamental concept is that individuals differ in terms of genetic/epigenetic influences that drive different presentations of disease, and different consequences. In the United States, major precision medicine initiatives have been started to address this concept. It seems that sleep/circadian disorders are ideally suited to this new approach. This will be illustrated by new approaches to one key sleep disorder—obstructive sleep apnea.

Objectives

1. To explain the concepts of personalized/precision medicine and P4 medicine.
2. To illustrate the approaches being used to advance this in the United States.
3. To illustrate how to apply these concepts using obstructive sleep apnea as an example.

5:30 pm - 7:00 pm **Poster Reception**

Poster Presentations, Wine & Cheese and Exhibits Open

Sponsored by  **MERCK** and  **SOUNDSLEEP**
HELPING FAMILIES SLEEP BETTER

7:30 pm - 10:30 pm **Round 'em Up Gala Reception at the Calgary Petroleum Club - Optional social Event**

Join us for a special social event at the Calgary Petroleum Club

The Petroleum Club is Calgary's premier business club located in the heart of downtown Calgary and just a short walk from the Hyatt Regency Hotel. Rooted in history since 1948, this private club will open its door for conference attendees on Saturday night.

Tickets cost \$60 for conference attendees and their guests. \$30 for students.

Saturday Technologist Program

7:00 am - 7:00 pm	Registration Open
6:30 am - 7:45 am	<p>Breakfast Symposium - Insomnia : Natural history, Burden and Treatment</p> <p>Speaker: Charles M. Morin PhD, Canada Research Chair in Behavioural Sleep Medicine, Université Laval Vendor presentation (no CE).</p> <p>Breakfast included. Limited space. Registration required.</p> <p>Sponsored by </p>
7:30 am - 8:00 am	Poster Installation
8:00 am - 8:30 am	Opening Ceremonies and Awards
8:30 am - 9:30 am	<p>Keynote 1 - Neural and Chemical Systems Mediating Sleep-wake States and their Homeostatic Regulation</p> <p>Professor Barbara E. Jones PhD, FRSC, Professor Department of Neurology and Neurosurgery, McGill University, Montreal Neurological Institute Different neural cell groups containing different neurotransmitters and projecting to different targets discharge in association with the three sleep-wake states and their polygraphic parameters. Determining the discharge profiles of such cell groups across the sleep-waking cycle reveals the way in which they can generate or modulate particular states or their principal features. Accordingly, noradrenergic locus coeruleus neurons were first found to discharge during waking in association with behavioral arousal and to cease firing during sleep, thus playing a role in promoting waking and behavioral arousal with postural muscle tone. Other neurotransmitter containing cell groups, notably the cholinergic neurons, have only recently been recorded using the juxtacellular technique, which permitted their identification, and thereby shown to discharge in association with EEG gamma and theta activity during active waking but also during paradoxical sleep with muscle atonia. These neuromodulators influence GABAergic and glutamatergic neurons which form the effector neurons through the brain and play different roles depending upon their specific receptors. The neuropeptides, orexin and MCH, also influence the effector systems in a reciprocal manner to promote arousal and sleep, respectively. These neuromodulatory and effector neurons are regulated in a homeostatic manner, which in turn underlies the homeostatic regulation of sleep-wake states.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Review the major chemical neurotransmitter and neuromodulatory systems in the brain that regulate sleep-wake states. 2. Review the discharge profiles and interactions of these systems which generate the sleep-waking cycle. 3. Review the way in which these neural systems are homeostatically regulated such that sleep and waking are so regulated in turn.
9:30 am - 10:30 am	<p>Keynote 2 - Childhood Obstructive Sleep Apnea Syndrome: What We Know and What We Don't Know in 2017</p> <p>Carole L. Marcus M.B.B.Ch., Distinguished Endowed Chair in Pediatrics Professor of Pediatrics, University of Pennsylvania, Director, Sleep Center, Children's Hospital of Philadelphia The childhood obstructive sleep apnea syndrome (OSAS) is common, but much remains unknown about its pathophysiology, management, natural history and sequelae. This presentation will discuss evidence-based, state of the art knowledge on childhood OSAS, with emphasis on areas needing further research.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. To review the epidemiology and pathophysiology of childhood OSAS 2. To evaluate management and sequelae of childhood OSAS 3. To discuss areas requiring future research.
10:30 am - 11:00 am	<p>Health Break & Exhibits Open</p> <p>Sponsored by </p>
11:00 am - 12:00 pm	<p>AMA TOP Insomnia Guidelines</p> <p>Speaker: Charles Samuels M.D., CCFP, DABSM, Medical Director, Centre for Sleep & Human Performance Discussion on insomnia in patients with OSA</p> <p>Learning Objective:</p> <ol style="list-style-type: none"> 1. To diagnose and treat insomnia in this patient population
12:00 pm - 1:00 pm	<p>Optimizing Sleep and Travel in Canadian Olympic Sports</p> <p>Speaker: Amy Bender MSc, PhD, Sleep Scientist, Centre for Sleep & Human Performance; University of Calgary Faculty of Kinesiology Optimal sleep is emerging as a key pillar for athletic success and is critical for elite athletes to perform at their peak both home and away. This session will give a brief overview on the science of sleep and circadian rhythms; how professional athletes are prioritizing sleep; and what optimal sleep is and strategies to get it for athletes at home and while travelling.</p> <p>Participants will be able to:</p> <ol style="list-style-type: none"> 1. Understand the basic science of sleep and circadian rhythms 2. Learn three sleep interventions used that improve mood and performance in athletes 3. Learn strategies for better circadian adjustment to transcontinental travel
1:00 pm - 2:00 pm	<p>Lunch & Exhibits Open</p> <p>Sponsored by </p>

- 2:00 pm - 3:00 pm **Pediatric Sleep**
 Speaker: Manisha Witmans MD, University of Alberta
 Discussion on pediatric patients in the sleep lab.
 Learning Objectives:
 1. To understand how to handle kids and to get the best data.
 2. How to diagnose and treat pediatric sleep disorders.
- 3:00 pm - 4:00 pm **La technologie peut-elle vous aider à bien dormir?**
 Speaker: Natalie Morin RPSGT, TEPM (polysomnographie)
 Objectifs d'apprentissage:
 1. Révision des nouveautés technologiques qui promouvoient un meilleur sommeil.
 2. Révision des recherches de validation complétées avec ces gadgets.
 3. Évaluer si ces technologies ont une place au laboratoire.
- 3:00 pm - 3:30 pm **Filters and Technical Troubleshooting**
 Speaker: Alanna Cornish RPSGT, RST, BSc, Sleep Technologist , Sound Sleep Solutions
 A discussion on the artifacts seen in routine PSG collection. We will review how to prevent artifacts in a recording and how to fix artifact when issues arise.
 Learning Objectives:
 1. Understanding when and how to fix and alter recordings using filters and troubleshooting techniques.
 2. Procedures to collect artifact free studies.
- 3:30 pm - 4:00 pm **Medical Issues in the Sleep Lab**
 Speaker: Adele Baker BSc(H), PGCE, RRT, Registered Respiratory Therapist, Sleep Disorders Clinic, Sick Kids Hospital, Toronto
 Learning Objectives:
 1. Prevention
 2. Management
 3. Cases
- 4:00 pm - 4:30 pm **Health Break & Exhibits Open**
 4:30 pm - 5:30 pm **Keynote 3 - Developing Precision Sleep/Circadian Medicine**
 Allan I. Pack M.B.Ch.B., Ph.D., FRCP, John Miclot Professor of Medicine. Director, Center for Sleep and Circadian Neurobiology, Chief, Division of Sleep Medicine Perelman School of Medicine at the University of Pennsylvania
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 2. To illustrate the approaches being used to advance this in the United States.
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 Poster Presentations, Wine & Cheese and Exhibits Open
 Sponsored by  **MERCK** and  **SOUNDSLEEP SOLUTIONS**
Helping Families Sleep Better
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Sponsored by  **MERCK**

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8:00 am - 8:30 am **Opening Ceremonies and Awards**

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1. Review the major chemical neurotransmitter and neuromodulatory systems in the brain that regulate sleep-wake states.
2. Review the discharge profiles and interactions of these systems which generate the sleep-waking cycle.
3. Review the way in which these neural systems are homeostatically regulated such that sleep and waking are so regulated in turn.

9:30 am - 10:30 am **Keynote 2 - Childhood Obstructive Sleep Apnea Syndrome: What We Know and What We Don't Know in 2017**

Carole L. Marcus M.B.B.Ch., Distinguished Endowed Chair in Pediatrics Professor of Pediatrics, University of Pennsylvania, Director, Sleep Center, Children's Hospital of Philadelphia

The childhood obstructive sleep apnea syndrome (OSAS) is common, but much remains unknown about its pathophysiology, management, natural history and sequelae. This presentation will discuss evidence-based, state of the art knowledge on childhood OSAS, with emphasis on areas needing further research.

Learning Objectives

1. To review the epidemiology and pathophysiology of childhood OSAS
2. To evaluate management and sequelae of childhood OSAS
3. To discuss areas requiring future research.

10:30 am - 11:00 am **Health Break & Exhibits Open**

Sponsored by



11:00 am - 12:00 pm **Orthodontics and Pediatric OSA**

Rose D. Sheats DMD, MPH, University of North Carolina at Chapel Hill (Retired)

This session will discuss orthodontic considerations in the management of pediatric sleep disordered breathing, including the controversial role of premolar extractions as a risk factor in the development of sleep disordered breathing.

Learning objectives:

1. Describe impact of CPAP on growth & development
2. Explain limitations of rapid maxillary expansion to manage pediatric sleep disordered breathing
3. Evaluate appropriateness and risks of mandibular advancement devices to manage pediatric sleep disordered breathing

12:00 pm - 1:00 pm **Training the Tongue and Treating OSA**

Speaker: Jean-Francois Masse DMD M.Sc., Invited Professor, Faculty of Dentistry, Laval University
Myofunctional Therapy - Review of the Literature and Recent Research

1:00 pm - 2:30 pm **Lunch and Dental Group Business Meeting**

Sponsored by



2:30 pm - 4:00 pm **Forum - Dental Sleep Medicine Research in Canada**

4:00 pm - 4:30 pm **Health Break & Exhibits Open**

4:30 pm - 5:30 pm **Keynote 3 - Developing Precision Sleep/Circadian Medicine**

Allan I. Pack M.B.Ch.B., Ph.D., FRCP, John Miclôt Professor of Medicine. Director, Center for Sleep and Circadian Neurobiology, Chief, Division of Sleep Medicine Perelman School of Medicine at the University of Pennsylvania

One of the major goals of many areas of medicine is to develop a more personalized approach to diagnosis and treatment of disease. The fundamental concept is that individuals differ in terms of genetic/epigenetic influences that drive different presentations of disease, and different consequences. In the United States, major precision medicine initiatives have been started to address this concept. It seems that sleep/circadian disorders are ideally suited to this new approach. This will be illustrated by new approaches to one key sleep disorder—obstructive sleep apnea.

Objectives

1. To explain the concepts of personalized/precision medicine and P4 medicine.
2. To illustrate the approaches being used to advance this in the United States.
3. To illustrate how to apply these concepts using obstructive sleep apnea as an example.

5:30 pm - 7:00 pm **Poster Reception**

Poster Presentations, Wine & Cheese and Exhibits Open

Sponsored by  **MERCK** and  **SOUNDSLEEP**
SOLUTIONS
SLEEPING. FEELING. GOOD. EATING.

7:30 pm - 10:30 pm **Round 'em Up Gala Reception at the Calgary Petroleum Club - Optional social Event**

Join us for a special social event at the Calgary Petroleum Club

The Petroleum Club is Calgary's premier business club located in the heart of downtown Calgary and just a short walk from the Hyatt Regency Hotel. Rooted in history since 1948, this private club will open its door for conference attendees on Saturday night.

Tickets cost \$60 for conference attendees and their guests. \$30 for students.

CONFERENCE PROGRAM DETAILED AGENDAS - Sunday, April 30, 2017

Sunday Scientific Program

7:00 am - 4:00 pm	Registration Open
8:00 am - 9:00 am	<p>Keynote 4 - Insomnia - A Transdiagnostic Approach Prof. Dieter Riemann Ph.D., Dipl. Psych, Department of Clinical Psychology and Psychophysiology, Centre for Mental Disorders, Freiburg University Medical Centre, Germany</p> <p>Till recently, insomnia was differentiated into primary/ secondary forms, indicating that insomnia can be due to somatic or mental disorders, can be substance-related or can occur as a primary disorder, unrelated to other disorders. Even more sophisticated insomnia subtypes were described as psychophysiological, idiopathic or paradoxical forms. In contrast, DSM-5 introduced "insomnia disorder" as an umbrella category and NIH suggested a transdiagnostic approach towards insomnia with the RDoC criteria. Own work based on an extensive meta-analysis of the polysomnographic literature in mental disorders and insomnia indicates that insomniac symptoms like prolonged sleep latency or increased nocturnal awakenings are not specific for any given disorder but transdiagnostic in nature. The hyperarousal concept of insomnia, too, can be viewed as a transdiagnostic mechanism triggering and maintaining most insomnias.</p> <p>Own work focusing on autonomic, neurophysiologic and neuroimaging studies in insomnia, accumulated evidence that "hyperarousal" on several levels, including subjective perception, is not specific for insomnia subtypes. CBT-I, as first-line treatment for insomnia, in the meantime also has been proven to be effective in so-called "secondary" insomnias, including severe somatic or mental disorders.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. Describe the diagnostic approach of DSM 5 towards insomnia 2. Describe the transdiagnostic nature of insomnia symptoms for mental disorders 3. Describe the major signs of hyperarousal for insomnia patients
9:00 am - 10:00 am	<p>Keynote 5 - Speaking, Smiling and Gesturing During Sleep - Ethology of Nocturnal Behaviors Isabelle Arnulf MD, PhD, Professor of Neurology, Pierre and Marie Curie University, Paris, France</p> <p>We are supposed to be quiet and immobile when sleeping, except for brief arousals and position changes. However, a fine examination of video and audio sounds during the night reveals numerous exceptions to this rule, including complex behaviors such as sleep talking, expressing facial emotions and gesturing. They can be seen in subjects with NREM and REM parasomnias, but also in normal adult subjects. These vocalizations, speeches, whispering and shouting, smiles, fear expressions, and movements have been insufficiently studied <i>per se</i>, whereas they can be seen as an extraordinary, open window upon mental content and brain functioning during sleep. What does the sleeping brain say? Are emotions visible on the sleeper face? What is the variety (and potential generators) of the behaviors observed in RBD and sleepwalking? We will expose the observations of several hundred of sleepers studied from an ethological point of view during the night.</p> <p>Learning Objectives</p> <ol style="list-style-type: none"> 1. To learn about the movements and behaviors displayed during sleep in patients with REM sleep behavior disorders, and to infer about their brain sources 2. To learn about sleep talking and what is said by the sleeping brain 3. To learn about facial expression during sleep
10:00 am - 10:30 am	Health Break & Exhibits Open
10:30 am - 12:00 pm	<p>Symposium 7 - Young Investigator Symposium Introduction, John Peever, VP Research - Canadian Sleep Society</p> <p>Speaker 1: Julie Carrier, University of Montreal The Canadian Sleep and Circadian Network: Research, training and knowledge mobilization opportunities.</p> <p>Speaker 2: Sara Pintwala, University of Toronto, Winner of the Student Abstract Competition Activation of glutamate cells in the subcoeruleus nucleus triggers cataplexy-like attacks in wild-type mice.</p> <p>Speaker 3: Matthew Tucker, University of South Carolina School of Medicine Spatial and Declarative Learning and Memory in Children Evaluated for Sleep Disorders</p> <p>Speaker 4: Thaina Rosinvil, University of Montreal Waking EEG Connectivity Changes Differently in Young and Elderly Adults After a Total Night of Sleep Loss</p> <p>Speaker 5: Kevin MacDonald, Brock University Naps Containing REM Sleep Increase Stimulus-Preceding Negativity in Anticipation of Threat Judgements</p> <p>Speaker 6: Thomas Lehoux, University of Montreal NonREM sleep EEG slow waves in children with autism</p> <p>Speaker 7: Cheryl Laratta, University of British Columbia The impact of air pollution on obstructive sleep apnea and systemic inflammation</p> <p>Speaker 8: Veronica Guadagni, University of Calgary Left anterior insula activity and functional connectivity are modulated by sleep quality in an emotional empathy task</p> <p>Speaker 9: Mazen El-Baba, Western University Dynamic Functional Connectivity Analysis Reveals Temporal Features that Vary Between Wake and Stage 2 Sleep</p> <p>Speaker 10: Cloé Blanchette-Carrière, University of Montreal Effects of transcranial alternating current stimulation (tACS) on the nap dreams of frequent lucid dreamers, frequent nightmare sufferers and controls</p> <p>Speaker 11: Antoine Benoit, University of Ottawa Spectral EEG Correlates of Emotional Valence during REM Sleep Mentation</p> <p>Speaker 12: Hisham Alshaer, University Health Network Effect of head position on the Apnea-hypopnea index in patients with obstructive sleep apnea</p> <p>Speaker 13: Kenneth Anujoo, University of Amsterdam, The Netherlands The contribution of short sleep duration to ethnic differences in cardiovascular disease - the Helius study</p>

10:30 am - 12:00 pm **Symposium 8 - Sleep in Elite Athletes: Current Research and Clinical Insights**

Chairperson: Charles Samuels M.D., CCFP, DABSM, Medical Director, Centre for Sleep & Human Performance

The purpose of this symposium is to offer unique sleep research and clinical perspectives on sleep in elite athletes from faculty that have been working with collegiate, Olympic, and professional athletes. The symposium will discuss a perspective and data from over a decade of sleep measurement in elite athletes; sleep-wake behaviours and interventions of Canadian National Team athletes; and methodology and results from sleep in retired professional athletes with history of multiple concussions. The symposium will target clinicians and basic research scientists interested in applied human physiology, sleep optimization strategies for better sleep and performance, and clinical insights and methodology of working with this specialized population.

Learning Objectives

1. Describe and discuss both the history and most recent research on sleep in elite athletes
2. Apply sleep interventions used in athletes to anyone wanting to optimize performance
3. Learn new research methods to assess sleep and concussion in retired professional athletes

Speaker 1: Charles R. Pedlar, MSc, PhD, FBASES, St Mary's University, Twickenham, UK ; Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA Title: A British Perspective on the Importance of Sleep in Sport

Speaker 2: Amy M. Bender, PhD, University of Calgary; Centre for Sleep & Human Performance Title: Sleep and Wake Behaviours of Canadian National Team Athletes: Opportunities for Interventions

Speaker 3: Catherine Wiseman-Hakes, PhD, University of Toronto; Toronto Rehab Institute; University Health Network Toronto Western Title: Sleep in Retired Professional Athletes with History of Multiple Concussions

10:30 am - 12:00 pm **Symposium 9 - Taking Polysomnography Outside of the Laboratory: Advances in Ambulatory Methods for the Detection of Sleep Disorders**

Chairperson: Mark Boulous, University of Toronto

Sleep disorders are common in the general population; however, despite effective management strategies, they remain under-diagnosed and under-treated. A technologist-monitored, overnight sleep study in a sleep laboratory (polysomnography) is the gold standard for diagnosing sleep disorders, but high costs, lengthy wait times and patient unwillingness to spend a night in a sleep laboratory frequently prohibit assessments. Ambulatory devices for detecting sleep disorders are much less expensive, more accessible, and serve as suitable screening tools compared to full polysomnography in the detection of obstructive sleep apnea and other sleep-related issues. However, to date, the use of ambulatory sleep testing has been under-appreciated and under-utilized. The use of ambulatory sleep equipment may facilitate early detection of clinically-relevant sleep disorders in large numbers of patients, which could lead to expedited treatment and improved outcomes. The purpose of our symposium is to examine different approaches to the use of ambulatory techniques for the detection of various sleep disorders, as well as discuss the technical limitations and legal issues associated with their use.

Learning Objectives

At the end of this symposium, participants will be able to:

1. Choose the appropriate ambulatory screening device to assess for sleep apnea.
2. Describe current tools used for the assessment of sleep-wake disorders and periodic limb movements.
3. Be aware of the value and limitations of readily-available consumer sleep monitoring devices.
4. Describe privacy and legal concerns associated with the use of these devices.

Speaker 1: Mike Fitzpatrick, Kingston General Hospital / Queen's University, Kingston, Ontario

Title: Ambulatory Approaches to the Detection of Obstructive Sleep Apnea

Speaker 2: Mark I. Boulous, University of Toronto, Toronto, Ontario

Title: Portable sleep equipment used to Detect of Periodic Limb Movements and other Sleep-Wake Disorders

Speaker 3: Christopher Li, St. Michael's Hospital / University of Toronto, Toronto, Ontario

Title: Evaluating Popular Consumer Devices Used to Measure Sleep

Speaker 4: Brian J. Murray, Sunnybrook Health Sciences Centre / University of Toronto, Toronto, Ontario

Title: Data Security, Privacy and Legal Implications

12:00 pm - 1:00 pm **Lunch & Exhibits Open**

12:15 pm - 1:00 pm **ICRH Strategic Directions and Opportunities for the Sleep Research Community**

Speaker: Ryan Perry PhD, Assistant Scientific Director, Institute of Circulatory and Respiratory Health

The talk will provide an overview of ICRH, update on our strategic plan renewal and information on the CIHR open programs. I will also speak to the opportunities for the sleep research community, including potential partnership opportunities.

1:00 pm - 3:00 pm **Symposium 10 - OSA in the Elderly and Risk of Cognitive Decline**

Chairperson: Nadia Gosselin, Université de Montréal

This symposium is in line with the Canadian Sleep and Circadian Network Project 3 objectives, namely to evaluate how obstructive sleep apnea

Learning Objectives

1. To present an overview of older OSA patient characteristics in comparison with younger patients regarding clinical presentation,
2. To address the detrimental consequences of OSA in patients with a neurodegenerative condition.
3. To discuss biomarkers and mechanisms explaining the risk of accelerated cognitive decline among older individuals with OSA.

Speaker 1: Andrea Loewen, Peter Lougheed Center, Calgary

Title: OSA in the elderly: clinical presentation, cardiovascular consequences and challenge for treatment

Speaker 2: Marta Kaminska, McGill University Health Center, Montreal

Title: Interaction between OSA and Parkinson's disease: implications for cognitive function

Speaker 3: Nadia Gosselin, Université de Montréal, Montreal

Title: OSA in aging and changes in brain structure and function: a neuroimaging perspective

Speaker 4: Ricardo Osorio, NYU School of Medicine, New York

Title: OSA and disturbed sleep: a new mechanistic pathway for Alzheimer's disease

1:00 pm - 3:00 pm **Symposium 11 - Predicting Oral Appliance Therapy Outcome: New Methods and Tests**

Chairperson: John Remmers, University of Calgary

The purpose of the proposed symposium is:

1. to explore the sphere of precision medicine as applied to the long-term management of obstructive sleep apnea (OSA)
2. to highlight the pressing need for a CPAP-alternative therapy for OSA and
3. to demonstrate the importance of utilizing the predictive accuracy of various testing approaches to select patients who will respond favourably to oral appliance therapy (OAT).

The symposium will outline a modern approach to managing OSA, one that relies on evidence-based decisions, emphasizes the importance of compliance with therapy, and focuses on long-term outcomes. Overall, the proposed session will lay out an important focus and stream of thought in sleep medicine which is assuming prominence in sub-specialty and, more broadly, in modern healthcare. This is the implementation of patient-centered management of chronic diseases by initiating patient-preferred therapy having high compliance. This symposium is particularly relevant with the addition of a dental course at this year's conference with the goal to increase the participation and continuing education of dental professionals. The target audience for this symposium includes healthcare professionals active in the field of sleep-disordered breathing and dental practitioners with an interest in sleep medicine and those providing oral appliance therapy for OSA.

Learning Objectives

The attendee will be able to:

1. Understand the role of evidence-based patient-centered management of OSA and appreciate the methods for assessing a patient's suitability for and benefits from CPAP or OAT.
2. Discuss the body of evidence related to the utility of clinical features, awake tests/imaging, and titration studies during sleep, and critically apply this knowledge to relevant clinical situations.
3. Learn how to use new methods and tests to prospectively identify OSA patients who will respond favorably to OAT.

Speaker 1: Fernanda Almeida, University of British Columbia

Title: Assessment of Outcome and Quality of Life: Clinical Features and Relevant Testing

Speaker 2: Richard Schwab, Perelman School of Medicine, University of Pennsylvania

Title: Oral Appliance Therapy: Do Pharyngeal Images Help to Guide Therapy or Predict Outcome?

Speaker 3: Dr. Shouresh Charkhandeh, DDS, The Snore Centre, Alberta

Title: Selection of Patients for Oral Appliance Therapy: Titration Procedures in a Polysomnographic Setting

Speaker 4: Carrie Magnuson, Premier Sleep

Title: Home Sleep Testing: Can Oral Appliance Titration in the Home Accurately Predict Outcome and Efficacious Protrusive Position?

1:00 pm - 3:00 pm **Symposium 12 - Do Dreams and Nightmares Affect Memory Consolidation? New Methodologies and Evidence**

Chairperson: Tore Nielsen, Université de Montréal

This symposium will bring together both established and young investigators who are in the forefront of research on dreaming and memory consolidation. They will present new methods for studying, and new answers to, the long-standing question: Does dreaming play a role in sleep-related memory consolidation? The symposium will include a brief historical overview of the domain (De Koninck, 5-7 min) followed by four 20-min presentations: i) a summary of new findings concerning the association of dreaming with sleep spindles in nightmare sufferers and controls (Nielsen), ii) new and replicated evidence that semantic memory networks are altered in nightmare sufferers (Carr), iii) new findings showing that the richness of dream incorporation of a stimulus task is associated with both task improvement and high IQ (Fogel), and iv) new discoveries about how future-relevant stimuli influence memory consolidation and dreaming (Wamsley). In a question period moderated by De Koninck and Nielsen (30 min), presenters and audience members will discuss implications of these discoveries for an emerging understanding of memory consolidation mechanisms, the involvement of waking state cognitive factors such as intelligence and anticipation, and how sleep-dependent neurocognitive functions may be altered in individuals suffering from sleep disorders such as nightmares.

Learning Objectives

1. To review the advent and growth of dreaming-related memory consolidation research in Canada
2. To understand newly discovered relationships between REM dreaming and NREM sleep spindles and their modification by nightmares
3. To appreciate how frequent nightmares are related to changes in associative and executive processes underlying creative cognition
4. To critically evaluate new findings about how dreams reflect intellectual abilities, as revealed by novel quantitative approaches to dream analysis.
5. To understand and evaluate evidence that dreams are influenced by the activation of memory systems in the sleeping brain

Speaker 1: Tore Nielsen, PhD, Professor, Department of Psychiatry, Université de Montréal

Title: Dreaming is related to sleep spindles in normal and dysphoric dreamers

Speaker 2: Michelle Carr, PhD, Post-doctoral researcher, Department of Biomedical Sciences, Université de Montréal

Title: Associative memory in individuals with frequent nightmares

Speaker 3: Stuart Fogel, Ph.D, Assistant Professor, School of Psychology, University of Ottawa

Title: Inter-individual differences in intellectual abilities correlate with learning-related dream incorporation

Speaker 4: Erin J. Wamsley, Ph.D., Assistant Professor of Psychology, Furman University

Title: Memory consolidation in dreaming and waking thought

3:00 pm - 3:30 pm **Health Break**

3:30 pm - 4:30 pm **Keynote 6 - Manual Scoring of Polysomnograms: What Are We Missing?**

Magdy Younes MD, FRCPC, PhD, Distinguished Professor Emeritus, University of Manitoba

Manual scoring of polysomnograms is based on rules developed for visual scoring in the mid 1960's, at a time when personal computers had not yet even been invented. It is truly amazing that it is still the main tool for assessing sleep quality after 50 years of dramatic advances in digital technology. The EEG is full of information that cannot be quantified by the naked eye. Utilizing this information through digital analysis may greatly enhance the clinical usefulness of sleep studies. In this presentation, I will present some of the new developments in this area including the Odds-Ratio-Product (ORP) a continuous index of sleep depth/quality, scaling of arousal intensity, regional differences in sleep depth, quantitation of alpha intrusion and spindle characteristics (frequency, duration and intensity), speed with which deep sleep returns following arousals and awakenings, enhancements to the multiple sleep latency test, and use of digitally scored spindles, K complexes and delta wave duration to reduce inter-scoring variability in staging sleep.

Learning Objectives:

1. To appreciate the difficulty of evaluating sleep depth/quality from conventional scoring (R&K rules) of sleep data.
2. To learn about emerging technologies in evaluating sleep
3. To appreciate the potential clinical benefits of incorporating digital EEG analysis in routine polysomnography.

4:30 pm - 5:00 pm **Conference Wrap-up**

Sunday Technologist Program

7:00 am - 4:00 pm

Registration Open

8:00 am - 9:00 am

Keynote 4 - Insomnia - A Transdiagnostic Approach

Prof. Dieter Riemann Ph.D., Dipl. Psych, Department of Clinical Psychology and Psychophysiology, Centre for Mental Disorders, Freiburg University Medical Centre, Germany

Till recently, insomnia was differentiated into primary/ secondary forms, indicating that insomnia can be due to somatic or mental disorders, can be substance-related or can occur as a primary disorder, unrelated to other disorders. Even more sophisticated insomnia subtypes were described as psychophysiologic, idiopathic or paradoxical forms. In contrast, DSM-5 introduced "insomnia disorder" as an umbrella category and NIH suggested a transdiagnostic approach towards insomnia with the RDoC criteria. Own work based on an extensive meta-analysis of the polysomnographic literature in mental disorders and insomnia indicates that insomniac symptoms like prolonged sleep latency or increased nocturnal awakenings are not specific for any given disorder but transdiagnostic in nature. The hyperarousal concept of insomnia, too, can be viewed as a transdiagnostic mechanism triggering and maintaining most insomnias.

Own work focusing on autonomic, neurophysiologic and neuroimaging studies in insomnia, accumulated evidence that "hyperarousal" on several levels, including subjective perception, is not specific for insomnia subtypes. CBT-I, as first-line treatment for insomnia, in the meantime also has been proven to be effective in so-called "secondary" insomnias, including severe somatic or mental disorders.

Learning Objectives

1. Describe the diagnostic approach of DSM 5 towards insomnia
2. Describe the transdiagnostic nature of insomnia symptoms for mental disorders
3. Describe the major signs of hyperarousal for insomnia patients

9:00 am - 10:00 am

Keynote 5 - Speaking, Smiling and Gesturing During Sleep - Ethology of Nocturnal Behaviors

Isabelle Arnulf MD, PhD, Professor of Neurology, Pierre and Marie Curie University, Paris, France

We are supposed to be quiet and immobile when sleeping, except for brief arousals and position changes. However, a fine examination of video and audio sounds during the night reveals numerous exceptions to this rule, including complex behaviors such as sleep talking, expressing facial emotions and gesturing. They can be seen in subjects with NREM and REM parasomnias, but also in normal adult subjects. These vocalizations, speeches, whispering and shouting, smiles, fear expressions, and movements have been insufficiently studied *per se*, whereas they can be seen as an extraordinary, open window upon mental content and brain functioning during sleep. What does the sleeping brain say? Are emotions visible on the sleeper face? What is the variety (and potential generators) of the behaviors observed in RBD and sleepwalking? We will expose the observations of several hundred of sleepers studied from an ethological point of view during the night.

Learning Objectives

1. To learn about the movements and behaviors displayed during sleep in patients with REM sleep behavior disorders, and to infer about their brain sources
2. To learn about sleep talking and what is said by the sleeping brain
3. To learn about facial expression during sleep

10:00 am - 10:30 am

Health Break & Exhibits Open

10:30 am - 11:30 am

Pap and ASV Workshop - Part I

Speaker: Elaina Zebroff RRT, Regional Clinical Specialist, Western Canada, ResMed

Speaker: Steve Bouchard RRT, Clinical Product Specialist, Philips Healthcare

Workshop will be 30 minute Presentation from RESMED followed by 30 minutes from RESPIRONICS.

The sleep world is changing and sleep labs are seeing more and more difficult/complex patients.

Learning Objective:

At the end of this session you will be able to understand advanced technologies and algorithms such as ASV, AVAPS and Bi-level modes.

A review of all modes, clinical application and case studies will be done.

- 11:30 am - 12:00 pm **Pap and ASV Workshop - Part II**
 Speaker: Elaina Zebbroff RRT, Regional Clinical Specialist, Western Canada, ResMed
 Speaker: Steve Bouchard RRT, Clinical Product Specialist , Philips Healthcare
 Hands on with Devices.
 Learning Objective:
 1. To discuss devices and hands on opportunity to try devices with the experts
- 12:00 pm - 1:00 pm **Lunch & Exhibits Open**
- 1:00 pm - 2:00 pm **Integrating Polyvagal Theory into Pain Management: the Bi-Directional Relationship between Sleep**
 Dr. Celeste Thirlwell B.Sc (neuro), MD, FRCPC, Sleep Medecine Specialist, Center for Sleep and Chronobiology
 The session will review how the Polyvagal Theory provides a theoretical rationale for integrating the assessment of the Autonomic Nervous System (ANS) as a key component in the work-up of patients with pain and disordered sleep.
 This session reviews the indications for, and benefits of, integrating Polyvagal Theory into treatment of patients with pain and disordered sleep. Findings from patient polysomnograms highlight the critical role of the autonomic nervous system (ANS) in understanding the complexity of sleep disorders, pain, and non-restorative sleep. The key elements of the pathophysiology underlying these sleep conditions, and their overlapping clinical symptoms, will be elaborated (i.e. the distinction between sleepiness and fatigue; the level of symptom distress; the impact of pain and disturbed sleep on daytime functioning, cognition, mood and affect). There is compelling research evidence that dysregulated ANS activity is an overlooked factor in pain and disordered sleep. The session will highlight how the needs of our patients can benefit from identifying and addressing underlying ANS dysregulation.
Learning Objectives:
 1. To understand that Polyvagal Theory can be used to address the underlying ANS dysregulation found in patients with pain and disordered sleep
 2. To understand the application of behavioral, cognitive and social interventions aimed at stabilizing the ANS and improving compliance and outcomes in pain patients
- 1:00 pm - 2:00 pm **L'influence de la lumière et du rythme circadien sur le sommeil**
 Speaker: Sabrina Aubin, Université de Montréal
 Cette présentation vise à informer les praticiens quant à la contribution du rythme circadien sur la structure et microstructure du sommeil. De plus, puisque la lumière joue un rôle important sur le maintien d'un rythme circadien synchronisé, son influence sur le cycle éveil-sommeil sera aussi abordé.
- 2:00 pm - 3:00 pm **Scoring Bootcamp**
 Speaker: Natalie Morin RPSGT, TEPM (polysomnographie)
 Interactive session to understand the AASM rules to improve collections and be able to analyze challenging studies.
 Learning Objective:
 1. Review the latest AASM scoring guidelines for staging, arousals, respiratory and limb movements scoring.
- 3:00 pm - 3:30 pm **Health Break**

3:30 pm - 4:30 pm

Keynote 6 - Manual Scoring of Polysomnograms: What Are We Missing?

Magdy Younes MD, FRCPC, PhD, Distinguished Professor Emeritus , University of Manitoba

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Learning Objectives:

1. To appreciate the difficulty of evaluating sleep depth/quality from conventional scoring (R&K rules) of sleep data.
2. To learn about emerging technologies in evaluating sleep
3. To appreciate the potential clinical benefits of incorporating digital EEG analysis in routine polysomnography.

4:30 pm - 5:00 pm

Conference Wrap-up

Sunday Dental Program

7:00 am - 4:00 pm

Registration Open

8:00 am - 9:00 am

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3. To learn about facial expression during sleep

10:00 am - 10:30 am

Health Break & Exhibits Open

10:30 am - 11:30 am

Oral Appliance Therapy & The Edentulous Patient

Fernanda Almeida DDS, MSc, PhD, Associate Professor, University of British Columbia, Vancouver, BC

This session will provide attendees the knowledge on existing literature evaluating the role of edentulism on OSA and the possible efficacy of oral appliances in this population

In the session we will:

- Evaluate the evidence of incidence of OSA in the edentulous population;
- Understand the possible treatments for edentulous patients;
- Explain denture wear or oral appliance wear in the edentulous patient and
- Discuss possible guidance on how to treat edentulous OSA patients

11:30 am - 12:30 pm

Lunch & Exhibits Open



12:30 pm - 1:30 pm

The OSA/TMD/Bruxism Connection. Does it Exist? When Should we Treat?

Jean Patrick Arcache DDS, Dental Surgeon, Université de Montréal

The sleep and pain connection: it's implication for the dentists.

In the recent years multiple clinical studies have focused on pain in the head and neck area as well as on sleep breathing disorders. A few of these studies have looked at an eventual link between sleep, bruxism, pain, sleep breathing disorders. This presentation will attempt to shed some light on the maze of articles and try to dissipate the confusion about this eventual link.

Learning objectives:

The dentists attending this lecture should have a clear idea about the most recent studies on:

1. Bruxism, TMD disorders, and sleep
2. Pain and sleep
3. Come out of the lecture with practical tools for their practice

1:30 pm - 3:00 pm

Difficult Case Presentations

3:00 pm - 3:30 pm

Health Break

3:30 pm - 4:30 pm

Keynote 6 - Manual Scoring of Polysomnograms: What Are We Missing?

Magdy Younes MD, FRCPC, PhD, Distinguished Professor Emeritus , University of Manitoba

Manual scoring of polysomnograms is based on rules developed for visual scoring in the mid 1960's, at a time when personal computers had not yet even been invented. It is truly amazing that it is still the main tool for assessing sleep quality after 50 years of dramatic advances in digital technology. The EEG is full of information that cannot be quantified by the naked eye. Utilizing this information through digital analysis may greatly enhance the clinical usefulness of sleep studies. In this presentation, I will present some of the new developments in this area including the Odds-Ratio-Product (ORP) a continuous index of sleep depth/quality, scaling of arousal intensity, regional differences in sleep depth, quantitation of alpha intrusion and spindle characteristics (frequency, duration and intensity), speed with which deep sleep returns following arousals and awakenings, enhancements to the multiple sleep latency test, and use of digitally scored spindles, K complexes and delta wave duration to reduce inter-scorer variability in staging sleep.

Learning Objectives:

1. To appreciate the difficulty of evaluating sleep depth/quality from conventional scoring (R&K rules) of sleep data.
2. To learn about emerging technologies in evaluating sleep
3. To appreciate the potential clinical benefits of incorporating digital EEG analysis in routine polysomnography.

4:30 pm - 5:00 pm

Conference Wrap-up