Giulio Tononi, MD, PhD
Sleep and the Price of Plasticity

Andrew Renda, MD, MPH
Managed Care Perspective on Long-term Treatment, Outcomes and Economics of Sleep Disorders
Please visit us at Booth #209 to learn more

Horizant®
gabapentin enacarbil extended-release tablets

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complimentary internet access in session rooms thanks
to Vanda Pharmaceuticals. We’re making it easier than ever to stay connected while enjoying the educational content that we have to offer. We also invite you to network using social media. Information about all these items is available on page 8 of this program.

The vast exhibit hall features the latest products and services available in sleep medicine from more than 100 companies. The AASM and SRS are each hosting general membership meetings and membership section meetings to provide members with the opportunity to learn about the societies’ latest initiatives and how to get involved.

With changes and developments occurring in sleep medicine and research every day, it is important that clinicians and researchers are provided the opportunity to meet, interact and share their experiences and discuss the issues of greatest importance to the field. It is the hope of the APSS Program Committee that you enjoy your experience at SLEEP 2014 and are able to both renew and initiate relationships with colleagues from around the world who share your interests. Through these relationships, we can mold the future of sleep. Enjoy the meeting.

Sincerely,

Douglas Kirsch, MD
Chair, APSS Program Committee
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APSS Program Committee

A Joint Committee of the American Academy of Sleep Medicine and the Sleep Research Society

Douglas Kirsch, MD, Chair
Harvard Medical School
Boston, MA

Kenneth Wright Jr., PhD, Incoming Chair
University of Colorado
Boulder, CO

Charles Atwood, MD
University of Pittsburgh
Pittsburgh, PA

Neil Freedman, MD
NorthShore University HealthSystem
Bannockburn, IL

Charlene Gamaldo, MD
Johns Hopkins University
Baltimore, MD

Robert Greene, MD, PhD
University of Texas Southwestern Medical Center
Dallas, TX

Monique LeBourgeois, PhD
University of Colorado
Boulder, CO

Michael Littner, MD
VA Greater Los Angeles Healthcare Systems
Sepulveda, CA

Hans Van Dongen, PhD
Washington State University
Spokane, WA

Phyllis Zee, MD, PhD
Northwestern University Medical School
Chicago, IL

Valerie Crabtree, PhD, Psychologist Reviewer
St. Jude Children’s Research Hospital
Memphis, TN

Jerome A. Barrett
Executive Director

Educational Opportunities

Below are descriptions of the session types offered at SLEEP 2014.

Those with an * are free sessions included with your registration. There are more than 90 free sessions this year!

C Postgraduate Courses — Intensive reviews of topics presented in a half-day or full-day session format prior to the scientific program.

B * Bench-to-Bedside Integrated Sessions — Two-hour sessions focusing on the latest advances in translational science and clinical applications on a specific topic.

W * Clinical Workshops — Reviews of patient-related and business-related aspects of sleep centers. Workshops address difficult clinical situations, business challenges and trends that clinicians experience in their daily practices.

D * Discussion Groups — Forums for informal presentations of a specific topic, which may include conversations on controversial subjects or pro/con discussions and presentations.

I * Invited Lecturers — One-hour lectures during which senior-level investigators/clinicians present in their areas of expertise.

L Lunch Debates — Large-group lunch sessions during which two experts in the field debate on a single topic.

M Meet the Professors — Small-group lunch sessions during which an expert in the field leads an informal discussion on a single topic.

O * Oral Presentations — Fifteen-minute presentations during which investigators present their latest research and new ideas in the field.

P * Poster Presentations — Visual representations of the latest research and new ideas in the field.


S * Symposia — Two-hour sessions focusing on the latest data and ideas in the field.

BSM ICON — Sessions with this icon focus on the behavioral therapies for sleep disorders.
### General Information

#### Location
Minneapolis Convention Center  
1301 Second Avenue South  
Minneapolis, Minnesota 55403  
Phone: (612) 335-6000

**Co-headquarter hotels:**  
Hyatt Regency Minneapolis and Hilton Minneapolis

#### On-site Registration Hours

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Friday, May 30</td>
<td>4:30pm – 6:00pm*</td>
</tr>
<tr>
<td>Saturday, May 31</td>
<td>6:30am – 5:30pm</td>
</tr>
<tr>
<td>Sunday, June 1</td>
<td>6:30am – 5:30pm</td>
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<tr>
<td>Monday, June 2</td>
<td>6:30am – 5:30pm</td>
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<tr>
<td>Tuesday, June 3</td>
<td>7:30am – 5:00pm</td>
</tr>
<tr>
<td>Wednesday, June 4</td>
<td>7:30am – 5:00pm</td>
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*Registration on Friday is only for pre-registered attendees.

Registration materials (including badges, final programs, tickets, etc.) will be provided at the registration counter located in the Auditorium Lobby on Level One of the Minneapolis Convention Center. Tickets are required for entry to Postgraduate Courses, Meet the Professor sessions and Lunch Debate sessions. Tickets for sessions that are not sold out are available for on-site purchase at registration.

#### Guest Passes
A registered attendee may elect to buy a guest pass. Guest passes are for family members only and allow entrance to the exhibit hall and industry sponsored events only. Guests must be 16 years of age in order to enter the exhibit hall. Guests are not permitted to attend any of the general or ticketed sessions.

#### Badge Identification
All meeting participants and guests must wear a badge. Badges allow entrance to the scientific sessions and SLEEP 2014 exhibit hall. Your cooperation with this policy is appreciated.

Recycle your badge holder. Bins for collecting badge holders will be located in the convention center for you to recycle your badge holder.

#### Exhibit Hall
The SLEEP 2014 exhibit hall showcases booth displays of pharmaceutical companies, equipment manufacturers, medical publishers and software companies. You must be at least 16 years of age to enter the exhibit hall.

#### Exhibit Hall Hours
The exhibit hall will be open during the following hours:

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Monday, June 2</td>
<td>10:00am – 4:00pm</td>
</tr>
<tr>
<td>Tuesday, June 3</td>
<td>10:00am – 4:00pm</td>
</tr>
<tr>
<td>Wednesday, June 4</td>
<td>10:00am – 2:00pm</td>
</tr>
</tbody>
</table>

#### Job Boards
Current job opportunities may be posted on the job boards located near the registration area. Postings are restricted to 8.5” x 11” in size and will be removed if they are deemed inappropriate. The APSS assumes no responsibility for these postings.

#### Trainee Symposia Series
The 19th Annual Sleep Research Society Trainee Symposia Series will be held Saturday, May 31 – Sunday, June 1, 2014, at the Minneapolis Convention Center. The event is free to AASM and/or SRS student members who registered by April 16, 2014. On-site registration for this program is not available. For complete program information, please see pages 35-38.

#### Speaker Ready Room
Speakers participating in Oral Presentations, Bench to Bedside sessions, Brown Bag Reports, Invited Lectures, Symposia, Discussion Groups, Postgraduate Courses, Lunch Debate sessions and Clinical Workshops are required to use the Speaker Ready Room to upload their PowerPoint presentations onto a central server. The Speaker Ready Room is located in Room 101A at the Minneapolis Convention Center. Speakers must upload their presentations 24 hours in advance of their scheduled session time. Technicians will be available to provide assistance. Speaker Ready Room hours of operation are:

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Friday, May 30</td>
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<tr>
<td>Saturday, May 31</td>
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<tr>
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<td>Monday, June 2</td>
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<tr>
<td>Tuesday, June 3</td>
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</tr>
<tr>
<td>Wednesday, June 4</td>
<td>7:30am – 5:00pm</td>
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Press Room
Members of the press are encouraged to utilize the press room in Room 101A, operating during meeting registration hours from Sunday, June 1 at 12:00pm through Wednesday, June 4 at 12:00pm. The press room contains resources to assist reporters with their stories, including detailed information on the participating organizations, meeting program books and a computer.

Society Booth
Details about membership and products from the American Academy of Sleep Medicine, Sleep Research Society, American Association of Sleep Technologists, American Academy of Dental Sleep Medicine and/or Society of Behavioral Sleep Medicine are available at the Society Booth located between rooms 101E and 102A.

Photography/Recording Policy
Photography and/or recording of any kind, other than by the APSS or registered press approved by the APSS, of sessions, speakers and the exhibit hall is prohibited. No cameras or recording devices will be allowed on the exhibit floor or in the meeting rooms at any time. Violation of this rule could result in removal from the Minneapolis Convention Center and the confiscation of the film or recording device.

Seating
Open-seating sessions are filled on a first-come, first-served basis. The APSS does its best to match room size with anticipated demand; however, interest in a topic occasionally exceeds seating capacity. Seating limits are strictly enforced by the Convention Center Fire Marshal. We encourage you to arrive at meeting rooms as early as possible for best seating.

SLEEP 2014 Mobile App
Vanda Pharmaceuticals is proud to sponsor the SLEEP 2014 mobile app. The SLEEP 2014 app can be downloaded for iPhone, iPad, Android and web viewing.

SLEEP 2014 Abstract Supplement
All abstracts from SLEEP 2014 are published in an online abstract supplement of the journal SLEEP. To view these abstracts, visit www.sleepmeeting.org/attendees/abstract-supplement.

We Want Your Feedback
All attendees are encouraged to evaluate each session they attend throughout the conference. Visit www.sleepmeeting.org/evaluations or use your mobile app at any time during the meeting to rate the sessions. The site will close on July 1, 2014.

The sole purpose of this site is to evaluate speakers and sessions that you attend during SLEEP 2014. The Program Committee will use this information to plan future events. To claim credit from the meeting, visit www.sleepmeeting.org/credits. The deadline to claim credit is October 1, 2014.

Commemorative Posters
Posters commemorating SLEEP 2014 are available on a first-come, first served basis to full meeting registrants. Posters are limited to one per person while supplies last. Pick up your poster at the Society Booth.

Other Activities
American Academy of Dental Sleep Medicine (AADSM)
23rd Annual Meeting
May 29 – May 31, 2014
Hyatt Regency Minneapolis

American Association of Sleep Technologists (AAST)
36th Annual Meeting
June 1 – June 3, 2014
Minneapolis Convention Center, Room 200F

SRS Trainee Hospitality Room
June 2 – June 4, 2013
Minneapolis Convention Center, Room M100A

Free Wi-Fi
Vanda Pharmaceuticals is proud to offer complimentary Wi-Fi to SLEEP 2014 attendees.
Here’s how to connect:
1. Go to settings on your mobile device.
2. Select the Wi-Fi option.
3. Click HETLIOZ 701
Complimentary Wi-Fi for SLEEP 2014 Attendees

Here’s how to connect:

1. Go to Settings on your mobile device
2. Select the Wi-Fi option.
3. Click on the Wi-Fi network: **HETLIOZ 701**

*No password required.*

Download the Official SLEEP 2014 app for the iPhone or Android

- Quickly view the SLEEP 2014 Schedule
- Find booths in the Exhibit Hall
- Find where you’re at with the interactive Floor Plan
- Receive Instant Alerts about program changes or updates
- Learn about the best places to go while in Minneapolis
- Join the conversation on Social Media
- And much more!

Scan to download now!

*SLEEP 2014 Wi-Fi and Official SLEEP 2014 app sponsored by*

#SLEEP2014

- Join the Conversation on Twitter using #SLEEP2014
- Share your photos of Minneapolis on Instagram and include #SLEEP2014 in your post
- Check in at SLEEP 2014 on Facebook and Foursquare
- Follow the American Academy of Sleep Medicine and Sleep Research Society for SLEEP 2014 news and photos
Questions regarding SLEEP 2014 housing should be directed to:

SLEEP 2014 Housing Bureau
c/o Meet Minneapolis Housing Services
Toll-Free: (888) 947-2233
Fax: (612) 767-8201
Email: housing@minneapolis.org

### Hotel Information & Getting Around Minneapolis

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Phone</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Hilton Minneapolis – CO-HEADQUARTER HOTEL</td>
<td>(612) 376-1000</td>
</tr>
<tr>
<td>B</td>
<td>Hyatt Regency Minneapolis – CO-HEADQUARTER HOTEL</td>
<td>(612) 370-1234</td>
</tr>
<tr>
<td>C</td>
<td>Best Western Plus Normandy Inn &amp; Suites</td>
<td>(612) 370-1400</td>
</tr>
<tr>
<td>D</td>
<td>Crowne Plaza Northstar</td>
<td>(612) 338-2288</td>
</tr>
<tr>
<td>E</td>
<td>DoubleTree Suites by Hilton Minneapolis</td>
<td>(612) 332-6800</td>
</tr>
<tr>
<td>F</td>
<td>Hilton Garden Inn Minneapolis Downtown</td>
<td>(612) 339-6633</td>
</tr>
<tr>
<td>G</td>
<td>Holiday Inn Express &amp; Suites</td>
<td>(612) 341-3300</td>
</tr>
<tr>
<td>H</td>
<td>Minneapolis Marriott City Center</td>
<td>(612) 349-4000</td>
</tr>
<tr>
<td>I</td>
<td>Millennium Hotel Minneapolis</td>
<td>(612) 332-6000</td>
</tr>
</tbody>
</table>
**Light Rail and Bus System**

The light rail offers fast, quiet transportation service to 19 stations between downtown Minneapolis and Mall of America, including the Minneapolis-St. Paul International Airport.

One-way rail fares are $2 during rush hours and $1.50 at all other times.

Rush hour fares apply Monday through Friday (except holidays) from 6:00am to 9:00am and from 3:00pm to 6:30pm. Trains do not run from 1:00am to 4:00am.


Free buses run along Nicollet Mall, connecting several hotels within the SLEEP 2014 housing block with the Minneapolis Convention Center. Look for the buses marked “Free Ride” on Nicollet Mall. For additional information, visit [www.metrotransit.org](http://www.metrotransit.org).
The APSS acknowledges and thanks the following organizations for their generous support and investment in the future of sleep medicine and sleep research as APSS Corporate Supporters.

Thank you to our SLEEP 2014 Sponsors

- ActiGraph
- BRAEBON Home Apnea Testing
- Cadwell Laboratories, Inc.
- Cleveland Clinic Wellness Enterprise
- Compumedics USA, Inc.
- Ez Sleep In-Home Testing
- Human Design Medical
- Indigo Arc, LLC
- Jazz Pharmaceuticals, Inc.
- KEGO FMI Diagnostic Solutions
- Lighting Science
- Natus Neurology Incorporated
- Nihon Kohden America, Inc.
- Philips Respironics
- ResMed
- Re-Timer Sleep Glasses
- Transcend
- Vanda Pharmaceuticals Inc.
- WellTrinsic Sleep Network
- XenoPort, Inc.
Introducing the First FDA Cleared Device for Patients Suffering Loss of Sleep Due to Primary Restless Legs Syndrome.

The Relaxis™ Pad, developed by Sensory Medical, is the first non-pharmacological medical device for patients suffering loss of sleep due to primary RLS. Our FDA cleared device uses vibratory counterstimulation to provide external stimulus to the affected area, which has been clinically proven to relieve RLS symptoms and allow patients to quickly return to sleep without having to get out of bed.

A First-In-Class Device

The Relaxis™ Pad is the first prescription device cleared by the FDA to improve the quality of sleep in patients with primary RLS through the use of vibratory counterstimulation.

Clinical Studies

Sensory Medical performed two randomized, multi-center, controlled clinical trials to assess the safety and effectiveness of vibratory counterstimulation in the treatment of patients with primary RLS. Patient inclusion criteria (moderate to severe RLS) as well as primary and secondary endpoints, as measured with standardized outcome instruments, were identical for both studies.

Publications

Analysis of the clinical studies, including four published peer-reviewed articles, can be found on our website at: www.sensorymedical.com.

Stop by Booth 1018 for more info and a product demonstration.

INDICATIONS FOR USE: The purpose of the Relaxis™ Pad is to improve the quality of sleep in patients with primary Restless Legs Syndrome (RLS) through the use of vibratory counterstimulation.
Continuing Medical Education (CME) Credit for Physicians

Accreditation Statement
SLEEP 2014 meeting activities have been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Academy of Sleep Medicine (AASM) and the Associated Professional Sleep Societies, LLC (APSS). The American Academy of Sleep Medicine is accredited by the ACCME to provide continuing medical education for physicians.

The American Academy of Sleep Medicine designates this live educational activity for a maximum of 38.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Sessions Available to Earn CME Credit
SLEEP 2014 offers physicians the opportunity to earn as many as 38.25 CME credits. CME credit is awarded for Brown Bag Reports, Clinical Workshops, Discussion Groups, Invited Lectures, Keynote Address, Lunch Debate sessions, Meet the Professor sessions, Oral Presentations, Postgraduate Courses and Symposia. Specific details as to which sessions are eligible for CME credit are listed on the CME Reference Form, distributed at registration. Only those sessions sponsored by the APSS and listed on the CME Credit Claim Form are eligible for CME credit. Note: Poster viewing and the Late-breaking Abstract sessions are not eligible for CME credit.

Credit is awarded based on the amount of time spent in each activity (rounded to the nearest quarter hour). Physicians may earn the following maximum number of credits each day:

- Saturday, May 31:  7.50
- Sunday, June 1:  7.75
- Monday, June 2:  7.00
- Tuesday, June 3:  8.00
- Wednesday, June 4:  8.00

CME may also be available by attending industry sponsored events. These credits are made available by the event organizer and are not processed by the AASM.

Satisfactory Completion
To receive CME credits, SLEEP 2014 attendees must register for CME credit and pay the appropriate fee. The administrative fees are $25.00 for members and $40.00 for nonmembers. Individuals must complete an online claim form to receive CME credit. Further information will be detailed on the CME Reference Form, distributed at registration.

Target Audience for SLEEP 2014
Participants of the SLEEP 2014 meeting will include clinicians, scientists, students and other health care professionals seeking to increase their knowledge of the fields of sleep medicine and sleep research. Attendees should possess a basic knowledge of biological systems and/or operational issues in medical practice.

Overall Educational Objectives
Attendance at SLEEP 2014 should give participants a broad understanding of the current state-of-the-art of sleep medicine, including current clinical practices used when investigating and treating sleep disorders in adults and children; areas of controversy in clinical practice; recent basic science research in both animals and humans; and social, business and political issues relevant to sleep medicine.

By the end of SLEEP 2014, participants should be able to:
1. Summarize relevant information on the latest sleep research and clinical practices;
2. Identify present issues or challenges in diagnosis/treatment of sleep disorders, practice of sleep medicine or topics related to the field of sleep;
3. Integrate strategies and tools for the enhancement/advancement of sleep medicine; and
4. Recognize and have a basic understanding of common sleep disorders.

Continuing Education (CE) for Psychologists

Accreditation Statement
SLEEP 2014 is co-sponsored by Amedco and the Associated Professional Sleep Societies, LLC (APSS). Amedco is approved by the American Psychological Association to sponsor Continuing Education for psychologists. Amedco maintains responsibility for this program and its content.

Sessions Available to Earn CE Credit
Psychologists may receive up to 37.25 hours of continuing education credit for attending SLEEP 2014. CE credit is awarded for Brown Bag Reports, Clinical Workshops, Discussion Groups, Invited Lectures, Keynote Address, Oral Presentations, Postgraduate Courses and Symposia. Note: Poster viewing, Late-breaking Abstracts, Lunch Debate sessions and Meet the Professor sessions are not eligible for CE credit.

Satisfactory Completion
To receive CE credits, SLEEP 2014 attendees must register for CE credit and pay the appropriate fee. Further information will be detailed on the CE Reference Form, distributed at registration.
Psychologists may earn the following maximum number of CE credits per day:

- Saturday, May 31: 7.50
- Sunday, June 1: 7.75
- Monday, June 2: 7.00
- Tuesday, June 3: 8.00
- Wednesday, June 4: 7.00

Satisfactory Completion for Psychologists
To receive CE credits, SLEEP 2014 attendees must register for CE credit. The administrative fees are $45.00 for members and nonmembers. Attendees must have attended each of their sessions in their entirety and complete an online evaluation form in order to receive a certificate of completion/attendance. Participants not fulfilling these requirements will not receive a certificate. Failure to complete the evaluation form will result in forfeiture of credit for the entire conference. No exceptions will be made. Partial credit of individual sessions is not available. Further information will be detailed on the CE Reference Form, distributed at registration.

AANP Contact Hours for Nurse Practitioners

Accreditation Statement
This program is approved for 38.25 contact hour(s) of continuing education (which includes 6.75 hours of pharmacology) by the American Association of Nurse Practitioners. Program ID 1404231. This program was planned in accordance with AANP CE Standards and Policies and AANP Commercial Support Standards.

Sessions Available to Earn CE Credit
Credit is offered for Bench to Bedside sessions, Brown Bag Reports, Clinical Workshops, Discussion Groups, Invited Lectures, Keynote Address, Lunch Debate sessions, Meet the Professor sessions, Oral Presentations, Postgraduate Courses and Symposia. Note: Poster viewing and Late-breaking Abstracts are not eligible for AANP contact hours for nurse practitioners. Credit is awarded based on the amount of time spent in each activity and is rounded to the nearest quarter hour.

Satisfactory Completion for Nurse Practitioners
To receive CE contact hours, SLEEP 2014 attendees must register for CE contact hours for nurse practitioners and pay the appropriate fee. The administrative fees are $25.00 for members and $40.00 for nonmembers. Attendees must have attended each of the sessions in their entirety and complete an online claim form to receive the letter of attendance. Further information will be detailed on the CE Reference Form, distributed at registration.

Continuing Education for Others

Accreditation Statement
The AMA Council on Medical Education mandates that accredited providers only offer AMA PRA Category 1 Credits™ to physicians. The AASM will issue individuals who are not eligible for any type of continuing education credits offered at SLEEP 2014 a letter of attendance outlining the number of AMA PRA Category 1 Credits™ designated for the sessions they attend at SLEEP 2014.

To receive a letter of attendance, SLEEP 2014 attendees must register and pay the appropriate fee. The administrative fees are $25.00 for members and $40.00 for nonmembers. Individuals must complete an online claim form to receive the letter of attendance. Further information will be detailed on the Letter of Attendance Reference Form, distributed at registration.

Do Not Forget to Register for Credits
Follow the instructions below to ensure that you receive credit for SLEEP 2014:

1. When you register for SLEEP 2014, be sure to add the appropriate continuing education credits to your registration. This is a separate fee from the general session registration fee.
2. Pick up the appropriate Reference Form at the Continuing Education table near the SLEEP 2014 registration counters.
3. Use the Reference Form to track the sessions that you attend at SLEEP 2014.
4. After June 9, visit www.sleepmeeting.org/credits to claim your credits. Instructions will be included on the Reference Form.

Deadline to complete online credit claim forms:
- July 16, 2014 for CE for Psychologists
- October 1, 2014 for CME, AANP Credit and Letters of Attendance

After these dates, individuals will no longer be able to receive credits.
## Schedule at a Glance

<table>
<thead>
<tr>
<th>Saturday May 31</th>
<th>Sunday June 1</th>
<th>Monday June 2</th>
<th>Tuesday June 3</th>
<th>Wednesday June 4</th>
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<tbody>
<tr>
<td><strong>Registration Open</strong></td>
<td>6:30am – 5:30pm</td>
<td></td>
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<tr>
<td><strong>Full-day Postgraduate Courses</strong></td>
<td>8:00am – 5:00pm</td>
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<tr>
<td>C01: Year in Review 2014</td>
<td>101E</td>
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<tr>
<td>C02: Trends in Sleep Medicine</td>
<td>102A</td>
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<tr>
<td><strong>Half-day Postgraduate Courses</strong></td>
<td>8:00am – 12:00pm</td>
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<tr>
<td>C03: Pediatric Sleep Medicine</td>
<td>Auditorium 1</td>
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<tr>
<td>C04: Video-Polysomnographic Evaluation (Diagnosis and Scoring) of Sleep Related Movement Disorders</td>
<td>Auditorium 2</td>
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<tr>
<td>C05: Difficult Cases That Keep You Up at Night: Case Based Review of Challenging Clinical Scenarios for the Sleep Medicine Specialist</td>
<td>Auditorium 3</td>
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<tr>
<td><strong>Lunch Break</strong></td>
<td>12:00pm – 1:00pm</td>
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<tr>
<td><strong>Half-day Postgraduate Courses</strong></td>
<td>1:00pm – 5:00pm</td>
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<tr>
<td>C06: Pediatric Behavioral Sleep Medicine</td>
<td>Auditorium 1</td>
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<tr>
<td>RLS Treatment</td>
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<tr>
<td>Developments: Expanded Medication Choices and Advances in Treatment for Pregnancy and Pediatric RLS</td>
<td>Auditorium 2</td>
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<tr>
<td>C07: CPAP or Oral Appliance Therapy: Which Treatment for Which Patient?</td>
<td>Auditorium 3</td>
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<tbody>
<tr>
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<td>6:30am – 5:30pm</td>
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<tr>
<td><strong>Full-day Postgraduate Courses</strong></td>
<td>8:00am – 5:00pm</td>
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<tr>
<td>C09: 2014 State of the Art for Clinical Practitioners</td>
<td>101E</td>
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<tr>
<td>C10: Gizmos and Gadgets: Using Technology to Enhance the Care of Patients with Sleep Disorders</td>
<td>102A</td>
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<tr>
<td></td>
<td>It Is Not Just About Treating Insomnia Anymore: Expanding the Reach of Behavioral Sleep Medicine Across Disorders and Provider Types</td>
<td>Auditorium 1</td>
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<tr>
<td><strong>Half-day Postgraduate Courses</strong></td>
<td>8:00am – 12:00pm</td>
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<tr>
<td>C12: Sleep and the Heart</td>
<td>Auditorium 3</td>
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<tr>
<td><strong>Lunch Break</strong></td>
<td>12:00pm – 1:00pm</td>
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<tr>
<td><strong>Half-day Postgraduate Courses</strong></td>
<td>1:00pm – 5:00pm</td>
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<tr>
<td>C13: Diagnosis and Treatment of Circadian Rhythm Sleep-Wake Disorders</td>
<td>Auditorium 2</td>
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<tr>
<td>C14: Home Sleep Apnea Testing: The ABC’s of Setting Up Your Own Program</td>
<td>Auditorium 3</td>
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<tr>
<td><strong>General Sessions</strong></td>
<td>1:00pm – 3:00pm</td>
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<tr>
<td>O01: Medical Disorders and Sleep</td>
<td>L100J</td>
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<tr>
<td>Consequences of Chronic Sleep Restriction: New Insights from Animal Models and Human Studies</td>
<td>L100H</td>
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<tr>
<td>Ground-breaking Theories on Sleep Regulation and Function</td>
<td>L100F</td>
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<tr>
<td>Refreshment Break</td>
<td>3:00pm – 3:15pm</td>
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<td>General Sessions</td>
<td>3:15pm – 5:15pm</td>
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<tr>
<td>O02: Novel Insights into Pediatric Sleep Disorders</td>
<td>L100H</td>
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<tr>
<td>S03: Clinical and Basic Science Perspectives on Mechanisms of REM Sleep Behavior Disorder</td>
<td>L100F</td>
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<tr>
<td>S04: Substrates, Mechanisms and Neurodevelopment of Sleep Regulation</td>
<td>L100J</td>
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<tr>
<td>Pizza with a Purpose Welcome Reception</td>
<td>6:00pm – 7:30pm</td>
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<tr>
<td>Northstar Ballroom, 2nd Floor Hyatt Regency</td>
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### Schedule at a Glance

<table>
<thead>
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<th>Saturday</th>
<th>Sunday</th>
<th>Monday</th>
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<tbody>
<tr>
<td>May 31</td>
<td>June 1</td>
<td>June 2</td>
<td>June 3</td>
<td>June 4</td>
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</tbody>
</table>

#### Registration Open
6:30am – 5:30pm

#### Poster Set-up - (Exhibit Hall B)
7:00am – 8:00am

#### Plenary Session and Keynote Addresses
8:00am – 10:00am

- **I01:** Giulio Tononi, MD, PhD
  - Sleep and the Price of Plasticity
  - Auditorium

- **I02:** Andrew Renda, MD, MPH
  - Managed Care Perspective on Long-term Treatment, Outcomes and Economics of Sleep Disorders
  - Auditorium

#### Exhibit Hall Open (Exhibit Hall B)
10:00am – 4:00pm

#### Refreshment Break (Exhibit Hall B)
10:00am – 10:30am

#### General Sessions
10:30am – 11:30am

- **O03:** Sleep Questionnaires: New Developments
  - 102A

- **W01:** RLS in Childhood, Migraine and Growing Pains: Close Relationship or Casual Association?
  - L100H

- **D01:** Tailoring Sleep Medications for Individual Patients
  - 101E

- **O04:** Evaluating Sleep Disordered Breathing
  - L100J

- **S05:** Disturbed Sleep as a Suicide Risk Factor and Novel Treatment Target: An Opportunity for Prevention
  - 102F

- **S06:** Neurodegeneration: Advances in Translational Neuroscience
  - 205A

- **S07:** Circadian Rhythms, Sleep and Metabolism
  - L100F

#### General Sessions
11:30am – 12:30pm

- **O05:** Investigations Evaluating the Relationship and Potential Mechanisms Underlying Sleep and Neurological Disorders
  - 102A

#### Lunch Break
12:30pm – 1:45pm

#### AASM General Membership Meeting (205D)
12:30pm – 1:45pm

#### Lunch Sessions
12:30pm – 1:30pm

- **R01:** Brown Bag Report: Challenging Cases
  - 102A

- **L01:** Should Non-commercial Drivers have Driving Licenses Suspended Pending a Sleep Apnea Evaluation?
  - 200I

- **M01:** Oral Appliance Therapy for OSA
  - M100B

- **M02:** Complex Nocturnal Behaviors
  - M100C

- **M03:** Sleepiness and Driver Safety on the Real Road
  - M100D

- **M04:** Sleep, Recovery and Human Performance in Elite Athletes: Case Presentation and Clinical Management
  - M100E

- **M05:** Business of Sleep Medicine
  - M100F

- **M06:** Nighttime Settling Difficulties in Children: Physiological Insights
  - M100G

- **M07:** Adaptive Servoventilation for Treatment of Central Sleep Apnea
  - M100H

- **M08:** Successes and Challenges in Disseminating Behavioral Treatments of Insomnia
  - M100I

#### Late-breaking Abstracts (102F)
12:40pm – 1:40pm
<table>
<thead>
<tr>
<th>Time</th>
<th>Section</th>
<th>Venue</th>
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</thead>
<tbody>
<tr>
<td>12:45pm – 1:45pm</td>
<td><strong>SRS Membership Section Meetings</strong></td>
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<tr>
<td>1:45pm – 2:45pm</td>
<td><strong>Invited Lecturers</strong></td>
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<tr>
<td>1:45pm – 2:45pm</td>
<td><strong>I03: Carol Worthman, PhD</strong></td>
<td>L100H</td>
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<tr>
<td></td>
<td>*Sleep “in the Wild”: Insights from Comparative Cross-cultural Research*</td>
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<td>1:45pm – 2:45pm</td>
<td><strong>I04: Sonia Ancoli-Israel, PhD</strong></td>
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<tr>
<td></td>
<td>*Sleep Disorders in Parkinson’s Disease*</td>
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<tr>
<td>1:45pm – 2:45pm</td>
<td><strong>Oral Presentations</strong></td>
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<tr>
<td>1:45pm – 2:45pm</td>
<td><strong>O06: Sleep and Metabolism: Basic Research</strong></td>
<td>205A</td>
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<td><strong>O07: Neurocognitive and Mood Effects of Sleep in Women</strong></td>
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<td><strong>O08: TMS, TDCS and Other Novel Approaches to Studying Sleep Related Movement Disorders</strong></td>
<td>102A</td>
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<tr>
<td>2:45pm – 3:00pm</td>
<td><strong>Refreshment Break (Exhibit Hall B)</strong></td>
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<tr>
<td>3:00pm – 5:00pm</td>
<td><strong>General Sessions</strong></td>
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<tr>
<td>3:00pm – 5:00pm</td>
<td><strong>B01: Research to Practice: Sleep Science and the New Regulations on Duty Hours in the Trucking and Aviation Industries</strong></td>
<td>101E</td>
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<tr>
<td>2:45pm – 3:00pm</td>
<td><strong>W02: More is Less and Less is More: Augmentation Phenomena in Restless Legs Syndrome</strong></td>
<td>L100H</td>
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<tr>
<td>1:45pm – 2:45pm</td>
<td><strong>D01: International Implementation of an Internet Intervention for Insomnia</strong></td>
<td>102F</td>
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<tr>
<td>1:45pm – 2:45pm</td>
<td><strong>D02: Options for Treatment of Obstructive Sleep Apnea in Children and Improving Positive Airway Pressure Compliance</strong></td>
<td>L100F</td>
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<tr>
<td>1:45pm – 2:45pm</td>
<td><strong>D03: Development, Aging and the Sleeping Brain</strong></td>
<td>102A</td>
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<tr>
<td>4:00pm – 5:00pm</td>
<td><strong>Invited Lecturer</strong></td>
<td>Auditorium 1</td>
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<tr>
<td>4:00pm – 5:00pm</td>
<td><strong>O10: Treating Obstructive Sleep Apnea</strong></td>
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<tr>
<td>4:00pm – 5:00pm</td>
<td><strong>S08: Dissection of Neural Circuitry Regulating Sleep-Wake Using Genetically Engineered Systems</strong></td>
<td>205A</td>
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<tr>
<td>4:00pm – 6:00pm</td>
<td><strong>Poster Presentations (Exhibit Hall B)</strong></td>
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<tr>
<td>5:15pm – 6:15pm</td>
<td><strong>AASM Membership Section Meetings</strong></td>
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**Join the SBSM Today**

The SBSM is committed to advancing the scientific approach to behavioral sleep medicine and supporting sleep psychologists and behavioral sleep providers.

Visit the Society Booth for more information and to join the SBSM.

**SBSM Membership Reception:**
Monday, June 2, 2014 from 5:00pm to 7:00pm at the Hyatt Regency, Minneapolis
Room: Northstar Ballroom B, 2nd Floor, Hyatt Regency Minneapolis

www.behavioralsleep.org
<table>
<thead>
<tr>
<th>Saturday May 31</th>
<th>Sunday June 1</th>
<th>Monday June 2</th>
<th>Tuesday June 3</th>
<th>Wednesday June 4</th>
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<tbody>
<tr>
<td><strong>Schedule at a Glance</strong></td>
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<tr>
<td><strong>General Sessions</strong></td>
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<td>10:20am – 12:20pm</td>
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<tr>
<td>Positive Airway Pressure Therapy in Children:</td>
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<tr>
<td>Reflecting on Experience and Developing Best Practices</td>
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<td><strong>D05:</strong> A New Sleep Care Paradigm</td>
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<tr>
<td>Circadian Entrainment, Disruption and Physiological Effects of Light</td>
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<tr>
<td><strong>O13:</strong> Sleep/Wake Regulatory Circuitry: New Findings</td>
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<td>102A</td>
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<tr>
<td><strong>O15:</strong> Sleep and Behavior in Children and Adolescents</td>
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<tr>
<td>Cognitive and Behavioral Interventions for Insomnia in Military Populations</td>
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<td>102F</td>
</tr>
<tr>
<td><strong>S12:</strong> Cognitive and Behavioral Interventions for Insomnia in Military Populations</td>
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<td>102F</td>
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<tr>
<td><strong>S13:</strong> Reward Processing: The Impact of Sleep on What We Find Reinforcing</td>
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<tr>
<td><strong>Lunch Break</strong></td>
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<td>12:20pm – 1:30pm</td>
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<tr>
<td>Overcoming the Challenges of the Future: The Welltrinsic Sleep Network (101E)</td>
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<tr>
<td><strong>SRS General Membership Meeting (205D)</strong></td>
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<td><strong>Lunch Sessions</strong></td>
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<tr>
<td><strong>R02:</strong> Brown Bag Report: Challenging Cases</td>
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<td>102A</td>
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<td><strong>L02:</strong> Is APAP as Good as CPAP for Titration or Treatment?</td>
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<td>200I</td>
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<tr>
<td><strong>M09:</strong> Geriatric Sleep: Dispelling Some Myths About Sleep and Aging</td>
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<td>M100B</td>
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<tr>
<td><strong>M10:</strong> Fatal Familial Insomnia - Prion Disease: Past, Present and Future</td>
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<tr>
<td><strong>M11:</strong> Utilization Review for Sleep Studies: What You Need To Know</td>
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<td>M100D</td>
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</table>

<p>| <strong>AASM PAC Breakfast (Room 200I)</strong> | 7:00am – 8:00am |
| <strong>Poster Set-up (Exhibit Hall B)</strong> | 7:00am – 8:00am |
| <strong>Registration Open</strong> | 7:30am – 5:00pm |
| <strong>Invited Lecturer</strong> | 8:00am – 9:00am |
| <strong>I05:</strong> Ravi Allada, MD | How Molecular Genetics Can Tell Us How We Wake Up and Why We Sleep |
| <strong>General Sessions</strong> | 8:00am – 10:00am |
| <strong>B02:</strong> Exercise as a Behavioral Sleep Medicine Intervention | | 102F |
| <strong>D04:</strong> Teens and Sleep Health | | 102A |
| <strong>O12:</strong> Role of Sleep in Psychiatric Functioning | | L100J |
| <strong>S09:</strong> Upper Airway Stimulation for Obstructive Sleep Apnea | | 101E |
| <strong>S10:</strong> Sleep Loss and Inflammation in Mice and Man: Cytokine Mechanisms for Sleep and Health Outcomes | | 205A |
| <strong>S11:</strong> Current Research and Clinical Insights into Sleep, Recovery and Performance in Elite Athletes | | L100F |
| <strong>Invited Lecturer</strong> | 9:05am – 10:05am |
| <strong>I06:</strong> Sean P.A. Drummond, PhD | Brain Function During Sleep Deprivation and Sleep Disorders: Is There a Common Dysfunction? |
| <strong>Exhibit Hall Open</strong> | 10:00am – 4:00pm |
| <strong>Refreshment Break (Exhibit Hall B)</strong> | 10:00am – 10:20am |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
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<tbody>
<tr>
<td>M12:</td>
<td>Sleep Disturbance in Patients with Heart Failure</td>
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<td>M13:</td>
<td>Management of Pediatric Sleep Apnea</td>
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<td>M14:</td>
<td>Treatment of Narcolepsy</td>
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<td>M15:</td>
<td>Fatigue Risk Management</td>
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<tr>
<td>M16:</td>
<td>Using Video to Aid in CPAP Adherence</td>
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<td><strong>Invited Lecturers 1:30pm – 2:30pm</strong></td>
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<tr>
<td>I07:</td>
<td>Mehdi Tafti, PhD Molecular Genetics of Sleep</td>
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<tr>
<td>I08:</td>
<td>Christopher Barnes, PhD Sleep and Work</td>
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<td><strong>Oral Presentations 1:30pm – 2:30pm</strong></td>
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<tr>
<td>O16:</td>
<td>Investigating Disparities in Delivering Sleep Medicine Education and Health Care</td>
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<td>O17:</td>
<td>Parasomnias</td>
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<tr>
<td>O18:</td>
<td>New Sleep Analysis Techniques: Clinical Aspects</td>
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<td>O19:</td>
<td>Novel Sleep Therapeutics in Preclinical Models</td>
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<td><strong>Refreshment Break (Exhibit Hall B) 2:30pm – 2:45pm</strong></td>
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<td><strong>General Sessions 2:45pm – 4:45pm</strong></td>
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<tr>
<td>B03:</td>
<td>Sleep and Emotion Regulation from Bench to Bedside</td>
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<tr>
<td>W04:</td>
<td>PAP Adherence: Utilizing Team-based Care and a Behavioral Approach to Maximize Success</td>
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<tr>
<td>W05:</td>
<td>Occupational Sleep Medicine</td>
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<tr>
<td>D06:</td>
<td>Stone Soup: Leveraging Research Resources and Opportunities</td>
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<tr>
<td>O20:</td>
<td>Insomnia: Treatment</td>
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<tr>
<td>O21:</td>
<td>Sleep Loss, Behavior and Physiology: Connecting the Dots</td>
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<tr>
<td>S14:</td>
<td>Differential Neural Mechanisms of Adenosine in Sleep-Wake Regulation</td>
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<td><strong>Poster Presentations (Exhibit Hall B) 4:00pm – 6:00pm</strong></td>
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<td></td>
<td><strong>AASM Membership Section Meetings 5:15pm – 6:15pm</strong></td>
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### Schedule at a Glance

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:00am – 8:00am</td>
<td><strong>Nurses Breakfast</strong> (Room 200I)</td>
<td>Room 200I</td>
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<tr>
<td>7:00am – 8:00am</td>
<td><strong>Poster Set-up</strong> (Exhibit Hall B)</td>
<td>Exhibit Hall B</td>
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<tr>
<td>7:30am – 5:00pm</td>
<td><strong>Registration Open</strong></td>
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</table>
| 8:00am – 9:00am | **Invited Lecturer**  
*Adam Darkins, MD, MPH*
Telehealth: Changing the Location of Care to Make the Home and Local Community into Preferred Sites of Care | 101E       |
| 8:00am – 10:00am | **General Sessions**                                                 |            |
| 10:00am – 2:00pm | **Exhibit Hall Open**                                                 |            |
| 10:00am – 10:20am | **Refreshment Break** (Exhibit Hall B)                               | Exhibit Hall B |
| 10:20am – 12:20pm | **General Sessions**                                                 |            |
| 9:05am – 10:05am | **Invited Lecturer**  
*Tonya Palermo, PhD*
Sleep and Pediatric Chronic Pain: Innovative Approaches to Assessment and Treatment | 101E       |
<p>| 10:20am – 12:20pm | <strong>Poster Presentations</strong> (Exhibit Hall B)                            | Exhibit Hall B |
| 12:20pm – 1:30pm | <strong>Lunch Break</strong>                                                      |            |
| 12:30pm – 1:30pm | <strong>Lunch Sessions</strong>                                                   |            |
| 10:20am – 12:20pm | <strong>W06:</strong> Critical Issues in the Evaluation, Diagnosis and Management of RBD Patients | L100H       |
| 10:20am – 12:20pm | <strong>D08:</strong> The American Sleep Medicine Foundation:                   | 205A       |
| 10:20am – 12:20pm | <strong>D08:</strong> Stimulating Innovation through Expanded Funding Opportunities |            |
| 10:20am – 12:20pm | <strong>O24:</strong> Insomnia: Comorbid Associations                             | 102A       |
| 10:20am – 12:20pm | <strong>O25:</strong> Obstructive Sleep Apnea: Effects and Treatment             | L100F      |
| 10:20am – 12:20pm | <strong>S18:</strong> Sleep in Children with Chronic Health Conditions: Challenges and Opportunities | 102F       |
| 10:20am – 12:20pm | <strong>S19:</strong> Metabolomics and Sleep: Translational Approaches from Animals to Humans | L100J      |
| 10:20am – 12:20pm | <strong>S20:</strong> Future Models of Care: The Veterans Health Administration Experience | 101E       |
| 10:20am – 12:20pm | <strong>M17:</strong> Treatment Updates on Insomnia                              | M100B      |
| 10:20am – 12:20pm | <strong>M18:</strong> Exercise and Sleep                                          | M100C      |
| 10:20am – 12:20pm | <strong>M19:</strong> Home Sleep Testing                                          | M100D      |
| 10:20am – 12:20pm | <strong>M20:</strong> The Expanding Role of APRNs and PAs in Sleep Medicine       | M100E      |
| 10:20am – 12:20pm | <strong>M21:</strong> How to Evaluate and Manage Excessive Daytime Sleepiness in Childhood | M100F      |
| 10:20am – 12:20pm | <strong>M22:</strong> Increasing Public Awareness of Sleep through Employers     | M100G      |</p>
<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>1:30pm – 2:30pm</td>
<td>Invited Lecturer</td>
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<tr>
<td></td>
<td>Atul Malhotra, MD - The Future of Sleep Apnea Therapy</td>
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<tr>
<td>1:30pm – 2:30pm</td>
<td>Oral Presentations</td>
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<td></td>
<td>Sleep Quality in Older Adults</td>
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<td>Narcolepsy and Hypersomnias Related Psychiatric Disease</td>
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<td>Sleep State Analysis: New Methods and Models</td>
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<td>Circadian Misalignment and Circadian Sleep-Wake Disorders</td>
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<td>Sleep Timing, Duration and Napping: New Insights</td>
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<tr>
<td>2:30pm – 2:45pm</td>
<td>Refreshment Break</td>
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<tr>
<td>2:45pm – 4:45pm</td>
<td>General Sessions</td>
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<td></td>
<td>Shining a Light on Sleep, Metabolism and Body Weight</td>
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<td>The Importance of Sleep Disturbance in Mood Disorders: Evidence from</td>
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<td>Clinical Interventions and Scientific Experiments</td>
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<td>Autonomic Consequences of Sleep Loss and Risk of Hypertension</td>
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Daily deals exclusively for

AASM Deal of the Day Packages

**SUNDAY, JUNE 1**
**Patient Ready Package**
Make sure all of your patients are as comfortable as possible as they go through the process of a sleep test.

**MONDAY, JUNE 2**
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Stay on trend with the latest information about Telemedicine, AutoPAP, the ACA, Insurance Reimbursement and the impact of Stark Laws.

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AASM STAFF QUESTION TIME
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AASM INTER-SCORER RELIABILITY (ISR) DEMOS
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The AASM and SRS would like to recognize new members and long-term members by distributing a special attendee badge ribbon. Stop by the Society Booth to claim your ribbon while supplies last!

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Don't forget to pick up your SBSM Membership ribbon at the Society Booth!
Join Congressman Erik Paulsen at the 2014 AASM PAC Breakfast

Keynote speaker Congressman Erik Paulsen (R-MN), of the influential House Ways and Means Committee, will provide an insider’s perspective on legislative changes that affect physicians, current health care debates in Congress and how you can influence policy.

The AASM PAC Breakfast is Tuesday, June 3 at 7a.m.
Minneapolis Convention Center - Room 200I

Tickets are $50.00 and can be purchased at the SLEEP 2014 Registration Desk. Advanced registration is required.

Exclusively at SLEEP
2014: contribute $200+ to the AASM PAC to receive a unique pen custom-made by Executive Director Jerry Barrett.

Your contribution supports the AASM’s efforts to increase awareness of sleep medicine in DC and gain critical legislative support for key AASM initiatives.

*Contributions must be received at the AASM PAC desk, near the Society Booth. Previous or future donations do not apply. Contributions from corporate accounts and non-AASM members are not permitted. Pen colors and designs will vary based on availability and contribution amount ($200 minimum). Pens include a certificate of authenticity. Supplies are limited.
Members Connect at SLEEP 2014

While at SLEEP 2014, network with your colleagues at the General Membership Meetings

AASM General Membership Meeting
Monday, June 2 – 12:30-1:45 PM
Room 205D

SRS General Membership Meeting
Tuesday, June 3 – 12:30-1:30 PM
Room 205D

Share your plans for SLEEP 2014 on Facebook and Twitter using our official hashtag #SLEEP2014.

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Now is the best time to join the nearly 11,500+ sleep medicine professionals who are already members. All SLEEP 2014 attendees are eligible to save up to 50% with prorated dues.

Members receive access to networking events and courses throughout the year, the Membership Directory, and the journal SLEEP. Members also save on all products sold at the Society Booth.

American Academy of Sleep Medicine Membership:
www.aasmnet.org/membership.aspx

Sleep Research Society Membership:
www.sleepresearchsociety.org/membership.aspx

Join today at the Society Booth!
Dr. Tononi’s lecture is during the Plenary Session and will follow the welcome address and AASM and SRS presentations.

Giulio Tononi, MD, PhD received his medical degree and specialized in psychiatry at the University of Pisa, Italy. After serving as a medical officer in the Army, he obtained a PhD in neuroscience as a fellow of the Scuola Superiore, based on his work on sleep regulation. From 1990 to 2000, he was at The Neurosciences Institute, first in New York and then in San Diego. He is currently Professor of Psychiatry, Distinguished Professor in Consciousness Science, and the David P. White Chair in Sleep Medicine at the University of Wisconsin, Madison. In 2005 he received the NIH Director’s Pioneer Award for his work on sleep. His laboratory studies consciousness and its disorders as well as the mechanisms and functions of sleep.

Dr. Tononi is a frequent lecturer and invited speaker at scientific symposia. He is the author of approximately 200 scientific publications, co-editor of the volume *Selectionism and the Brain* (with Olaf Sporns), and author of two recent books on the neural basis of consciousness: *A Universe of Consciousness* (with Gerald M. Edelman) and *Galileo and the Photodiode*. His latest book on consciousness, *PHI: A Voyage from the Brain to the Soul*, was published in August 2012.

Andrew Renda’s lecture is during the Plenary Session and will follow the welcome address and AASM and SRS presentations.

Andrew Renda, MD, MPH, is Program Manager for the Chronic Care Strategies Team at Humana. He is responsible for strategy and solutions, as well as monitoring spend, trend and utilization, for respiratory and metabolic conditions.

Dr. Renda has designed and implemented population health clinical interventions for chronic conditions ranging from messaging campaigns and self-care interventions to clinician-led disease management programs. Significant projects include: metabolic syndrome support service, asthma and COPD disease management and self-care programs, sleep apnea diagnostics and management strategy, flu/pneumonia campaign, tobacco cessation service integration and outreach.

He also serves on several Humana boards and committees, including: Humana Active Outlook Medical Advisory Board, Comprehensive Health Insights Research Advisory Committee, Clinical Disparities and Cultural Diversity Committee.

Dr. Renda has a bachelor of science in psychology and biology from the University of Kentucky where he was a National Science Foundation Undergraduate Fellow. He received his medical degree and a diploma in clinical psychiatry from the Royal College of Surgeons in Ireland, followed by a masters in public health from Harvard University.
Ravi Allada, MD, is the Professor and Chair of the Department of Neurobiology, Professor in the Department of Pathology, and Associate Director for the Center for Sleep and Circadian Biology at Northwestern University. Dr. Allada received his medical degree from the University of Michigan and completed his residency in clinical pathology from Brigham and Women’s Hospital. During medical school, he was a Howard Hughes Medical Institute-National Institutes of Health Research Scholar and worked on the molecular genetics of general anesthesia using the fruit fly Drosophila as a model system. He received an HHMI Physician Postdoctoral Fellowship with Michael Rosbash at Brandeis University where he cloned the Drosophila Clock gene, a master transcription factor for circadian rhythms. In 2000, he joined the faculty at Northwestern University.

The Allada laboratory has identified and characterized novel components of the core circadian clock including the discovery of a novel translational control pathway involving the neurodegeneration gene Ataxin2 in Drosophila as well as neuropeptide receptors and ion channels that are important for conveying temporal information from the clock to regulate behavior such as sleep and wake. His laboratory has also exploited the Drosophila model for sleep, discovering links between sleep homeostasis and memory processing as well as protein degradation pathways. His recent work also extends to mammalian systems including humans. His work has been recognized by a Burroughs Wellcome Career Award and a NARSAD Young Investigator Award.

Sonia Ancoli-Israel, PhD, is a Professor Emeritus and Professor of Research in the Departments of Psychiatry and Medicine at the University of California San Diego (UCSD) School of Medicine, Director of the Gillin Sleep and Chronomedicine Research Center, and Director of Education at the Sleep Medicine Center at UCSD. Dr. Ancoli-Israel received her bachelor’s degree from the State University of New York, Stony Brook, a master’s degree in psychology from California State University, Long Beach and a PhD in psychology from the University of California, San Francisco. Dr. Ancoli-Israel's expertise is in the field of sleep disorders and sleep research in aging. Her current interests include the longitudinal effect of sleep disorders on aging, the effect of circadian rhythms on sleep, therapeutic interventions for sleep problems in dementia and fatigue, particularly the relationship between sleep, fatigue and circadian rhythms in cancer and other chronic illnesses.

Sonia Ancoli-Israel is Past-President of the Sleep Research Society, Past-President of the Society for Light Treatment and Biological Rhythms, and was a founding member of the Executive Board of the National Sleep Foundation. She was honored in 2007 with the National Sleep Foundation Life Time Achievement Award and the Sleep Research Society Mary A. Carskadon Outstanding Educator Award and in 2012 with Society of Behavioral Sleep Medicine Distinguished Career Award. Dr. Ancoli-Israel has been a guest on television and radio programs including NPR's Morning Edition and Fresh Air with Terry Gross. Dr. Ancoli-Israel is published regularly in medical and psychiatric journals with close to 400 publications in the field.
Christopher Barnes, PhD, is currently an Assistant Professor of Management in the Foster School of Business, University of Washington. Dr. Barnes has a bachelor of science with a major in psychology and a minor in biology from Pacific Lutheran University, and an MBA from Webster University. He spent four years as a research manager in the Fatigue Countermeasures Branch of the Air Force Research Laboratory. Following this, he obtained his PhD in organizational behavior from Michigan State University. Dr. Barnes’ research focuses on the nexus of sleep and work, emphasizing in particular the influence of sleep on work outcomes. His research has been published in several top management and applied psychology journals, including Academy of Management Review, Journal of Applied Psychology, Organizational Behavior and Human Decision Processes, and Personnel Psychology. His research has been covered in many mass media outlets, including ABC News, MSNBC, The New York Times, Wall Street Journal, BBC Radio, Harvard Business Review, and Huffington Post.

Adam Darkins, MD, leads the national telehealth programs for the Department of Veterans Affairs (VA). Successful implementation of telehealth within the VA involves the use of health informatics and disease management technologies to enhance and extend care and case management. Under Dr. Darkins’ leadership, the VA has developed the clinical, technology and business underpinnings to successfully implement and sustain enterprise-wide telehealth-based services that have demonstrably improved access to care for patients, reduced utilization of health care resources and been associated with very high levels of patient satisfaction.

Since 1991, Dr. Darkins has worked in health services development, including transitioning care from hospitals into home and community settings and implementing enterprise information technology systems in the US and UK. He has a clinical background in neurosurgery.
Sean P.A. Drummond, PhD, first became fascinated with sleep research when he volunteered as an undergraduate research assistant in the Sleep Research Laboratory at the University of Arizona under the direction of Richard Bootzin, PhD and Michael Perlis, PhD (then a graduate student). He attended the SDSU-UCSD Joint Doctoral Program in Clinical Psychology where he worked with J. Christian Gillin, MD, and completed his pre-doctoral internship at the Tucson VA hospital. Dr. Drummond then returned to UCSD as a postdoctoral fellow working with Gregory G. Brown, PhD. He joined the faculty in the Department of Psychiatry in October 2002.

Dr. Drummond’s main program of research seeks to understand the impact of sleep and sleep deprivation on cognitive performance, brain function, as well as overall clinical symptoms and quality of life. He conducts both experimental studies and clinical studies.

Dr. Drummond has an active clinical role in the Veterans Affairs San Diego Healthcare System as the Associate Director of the Cognitive Behavioral Interventions Program. This clinic treats insomnia and nightmares in a variety of patient populations, including PTSD, mood disorders and primary care patients.

Atul Malhotra, MD is the Division Chief of Pulmonary and Critical Care Medicine, Director of Sleep Medicine and Kenneth M. Moser Professor of Medicine at UC San Diego. He is very involved in the leadership of the American Thoracic Society as the current ATS Vice President and future ATS President in 2015-2016. Dr. Malhotra is an avid researcher and prolific writer with over 190 peer-reviewed original articles and over 125 reviews/chapters since coming on faculty in 2000. His investigative interests include the pathogenesis of sleep apnea, the metabolic/cardiovascular complications of sleep disorders, and mechanical ventilation in acute respiratory distress syndrome.
Tonya Palermo, PhD, is a pediatric psychologist and a Professor in the Department of Anesthesiology and Pain Medicine at University of Washington with adjunct appointments in Pediatrics and Psychiatry. Dr. Palermo received her BA in psychology from the University of California at Los Angeles and her MA and PhD in clinical psychology from Case Western Reserve University. She completed her predoctoral internship in pediatric psychology at Columbus Children’s Hospital and a postdoctoral fellowship at Rainbow Babies & Children’s Hospital in pediatric psychology/pain management.

Dr. Palermo has a NIH-funded research program in the area of pediatric chronic pain and sleep. She is specifically interested in cognitive-behavioral interventions, delivery of psychological treatment via the internet, sleep disturbances and parent/family factors. She has published over 110 peer-reviewed articles and a book on cognitive-behavioral therapy for chronic pain in children and adolescents. Dr. Palermo has held leadership positions in the American Psychological Association and the American Pain Society. She is a Fellow of the American Psychological Association. Dr. Palermo is an Associate Editor for the Clinical Journal of Pain and for the Journal of Pediatric Psychology. Dr. Palermo also serves as a regular member of an NIH study section, Behavioral Medicine Interventions and Outcomes. Training and mentorship are an important part of Dr. Palermo’s work and she serves as Program Director for the T32 Anesthesiology and Perioperative Medicine Research Training Program at the University of Washington.

Mehdi Tafti, PhD, received his doctorate working with Dr. Michel Billiard at the University of Montpellier-France investigating the regulation of sleep in narcolepsy. Dr. Tafti subsequently joined the Center for Narcolepsy Research at Stanford University where he worked with Dr. Emmanuel Mignot on neuroanatomy, pharmacology and genetics of canine narcolepsy. In 1995, Dr. Tafti established the first laboratory dedicated to the genetics of sleep and sleep disorders at the Department of Psychiatry, University of Geneva-Switzerland. In 2004, he joined the Center for Integrative Genomics at Lausanne University-Switzerland as an associate professor. Dr. Tafti acts as the founding co-director of the Center for Investigation and Research in Sleep at the Lausanne University Hospital. Dr. Tafti was promoted to full professor (neurogenetics) in 2011 at the University of Lausanne-Switzerland.

Research in his laboratories focuses on the molecular basis of sleep and sleep disorders. His group identified several genes that regulate the sleep EEG in mice. He is also one of the leading experts in narcolepsy research and member of the European Narcolepsy Network. Dr. Tafti was the first to discover TRIB2 auto-antibodies in narcolepsy, a mutation in MOG that causes a familial form of narcolepsy, a HLA allele that strongly protects against narcolepsy and introduced intravenous immunoglobulin therapy for narcolepsy with cataplexy.
Carol Worthman, PhD, currently holds the Samuel Candler Dobbs Chair in the Department of Anthropology, Emory University, where she also directs the Laboratory for Comparative Human Biology. After taking a dual undergraduate degree in biology and botany at Pomona College, Dr. Worthman took her PhD in biological anthropology at Harvard University, having also studied endocrinology at UCSD and neuroscience at MIT under Jack Geller and Richard Wurtman, respectively. She joined the nascent anthropology faculty at Emory University in 1986, and established a pioneering laboratory advancing the use of biomarkers in population research.

Professor Worthman takes a biocultural approach to pursuit of comparative interdisciplinary research on human development, reproductive ecology, and biocultural bases of differential mental and physical health. She has conducted cross-cultural biosocial research in thirteen countries, including Kenya, Tibet, Nepal, Egypt, Japan, Papua New Guinea, Vietnam and South Africa, as well as in rural, urban, and semi-urban areas of the United States. For the past 20 years, she has collaborated with Jane Costello and Adrian Angold in the Great Smoky Mountains Study, a large, longitudinal, population-based developmental epidemiological project in western North Carolina. Current work includes a study of the impact of television on adolescent sleep/wake patterns in the context of a controlled experiment with Vietnamese villages lacking both television and electricity.
Join us for our 29th annual conference for patients, supporters and health care providers

October 17-19, 2014
Hyatt Regency Denver Tech Center
more information at www.narcolepsynetwork.org

Narcolepsy Network’s annual conference gathers people with narcolepsy and their supporters, caregivers and treating professionals for a weekend of information and support. Sessions include research updates, treatment options, education and workplace accommodations, lifestyle adjustments and more.

Narcolepsy Network is a nationwide nonprofit organization dedicated to increasing early diagnosis of narcolepsy, advocating for and supporting persons with narcolepsy and their families, and promoting critical research for treatment and a cure.

Services for people with narcolepsy and their supporters:
- quarterly newsletter
- educational materials
- support groups (in person & online)
- advocacy
- annual conference

Services for medical professionals and educators:
- presentations
- educational materials
- research support
- annual conference

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Grant Writing Workshop
1:00pm – 5:00pm
Room M100B

Trainee Symposia Series Welcome and Keynote Address
5:00pm – 6:30pm
Room 200F

Welcome Address
Janet Mullington, PhD
SRS President

Philip Gehrman, PhD
TEAC Chair

Jared Saletin, PhD
SRS Trainee Member-at-Large

Keynote Address
**Big Data**
*Till Roenneberg, PhD*

Datablitz & Career Development Fair
6:30pm – 8:30pm
Room 200F

This event will start with a 30-minute datablitz of research presented by fellow trainees. Then, representatives from universities and research organizations will be available at the Career Development Fair to discuss their research programs and to advertise student postdoctoral and faculty positions.

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**Sunday, June 1, 2014**

**Workshop 1: 8:00am – 9:00am**

**Analysis Methods for Circadian Data**
Kenneth Wright Jr., PhD
Room M100B

Differentiate between research protocols that assess circadian versus non-circadian daily patterns, identify different tools used to measure circadian physiology, and identify techniques to measure circadian phase, amplitude and period.

**Integrating Patient Oriented Research into Clinical Practice**
Hrayr Attarian, MD
Room M100C

Discuss how to do patient based research in a busy clinical practice by relying on Electronic Medical Records, identify the various parameters collected in EMRs and the mechanisms available to conduct selective and fruitful searches of the databases in order to obtain appropriate information to answer the various research questions, and outline the advantages and limitations of relying on electronic databases to conduct retrospective chart review based research.

**How-To Guide to Success in Grad School**
Sean P.A. Drummond, PhD
Room M100D

Discuss various models for surviving and succeeding in graduate school, be it a program that is research-oriented, clinically-oriented, or both, and review balancing school, lab, clinic and life demands.

**Fostering Mentor-Mentee Relationships**
Richard Bootzin, PhD
Room M100E

Discuss how to develop successful mentoring relationships and the responsibilities and rewards for each.

**The Future of Fatigue: Identifying Fatigue Biomarkers**
Thomas Balkin, PhD
Room M100F

As 24-hour-per day operations become increasingly common...
in both the civilian and military sectors, the potential for sleepiness-related errors and accidents increases accordingly – as does the need to develop and implement effective fatigue management strategies. Discuss current and future efforts to discover objective biomarkers of sleepiness.

Circadian Rhythms and Mood
Helen Burgess, PhD
Room M100G
Discuss the influence of circadian timing on mood in healthy and clinical populations and review circadian interventions aimed at improving mood.

History of Sleep in Humans: The Loss of Segmented Sleep
Roger Ekihrch, PhD
Room M100H
Review the origins, dynamics, and consequences of sleep’s modernization, comparing segmented and consolidated sleep.

Sleep Abnormalities within Psychiatric Disorders and Special Populations
Ruth Benca, MD, PhD
Room M100l
Review sleep abnormalities in major psychiatric disorders and neurodegenerative disorders, with emphasis on the role of how sleep may provide useful diagnostic and prognostic markers, as well as the potential utility of sleep therapies.

Workshop 2: 9:10am – 10:10am

Differences between Short and Long Sleepers
Kristen Knutson, PhD
Room M100B
Review the morbidity and mortality risks associated with both short and long sleep durations and discuss the potential underlying mechanisms for these associations.

Publicly Available NIH Datasets
Michael Twery, PhD
Room M100C
This session focuses on examples of early-stage exploratory analyses using a growing array of nationally representative surveillance data in the public domain and selected community-based datasets available through data sharing agreements.

Careers in Behavioral Sleep Medicine
Jason Ong, PhD
Room M100D
Discuss the role of a behavioral sleep medicine (BSM) practitioner in a sleep medicine practice, conducting BSM research, and education and training in BSM.

Teaching a Sleep Course
Mary Carskadon, PhD
Room M100E
Review issues to consider in teaching a sleep course and how to construct such a course, with attendees contributing background and experiences to help broaden the approaches to designing a course, identifying resources, and evaluating outcomes.

Actigraphy Applications and Misapplications
Hawley Montgomery-Downs, PhD
Room M100F
Discuss the state-of-the-science, validity, and best practices for actigraphy in sleep research and medicine.

Experimental Sleep Restriction and Deprivation Designs: Pros and Cons
Dean Beebe, PhD
Room M100G
Illustrate key design issues to consider in experimental sleep restriction and deprivation studies, focusing on the advantages and drawbacks of different options.

Neurobiological Control of Sleep and Wakefulness
Ronald Szymusiak, PhD
Room M100H
Review the basic functional neuroanatomy and neuropharmacology of brain systems and circuits that regulate sleep and arousal.

Tools for Studying Sleep, Circadian Rhythms and Metabolism
Frank A.J.L. Scheer, PhD
Room M100l
Discuss study procedures, measurement techniques, and potential confounding factors and challenges in the assessment of circadian rhythms, sleep, metabolism, and their interactions, focusing on human studies.
Workshop 3: 10:20am – 11:20am

Bioinformatics of Sleep
Christopher Winrow, PhD
Room M100B

Review novel applications of new sequencing technologies, comprehensive genetic datasets, nonclinical resources and collaborations between academic and industrial teams, and discuss specific examples of how genetic and bioinformatic approaches have broadened our understanding of sleep physiology and enabled drug discovery.

Internet-based Data Collection
Colin Espie, PhD
Room M100C

Describe how digital data collection (web and mobile) can help to advance clinical and research practice and discuss integration of self-report data with data derived from worn devices.

Postdocs: How to Get Them and Make the Most of Them
Erin Wamsley, PhD
Room M100D

Discuss strategies for finding (and securing) the right postdoc for you, as well as how to be certain that you get the most out of your time during this critical transition period.

CV Advice
Carole Marcus, MBBCh
Room M100E

Discuss factors to take into account when building your CV as you embark on your academic career and review interviewing skills and negotiation points for academic positions.

Sleep and Circadian Rhythms across Development
Monique LeBourgeois, PhD
Room M100F

Review theoretical models important for conceptualizing sleep and sleep problems across the first two decades of life, and discuss current empirical findings on developmental changes in sleep behavior, the sleep EEG, circadian rhythms and sleep homeostasis.

Workshop 4: 11:30am – 12:30pm

Quantitative EEG Analysis
Derk-Jan Dijk, PhD
Room M100G

Discuss some of the most commonly use qEEG approaches and review examples of their application to the study of the pharmacology, physiology and genetics of sleep.

Sleep and Exercise
Kelly Baron, PhD
Room M100H

Review the association between fitness and sleep in the population, describe key experimental studies of the relationship of exercise among healthy adults, and discuss the relationship between exercise and sleep in sleep disordered populations.

Sleep Spindles and Cognition
Igor Timofeev, PhD
Room M100I

Recognize the phenomenon of sleep spindles focusing on the different kinds of spindles occurring during sleep and how they are measured in humans and discuss studies indicating an association between spindle activity and cognitive capabilities.

Combining Omics Data across Levels
Ron Anafi, MD, PhD
Room M100B

Discuss strategies and pitfalls for combining data types from large-scale data sets describing varied aspects of biology including transcriptional profiling, proteomics, metabolomics, and genetic linkage to provide new insights.

Population Based Development Studies
Yun-Kwok Wing, MBChB
Room M100C

Review the data on the current success and limitations as well as future directions in the population-based studies of sleep disorders with an emphasis on the evolution and development of the course of these disorders.
How to Review a Data-based Article
Michael V. Vitiello, PhD
Room M100D
Discuss a strategy for effective review of data-based manuscripts.

Funding Outside NIH
Charles Czeisler, MD, PhD
Room M100E

Global versus Local Sleep
James Krueger, PhD
Room M100F
Discuss how sleep regulatory circuits likely help coordinate such synchronization mechanisms to form global sleep states and describe how viewing sleep as a fundamental property of local networks provides parsimonious explanations for depth of sleep and wake states, waking performance variation, dissociated states, post-lesion recovery of sleep, and other sleep phenomena.

Sleep and Sleep Disorders in Aging and Neurodegeneration
Aleksandar Videnovic, MD
Room M100G
Review the basis for sleep dysfunction in neurodegenerative disorders and discuss common sleep disorders associated with neurodegeneration with an emphasis on Alzheimer’s and Parkinson’s disease.

The Power of Napping
Rebecca Spencer, PhD
Room M100H
Discuss why napping is necessary throughout development, when and why children transition out of needing to nap, and whether napping is beneficial beyond the period of time when it is no longer biologically necessary.

Role for Sleep in Brain Plasticity
Marcos Frank, PhD
Room M100I
Discuss the effects of sleep on brain plasticity and how these effects depend on the types of experience that precede sleep, the type of neural circuit under examination, and when in the sleep cycle measurements are made.
The APSS will provide Postgraduate Course materials in an electronic format only. Attendees were provided with the materials on a flash drive. Prior to the meeting, attendees who pre-registered were provided instructions to download and print the course materials. Please note that the APSS will not supply computers or tablets to view the material or power for computers or tablets. It is imperative that attendees wishing to view the course materials on their laptops or tablets have them sufficiently powered prior to arrival at the meeting each day.

In order to register for Postgraduate Courses, you must be registered for SLEEP 2014. The APSS does not offer registration to attend only Postgraduate Courses. All Postgraduate Courses require additional registration fees. Tickets for available sessions can be purchased at the SLEEP 2014 registration counters.

We Want Your Feedback

You are encouraged to evaluate each session you attend.

Visit the SLEEP 2014 mobile app or www.sleepmeeting.org/evaluations at any time during the meeting to rate the sessions.

The evaluation site will close on July 1.

C01: Year in Review 2014

Saturday, May 31, 2014 | 8:00am – 5:00pm
Room 101E

Co-chairs: Charles Atwood, MD; and Kenneth Wright Jr., PhD

Faculty: David Dinges, PhD; Anne Germain; PhD; Mark Opp, PhD; Carol Rosen, MD; Thomas Scammell, MD; Michael Silber, MBChB; and Jamie Zeitzer, PhD

Psychologist Level of Content: Intermediate

Agenda:

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<td>3. Movement Disorders in Sleep</td>
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<td>2:00pm – 3:15pm</td>
<td>6. Sleep Deprivation: The Answers are in Dynamics</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:15pm</td>
<td>7. Narcolepsy</td>
</tr>
<tr>
<td>4:15pm – 5:00pm</td>
<td>8. Insomnia</td>
</tr>
</tbody>
</table>
C02: Trends in Sleep Medicine

Saturday, May 31, 2014 | 8:00am – 5:00pm
Room 102A

Co-chairs: Charlene Gamaldo, MD; and Douglas Kirsch, MD
Faculty: Bartley Bryt, MD; Colin Espie, PhD; Samuel Fleishman, MD; Neil Freedman, MD; Timothy Morgenthaler, MD; Richard Schwab, MD; and Jaspal Singh, MD

Psychologist Level of Content: Intermediate

Agenda:

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>8:00am – 8:15am</td>
<td>Introduction</td>
</tr>
<tr>
<td>8:15am – 9:15am</td>
<td>1. Utilization Management Programs for Sleep: Design and Data</td>
</tr>
<tr>
<td>9:15am – 10:15am</td>
<td>2. Small Fish in a Big Pond: Integrating Sleep Medicine in a Large Hospital System</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 11:15am</td>
<td>3. NPs and PAs in Sleep Medicine: Current Roles and Potential Impact on Future Practice</td>
</tr>
<tr>
<td>11:15am – 12:00pm</td>
<td>4. Gizmos, Gadgets and Apps: New Ambulatory Approaches in Sleep Medicine</td>
</tr>
<tr>
<td>12:00pm – 1:00pm</td>
<td>Lunch (on your own)</td>
</tr>
<tr>
<td>1:00pm – 1:45pm</td>
<td>5. In-hospital Sleep Consultations</td>
</tr>
<tr>
<td>1:45pm – 2:30pm</td>
<td>6. Sleep Medicine and PCPs: Models of Care</td>
</tr>
<tr>
<td>2:30pm – 3:15pm</td>
<td>7. Quality Metrics in Sleep Medicine</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:30pm</td>
<td>8. The Challenges of Online CBT for Insomnia</td>
</tr>
<tr>
<td>4:30pm – 5:00pm</td>
<td>Discussion</td>
</tr>
</tbody>
</table>

C03: Pediatric Sleep Medicine


Saturday, May 31, 2014 | 8:00am – 12:00pm
Auditorium 1

Co-chairs: Madeleine Grigg-Damberger, MD; and Sanjeev Kothare, MD
Faculty: Eliot Katz, MD; and Daniel Lewin, PhD

Psychologist Level of Content: Intermediate

Agenda:

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00am – 8:45am</td>
<td>1. Evaluation and Treatment Strategies for Pediatric Sleep Apnea Following Adenotonsillectomy</td>
</tr>
<tr>
<td>8:45am – 9:30am</td>
<td>2. Central Hypersomnias in Children</td>
</tr>
<tr>
<td>9:30am – 10:15am</td>
<td>3. Strategies for Treating Insomnia in Pediatric Patients with Neuropsychiatric Comorbidities</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 11:15am</td>
<td>4. Obstructive Sleep Apnea in Infants</td>
</tr>
<tr>
<td>11:15am – 12:00pm</td>
<td>5. Discussion</td>
</tr>
</tbody>
</table>
C04: Video-Polysomnographic Evaluation (Diagnosis and Scoring) of Sleep Related Movement Disorders

Saturday, May 31, 2014 | 8:00am – 12:00pm
Auditorium 2

Co-chairs: Raffaele Ferri, MD; and Mauro Manconi, MD, PhD
Faculty: Lynn Marie Trotti, MD

Psychologist Level of Content: Introductory

Agenda:

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00am – 8:10am</td>
<td>1. Introduction to the New ICSD</td>
</tr>
<tr>
<td>8:10am – 8:35am</td>
<td>2. Technical Rules to Record and Calibrate EMG from Tibialis Anterior and Chin Muscles</td>
</tr>
<tr>
<td>8:35am – 9:20am</td>
<td>3. Movement Scoring Rules</td>
</tr>
<tr>
<td>9:20am – 10:15am</td>
<td>4. Quantitative Analysis of EMG during Sleep</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 11:30am</td>
<td>5. Video-PSG Examples of Frequent and Infrequent SRMD</td>
</tr>
<tr>
<td>11:30am – 12:00pm</td>
<td>6. Practical Scoring Exercises</td>
</tr>
</tbody>
</table>

C05: Difficult Cases That Keep You Up at Night: Case Based Review of Challenging Clinical Scenarios for the Sleep Medicine Specialist

Saturday, May 31, 2014 | 8:00am – 12:00pm
Auditorium 3

Chair: Raman Malhotra, MD
Faculty: Alon Avidan, MD, MPH; Lee Brown, MD; and Nathaniel Watson, MD, MS

Psychologist Level of Content: Advanced

Agenda:

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00am – 8:05am</td>
<td>Introduction and Overview</td>
</tr>
<tr>
<td>8:05am – 8:50am</td>
<td>1. Harrowing Hypersomnia Cases</td>
</tr>
<tr>
<td>8:50am – 9:35am</td>
<td>2. Complex Conundrums in Sleep Apnea Care</td>
</tr>
<tr>
<td>9:35am – 9:50am</td>
<td>Questions and Answers</td>
</tr>
<tr>
<td>9:50am – 10:15am</td>
<td>3. Puzzling Parasomnias and Intriguing Insomnia</td>
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<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 11:05am</td>
<td>3. (Continued) Puzzling Parasomnias and Intriguing Insomnia</td>
</tr>
<tr>
<td>11:05am – 11:50am</td>
<td>4. The Sleep Sleuth: Solving the Mysteries of the Night</td>
</tr>
<tr>
<td>11:50am – 12:00pm</td>
<td>Questions and Answers</td>
</tr>
</tbody>
</table>
C06: Pediatric Behavioral Sleep Medicine

Saturday, May 31, 2014 | 1:00pm – 5:00pm
Auditorium 1

Chair: Sarah Honaker, PhD
Faculty: Kristin Avis, PhD; Valerie Crabtree, PhD; and Lisa Meltzer, PhD

Psychologist Level of Content: Intermediate

Agenda:

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda</th>
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<tbody>
<tr>
<td>1:00pm – 1:15pm</td>
<td>1. Introduction and Overview of Pediatric Behavioral Sleep Medicine</td>
</tr>
<tr>
<td>1:15pm – 2:00pm</td>
<td>2. Actigraphy with Pediatric Populations</td>
</tr>
<tr>
<td>2:00pm – 2:45pm</td>
<td>3. Bedtime Problems and Night Wakings in Infants and Young Children</td>
</tr>
<tr>
<td>2:45pm – 3:15pm</td>
<td>4. Interventions for Children and Adolescents with Behavioral Sleep Disturbance</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:00pm</td>
<td>4. (Continued) Interventions for Children and Adolescents with Behavioral Sleep Disturbance</td>
</tr>
<tr>
<td>4:00pm – 4:45pm</td>
<td>5. CPAP Adherence in Children and Adolescents</td>
</tr>
<tr>
<td>4:45pm – 5:00pm</td>
<td>Questions and Answers</td>
</tr>
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</table>

C07: RLS Treatment Developments: Expanded Medication Choices and Advances in Treatment for Pregnancy and Pediatric RLS

Saturday, May 31, 2014 | 1:00pm – 5:00pm
Auditorium 2

Chair: Richard Allen, PhD
Faculty: Mark Buchfuhrer, MD; Christopher Earley, PhD; and Daniel Picchietti, MD

Psychologist Level of Content: Intermediate

Agenda:

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<th>Time</th>
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<tbody>
<tr>
<td>1:00pm – 1:55pm</td>
<td>1. Alpha-2 Delta Drugs and Opioids for Treating RLS</td>
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<tr>
<td>1:55pm – 2:15pm</td>
<td>2. Long-acting Dopaminergic Agonists: Augmentation and Efficacy</td>
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<tr>
<td>2:15pm – 2:45pm</td>
<td>3. How to Switch or Combine Medications: Drug Holiday vs. Medication during Withdrawal</td>
</tr>
<tr>
<td>2:45pm – 3:15pm</td>
<td>4. IV Iron: Alternate Formulations and Methods</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:00pm</td>
<td>5. Managing Daytime and Non-sensorimotor RLS Symptoms (Treatment Goals)</td>
</tr>
<tr>
<td>4:00pm – 4:20pm</td>
<td>6. Treatment During Pregnancy and Lactation</td>
</tr>
<tr>
<td>4:20pm – 5:00pm</td>
<td>7. Pediatric RLS</td>
</tr>
</tbody>
</table>
C08: CPAP or Oral Appliance Therapy: Which Treatment for Which Patient?

Saturday, May 31, 2014 | 1:00pm – 5:00pm
Auditorium 3

Chair: David White, MD
Faculty: Peter Cistulli, MD, PhD; Aarnoud Hoekema, MD, DMD, PhD; Samuel Kuna, MD; and Clete Kushida, MD, PhD, RST, RPSGT

Psychologist Level of Content: Intermediate

Agenda:

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda</th>
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<tbody>
<tr>
<td>1:00pm – 1:15pm</td>
<td>1. Do Oral Appliances Measure Up to CPAP? What Does the Future Hold?</td>
</tr>
<tr>
<td>1:15pm – 2:15pm</td>
<td>2. CPAP and Oral Appliance Therapy: Which is Better?</td>
</tr>
<tr>
<td>2:15pm – 3:15pm</td>
<td>3. Do Clinical Features Help Direct OSA Patients to a Therapeutic Modality?</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:15pm</td>
<td>4. Can the Polysomnogram Provide Guidance in Selection of Therapy for OSA?</td>
</tr>
<tr>
<td>4:15pm – 5:00pm</td>
<td>5. Devices, Side Effects and Compliance</td>
</tr>
</tbody>
</table>
**C09: 2014 State of the Art for Clinical Practitioners**

**Sunday, June 1, 2014 | 8:00am – 5:00pm**
**Room 101E**

**Co-chairs:** Charlene Gamaldo, MD; and Phyllis Zee, MD, PhD

**Faculty:** Alon Avidan, MD, MPH; Nancy Collop, MD; Douglas Kirsch, MD; Shalini Paruthi, MD; David Plante, MD; Rachel Salas, MD; and Michael Silber, MBChB

**Psychologist Level of Content:** Intermediate

**Agenda:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>8:00am – 8:05am</td>
<td>Introduction</td>
</tr>
<tr>
<td>8:05am – 9:00am</td>
<td>1. RBD and Other Parasomnias</td>
</tr>
<tr>
<td>9:00am – 9:45am</td>
<td>2. RLS and Other Sleep Kicks</td>
</tr>
<tr>
<td>9:45am – 10:15am</td>
<td>3. Narcolepsy and Hypersomnias</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 10:45am</td>
<td>3. (Continued) Narcolepsy and Hypersomnias</td>
</tr>
<tr>
<td>10:45am – 11:30am</td>
<td>4. Best Practice Pediatric Sleep Review</td>
</tr>
<tr>
<td>11:30am – 12:00pm</td>
<td>Questions and Answers</td>
</tr>
<tr>
<td>12:00pm – 1:00pm</td>
<td>Lunch (on your own)</td>
</tr>
<tr>
<td>1:00pm – 1:45pm</td>
<td>5. Circadian Rhythm Sleep-Wake Disorders</td>
</tr>
<tr>
<td>1:45pm – 2:30pm</td>
<td>6. Managing the Non-obstructive Sleep Apneas: Complex, Central and Treatment Emergent Apneas</td>
</tr>
<tr>
<td>2:30pm – 3:15pm</td>
<td>7. Diagnosing OSA in an Ambulatory World</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:30pm</td>
<td>8. The Sleepless Patient</td>
</tr>
<tr>
<td>4:30pm – 5:00pm</td>
<td>Questions and Answers</td>
</tr>
</tbody>
</table>

**C10: Gizmos and Gadgets: Using Technology to Enhance the Care of Patients with Sleep Disorders**

**Sunday, June 1, 2014 | 8:00am – 5:00pm**
**Room 102A**

**Chair:** Neil Freedman, MD

**Faculty:** Madeleine Grigg-Damberger, MD; Dennis Hwang, MD; Shahrokh Javaheri, MD; Douglas Kirsch, MD; Atul Malhotra, MD; Susheel Patil, MD, PhD; and Lisa Wolfe, MD

**Psychologist Level of Content:** Advanced

**Agenda:**

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<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:00am – 8:45am</td>
<td>1. Consumer Directed Technology for the Management of Sleep Disorders and Advanced Non-PAP Treatments for OSA</td>
</tr>
<tr>
<td>8:45am – 9:30am</td>
<td>2. APAP for OSA: Devices, Compliance Software Review and Troubleshooting Problems</td>
</tr>
<tr>
<td>9:30am – 10:15am</td>
<td>3. Advanced Technology for the Diagnosis and Treatment of Central Sleep Apnea Syndromes</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 12:00pm</td>
<td>4. Advanced Technology for the Management of Hypoventilation Syndromes</td>
</tr>
<tr>
<td>12:00pm – 1:00pm</td>
<td>Lunch (on your own)</td>
</tr>
<tr>
<td>1:00pm – 1:45pm</td>
<td>5. Home Sleep Apnea Testing: A Paradox of Choice</td>
</tr>
<tr>
<td>1:45pm – 2:30pm</td>
<td>6. Emerging Technologies for Managing Sleep Disorders in Children and Patients with Neurological Disorders</td>
</tr>
<tr>
<td>2:30pm – 3:15pm</td>
<td>7. Telemedicine and Sleep: What’s the Connection</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 5:00pm</td>
<td>8. The Future of Advanced Diagnostics for Sleep Disordered Breathing and Other Sleep Disorders</td>
</tr>
</tbody>
</table>
C11: It is Not Just About Treating Insomnia Anymore: Expanding the Reach of Behavioral Sleep Medicine Across Disorders and Provider Types

**Sunday, June 1, 2014 | 8:00am – 5:00pm**  
**Auditorium 1**

**Chair:** Jack Edinger, PhD  
**Faculty:** Colleen Carney, PhD; Colin Espie, PhD; Anne Germain, PhD; Rachel Manber, PhD; Jason Ong, PhD; Michael Smith, PhD; and James Wyatt, PhD

**Psychologist Level of Content:** Intermediate

**Agenda:**

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:00am – 8:15am</td>
<td>Introduction</td>
</tr>
<tr>
<td>8:15am – 9:15am</td>
<td>1. Managing Sleep Difficulties Among Patients with Chronic Pain</td>
</tr>
<tr>
<td>9:15am – 10:15am</td>
<td>2. Circadian Rhythm Disorders</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 11:15am</td>
<td>3. Behavioral Sleep Medicine Techniques for Sleep Apnea Patients With and Without Comorbid Insomnia</td>
</tr>
<tr>
<td>11:15am – 12:00pm</td>
<td>4. How Best to Train Others in the Delivery of CBT-I</td>
</tr>
<tr>
<td>12:00pm – 1:00pm</td>
<td>Lunch (on your own)</td>
</tr>
<tr>
<td>1:00pm – 1:15pm</td>
<td>Questions and Answers</td>
</tr>
<tr>
<td>1:15pm – 2:15pm</td>
<td>5. What to Do With Those Disturbing Nightmares?</td>
</tr>
<tr>
<td>2:15pm – 3:15pm</td>
<td>6. Cognitive Behavioral Therapy for Those with Major Depressive Disorder and Insomnia (MDD-I)</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:15pm</td>
<td>7. Behavioral Sleep Medicine for the Narcolepsy Patient</td>
</tr>
<tr>
<td>4:15pm – 5:00pm</td>
<td>8. Non-Rem Parasomnia as Psychophysiological Disorder: Is There a Place for BSM Strategies?</td>
</tr>
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</table>

C12: Update on Pediatric Guidelines: Surveillance, Evaluation and Management of Sleep Disorders in Specific Pediatric Populations

**Sunday, June 1, 2014 | 8:00am – 12:00pm**  
**Auditorium 2**

**Co-chairs:** Louella Amos, MD; and Beth Malow, MD  
**Faculty:** Julie Baughn, MD; and Nanci Yuan, MD

**Psychologist Level of Content:** Intermediate

**Agenda:**

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<tr>
<td>8:00am – 8:45am</td>
<td>1. The Spectrum of Sleep Problems in Children with Down Syndrome</td>
</tr>
<tr>
<td>8:45am – 9:30am</td>
<td>2. Surveillance of Sleep Disorders in Children with Prader-Willi Syndrome and Achondroplasia</td>
</tr>
<tr>
<td>9:30am – 10:15am</td>
<td>3. Sleep Disorders and Management in Children with Neuromuscular Disease</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 11:15am</td>
<td>4. A Practice Pathway for Managing Insomnia in Children with Autism Spectrum Disorders</td>
</tr>
<tr>
<td>11:15am – 12:00pm</td>
<td>Cases and Questions and Answers</td>
</tr>
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</table>
**C13: Sleep and the Heart**

**Sunday, June 1, 2014 | 8:00am – 12:00pm**  
Auditorium 3  

**Co-chairs:** Virend Somers, MD; and Robert Thomas, MD  
**Faculty:** Jean-Louis Pépin, MD, PhD; and Winfried Randerath, MD  

**Psychologist Level of Content:** Advanced

**Agenda:**

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<tr>
<td>8:00am – 8:55am</td>
<td>1. Cardiometabolic Consequences of Sleep Disruption</td>
</tr>
<tr>
<td>8:55am – 9:45am</td>
<td>2. The Carotid Body, Heart and Heart Failure</td>
</tr>
<tr>
<td>9:45am – 10:15am</td>
<td>3. Sleep Apnea and Cardiac Arrhythmias</td>
</tr>
<tr>
<td>10:15am – 10:30am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30am – 10:50am</td>
<td>3. (Continued) Sleep Apnea and Cardiac Arrhythmias</td>
</tr>
<tr>
<td>10:50am – 11:40am</td>
<td>4. Sleep Apnea and Congestive Heart Failure</td>
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<tr>
<td>11:40am – 12:00pm</td>
<td>Questions and Answers</td>
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**C14: Diagnosis and Treatment of Circadian Rhythm Sleep-Wake Disorders**

**Sunday, June 1, 2014 | 1:00pm – 5:00pm**  
Auditorium 2  

**Chair:** R. Robert Auger, MD  
**Faculty:** Helen Burgess, PhD; Katherine Sharkey, MD, PhD; and James Wyatt, PhD  

**Psychologist Level of Content:** Introductory

**Agenda:**

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<th>Time</th>
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<tbody>
<tr>
<td>1:00pm – 1:05pm</td>
<td>Introduction</td>
</tr>
<tr>
<td>1:05pm – 2:10pm</td>
<td>1. Basics of Circadian Physiology and Assessment Tools</td>
</tr>
<tr>
<td>2:10pm – 3:15pm</td>
<td>2. Circadian Aspects of Jet Lag and Shift Work</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30pm – 4:15pm</td>
<td>3. Advanced Sleep-Wake Phase Disorder and Advance-related Sleep Complaints</td>
</tr>
<tr>
<td>4:15pm – 5:00pm</td>
<td>4. Delayed Sleep-Wake Phase Disorder</td>
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</table>
C15: Home Sleep Apnea Testing: The ABC’s of Setting Up Your Own Program

Sunday, June 1, 2014 | 1:00pm – 5:00pm
Auditorium 3

Chair: Nancy Collop, MD
Faculty: Charles Atwood, MD; Richard Berry, MD; David Kuhlmann, MD; and Tracey Stierer, MD

Psychologist Level of Content: Intermediate

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<th>Time</th>
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<tr>
<td>1:00pm – 1:45pm</td>
<td>1. Setting up Your HSAT Program</td>
</tr>
<tr>
<td>1:45pm – 2:30pm</td>
<td>2. Picking Out Your HSAT Device</td>
</tr>
<tr>
<td>2:30pm – 3:15pm</td>
<td>3. Scoring and Interpreting HSAT</td>
</tr>
<tr>
<td>3:15pm – 3:30pm</td>
<td>Break</td>
</tr>
<tr>
<td>4:00pm – 4:15pm</td>
<td>4. Accreditation Standards and Quality Control for HSAT</td>
</tr>
<tr>
<td>4:15pm – 5:00pm</td>
<td>5. Using HSAT in the Perioperative Period</td>
</tr>
</tbody>
</table>
Transcend is one of the smallest, lightest and most portable CPAPs in the world. Weighing less than a pound and fitting in the palm of your hand, Transcend is uniquely designed to give users the therapy they need at home and on the go.

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Seating

General sessions are filled on a first-come, first-served basis. The APSS does its best to match room size with anticipated demand; however, interest in a topic occasionally exceeds seating capacity. Seating limits are strictly enforced by the Convention Center Fire Marshal. We encourage you to arrive at meeting rooms as early as possible for best seating.

Educational Opportunities:

C: Postgraduate Course
B: Bench to Bedside
W: Clinical Workshop
D: Discussion Group
I: Invited Lecturer
L: Lunch Debate
M: Meet the Professor
O: Oral Presentation
P: Poster Session
R: Brown Bag Case Report
S: Symposia

BSM ICON – Sessions with this icon focus on the behavioral therapies for sleep disorders.

See page 5 for a description of these session types.

O01: Medical Disorders and Sleep

1:00pm – 3:00pm
Room L100J

Chair: Henry Klar Yaggi, MD

Psychologist Level of Content: Intermediate

Objective: Discuss sleep, sleep duration, and their associations with chronic medical problems and adverse health outcomes.

0705  1:00pm - 1:15pm
SLEEP AND QUALITY OF LIFE IN THE SPIROMICS COHORT
Zeidler MR, Martin J, Schneider H, Kleerup E, Badr MS

0706  1:15pm - 1:30pm
A RANDOMIZED TRIAL OF COGNITIVE BEHAVIOR THERAPY AND ARMODAFINIL TO TREAT INSOMNIA AND DAYTIME SLEEPINESS IN CANCER SURVIVORS
Garland SN, Barilla H, Findley J, Gehrman P, Perlis ML

0707  1:30pm - 1:45pm
HEMODIALYSIS DECREASES OVERNIGHT ROSTRAL FLUID SHIFT AND IMPROVES OBSTRUCTIVE SLEEP APNEA IN OVERHYDRATED PATIENTS WITH END STAGE RENAL DISEASE

0708  1:45pm - 2:00pm
CIRCADIAN AND ENERGY METABOLISM GENE POLYMORPHISMS ARE ASSOCIATED WITH MEASURES OF SLEEP TIMING AND CHRONOTYPE AMONG ADULTS WITH HIV/AIDS
Lee KA, Gay CL, Aouizerat B

0709  2:00pm - 2:15pm
SLEEP CHARACTERISTICS AMONG BLACKS WITH METABOLIC SYNDROME
S01: Consequences of Chronic Sleep Restriction: New Insights from Animal Models and Human Studies

1:00pm – 3:00pm
Room L100H

Chair: Kazue Semba, PhD
Faculty: Carol Everson, PhD; Robert Strecker, PhD; and Hans Van Dongen, PhD

Psychologist Level of Content: Intermediate

Objectives:

1. Recognize neurobehavioural, physiological, cognitive, performance and psychosocial impacts of chronic sleep loss;
2. Discuss new findings on the effects of chronic sleep restriction on bone remodeling, intestinal cell integrity, and gene expression in the brain which may explain impairments and adaptations to chronic sleep restriction; and
3. Review the pattern of cognitive impairment during chronic sleep restriction in humans, model cognitive deficits and adaptation in sleep and performance patterns, and relate these findings to psychosocial factors.

S02: Ground-breaking Theories on Sleep Regulation and Function

1:00pm – 3:00pm
Room L100F

Chair: Carol Everson, PhD
Faculty: Mark Blumberg, PhD; Carsten Korth, MD, PhD; Markus Schmidt, MD, PhD; and Jerome Siegel, PhD

Psychologist Level of Content: Intermediate

Objectives:

1. Discuss the dynamics of four new and updated theories about why we sleep;
2. Recognize, with broad understanding, the forces acting on sleep and affecting central and peripheral functions attributable to sleep;
3. Gain insight into why sleep is a vital life experience and why it may have evolved.

1:00pm – 1:05pm
New Frameworks for Thinking About Why We Sleep
Carol Everson, PhD

1:05pm – 1:30pm
Sleep as an Energy Conservation Tool
Jerome Siegel, PhD
1:30pm – 2:00pm  A Co-evolutionary Theory of Sleep: Revisited in Light of New Scientific Insights  
Carsten Korth, MD, PhD

2:00pm – 2:30pm  Developing Sensorimotor Systems in Our Sleep  
Mark Blumberg, PhD

2:30pm – 3:00pm  The Energy Allocation Theory: A Unifying Model Integrating Energy Metabolism, Sleep-Wake Organization and Evolution  
Markus Schmidt, MD, PhD

0861  3:45pm - 4:00pm  THE EFFECT OF SLEEP DISORDERED BREATHING ON CEREBROVASCULAR HEALTH IN PEDIATRIC PATIENTS WITH SICKLE CELL DISEASE  
Kim J, Leung J, Narang I, Williams S, Kassner A

0862  4:00pm - 4:15pm  LONG-TERM EFFECTS OF CAFFEINE THERAPY FOR APNEA OF PREMATURITY ON SLEEP  
Marcus CL, Meltzer LJ, Roberts RS, Asztalos E, Opie G, Doyle LW, Biggs SN, Nixon GM, Narang I, Schmidt B

O02: Novel Insights into Pediatric Sleep Disorders  
3:15pm – 5:15pm  
Room L100H

Co-chairs: Susan Redline, MD; and Ehab Dayyat, MD

Psychologist Level of Content: Intermediate

Objective: Discuss novel findings on the risk, treatment and functional outcomes of disordered sleep in the pediatric population.

0859  3:15pm - 3:30pm  UNDERSTANDING BEHAVIORAL OUTCOMES IN CHILDREN WITH SLEEP DISORDERED BREATHING WITH NOVEL INDICES FROM THE OVERNIGHT PHOTOPLETHYSMOGRAM  
Dean DA, Daly R, Marcus CL, Taylor HG, Weng J, Amin RS, Chervin RD, Small MM, Caruskadon MA, Redline S

0860  3:30pm - 3:45pm  SERUM FERRITIN THRESHOLD FOR IRON SUPPLEMENTATION IN A REFERRED PEDIATRIC POPULATION WITH RESTLESS SLEEP  
Connor A, Dore-Stites D, Hassan F, Hoban T, Kidwell K, Felt B

0863  4:15pm - 4:30pm  DOES OZONE EXPOSURE INCREASE APNEA AND BRADYCARDIA DURING SLEEP IN INFANTS?  

0864  4:30pm - 4:45pm  ALTERED NEURONAL RESPONSE TO LOWER BODY NEGATIVE PRESSURE IN CHILDREN WITH OSA MEASURED BY MAGNETOENCEPHALOGRAPHY  

0865  4:45pm - 5:00pm  THE RELATIVE EFFECT OF SLEEP DISORDERED BREATHING AND OBESITY ON NEUROCOGNITIVE FUNCTIONING IN ADOLESCENTS: GENDER EFFECTS  

0866  5:00pm - 5:15pm  DOES MECHANICALLY ASSISTED VENTILATION INFLUENCE SLEEP ORGANIZATION AND STRUCTURE IN PRETERM NEONATES?  
S03: Clinical and Basic Science Perspectives on Mechanisms of REM Sleep Behavior Disorder

3:15pm – 5:15pm
Room L100F

Chair: John Peever, PhD
Faculty: Isabelle Arnulf, MD; Mark Blumberg, PhD; and Carlos Schenck, MD

Psychologist Level of Content: Intermediate

Objectives:
1. Identify disease mechanisms in REM sleep behavior disorder (RBD);
2. Analyze the link between RBD and degenerative disorders;
3. Recognize how RBD may be used to develop neuroprotective treatment for degenerative diseases;
4. Discuss basic brain mechanisms controlling REM sleep; and
5. Review how malfunction of REM sleep circuitry contributes to RBD.

3:15pm – 3:45pm
Optogenetic Dissection of Brainstem Circuitry Underlying REM Sleep
John Peever, PhD

3:45pm – 4:15pm
REM Sleep without Atonia and Dream Reenactment: The View from Early Infancy
Mark Blumberg, PhD

4:15pm – 4:45pm
Identifying Disease Mechanisms in RBD Patients using Functional MRI and Video Analysis
Isabelle Arnulf, MD

4:45pm – 5:15pm
RBD as the First Manifestation of a Neurodegenerative Disease
Carlos Schenck, MD

S04: Substrates, Mechanisms and Neurodevelopment of Sleep Regulation

3:15pm – 5:15pm
Room L100J

Co-chairs: Thomas Kilduff, PhD; and Salome Kurth, PhD
Faculty: Chiara Cirelli, MD, PhD; and Jared Saletin, BA

Psychologist Level of Content: Intermediate

Objectives:
1. Review the state-of-the-art findings regarding sleep regulation at molecular, anatomical and behavioral levels;
2. Discuss the most recent findings from research of humans and animals related to substrates of sleep regulation and possible mechanisms;
3. Identify anatomical correlates of the rodent and human sleep EEG and discuss the implications of novel findings for individual differences and brain development; and
4. Describe various animal and human models to better understand sleep regulation.

3:15pm – 3:45pm
Cortical Interneurons and the Regulation of Sleep and Wakefulness
Thomas Kilduff, PhD

3:45pm – 4:15pm
Sleep Homeostasis and Changes in Synaptic Density in Young Mice: Does Slow Wave Activity Decline during Adolescence Because of Synaptic Pruning?
Chiara Cirelli, MD, PhD

4:15pm – 4:45pm
The Structural and Functional Substrates of Sleep
Jared Saletin, BA

4:45pm – 5:15pm
Neurodevelopment and Sleep Regulation in Children
Salome Kurth, PhD

SLEEP 2014 “Pizza with a Purpose” Welcome Reception
6:00pm – 7:30pm | Hyatt Regency Minneapolis | Northstar Ballroom | 2nd Floor

Pre-registration is required. See page 17 for details. Purchase tickets at the SLEEP 2014 registration counters.
**Poster Set-Up**

7:00am – 8:00am  
Exhibit Hall B  
Posters should be set-up during this time and should not be removed until 6:00pm.

**Plenary Session**

8:00am – 10:00am  
Auditorium

Welcome

*Douglas Kirsch, MD, Chair, APSS Program Committee*

AASM and SRS Presentations

*M. Safwan Badr, MD, President, AASM*  
*Janet Mullington, PhD, President, SRS*

Keynote Addresses

Immediately following the welcome address and SRS/AASM presentations.

**I01: Sleep and the Price of Plasticity**  
*Giulio Tononi, MD, PhD (Bio on page 28)*

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Discuss the role of sleep in synaptic plasticity;
2. Describe how sleep affects restoration of cellular homeostasis; and
3. Analyze the interaction between sleep and learning and memory.

**I02: Managed Care Perspective on Long-term Treatment, Outcomes and Economics of Sleep Disorders**

*Andrew Renda, MD, MPH (Bio on page 28)*

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Describe sleep disorder analytics: identification, stratification and outcome metrics;
2. Discuss the managed care approach to the economics of sleep disorder management; and
3. Recognize collaboration opportunities between clinicians, managed care and other stakeholders that will drive engagement and outcomes.

Exhibit Hall Open
10:00am – 4:00pm
Exhibit Hall B
See pages 107 for a complete list of exhibitors.

Refreshment Break in the Exhibit Hall
10:00am – 10:30am

O03: Sleep Questionnaires: New Developments
10:30am – 11:30am
Room 102A

Co-chairs: Eileen Chasens, PhD, RN; and Carla Jungquist, PhD

Psychologist Level of Content: Intermediate

Objective: Review new developments in sleep questionnaires.

1024 10:30am - 10:45am
VALIDATION OF THE BRFSS SLEEP QUESTIONS
Jungquist CR, Dickerson S, Mund J, Pender J, Aquilina A, Aghaie C

1025 10:45am - 11:00am
EXAMINATION FOR THE FACTOR STRUCTURE OF THE PITTSBURGH SLEEP QUALITY INDEX IN HEALTHY POSTMENOPAUSAL WOMEN AND THOSE WITH BREAST CANCER
Wu K, Bender CM, Sereika SM, Chasens ER

1026 11:00am - 11:15am
VALIDATION OF THE ALLIANCE SLEEP QUESTIONNAIRE (ASQ) NARCOLEPSY MODULE IN SLEEP DISORDERED PATIENTS
Leary EB, Einen M, Malunjkar S, Ruoff C, Walsh JK, Mignot E

1027 11:15am - 11:30am
THE COLLEGE SLEEP QUESTIONNAIRE: STRUCTURE AND INITIAL PSYCHOMETRIC PROPERTIES
Kelly C, Prichard J

W01: RLS in Childhood, Migraine and Growing Pains: Close Relationship or Casual Association?
10:30am – 12:30pm
Room L100H

Co-chairs: Oliviero Bruni, MD; and Daniel Picchietti, MD
Faculty: Rosalia Silvestri, MD; and Arthur Walters, MD

Psychologist Level of Content: Intermediate

Objectives:
1. Explain the new clinical criteria for the definition of pediatric restless legs syndrome (RLS);
2. Review how to perform diagnosis of RLS in children with specific diagnostic instruments;
3. Recognize the “hidden” symptoms and the common mimics of pediatric RLS;
4. Evaluate the association between growing pains and RLS; and
5. Describe the comorbidity between migraine, growing pains and RLS in childhood.

10:30am – 11:00am  Pediatric Restless Legs Syndrome Diagnostic Criteria: Common Mimics
Daniel Picchietti, MD

11:00am – 11:30am  Pediatric RLS: Validation of a Diagnostic Instrument
Rosalia Silvestri, MD

11:30am – 12:00pm  Pediatric RLS and Growing Pains
Arthur Walters, MD

12:00pm – 12:30pm  Pediatric RLS, Migraine and Periodic Syndromes
Oliviero Bruni, MD
D01: Tailoring Sleep Medications for Individual Patients

10:30am – 12:30pm
Room 101E

Chair: Thomas Roth, PhD
Faculty: Ruth Benca, MD, PhD; Daniel Buysse, MD; Andrew Krystal, MD; Kenneth Lichstein, PhD; Mark Mahowald, MD; and Phyllis Zee, MD, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Discuss important pharmacokinetics that define hypnotic efficacy and safety;
2. Explain clinical implications of individual differences in demographic variables, nature of insomnia and comorbid conditions impacting hypnotic use; and
3. Develop clinical guidelines for tailoring different medications for individual patients.

O04: Evaluating Sleep Disordered Breathing

10:30am – 12:30pm
Room L100J

Co-chairs: Kathleen Sarmiento, MD; and Andrew Wellman, MD

Psychologist Level of Content: Intermediate

Objective: Evaluate new data about assessments in OSA and obesity/hypoventilation.

0288 10:30am - 10:45am
WEIGHTED STOP-BANG AND SCREENING FOR SLEEP DISORDERED BREATHING
Nahapetian R, Silva GE, Parthasarathy S, Vana KD, Quan SF

0289 10:45am - 11:00am
RISK FACTORS FOR OSA BASED ON RESULTS FROM 200,421 PATIENTS UNDERGOING PORTABLE RECORDING: GENDER DIFFERENCES AND IMPLICATIONS FOR SCREENING
Cairns A, Westbrook P, Poulos G, Bogan R

0290 11:00am - 11:15am
HOME SLEEP TESTING
Aurora RN, Swartz R, Minotti M, Punjabi NM

0291 11:15am - 11:30am
INTER-SCORER AGREEMENT ACROSS MULTIPLE SITES FOR IDENTIFYING INSPIRATORY FLOW LIMITATION IN SLEEP STUDIES WITH LOW APOnea-HYPOPnea INDEX
Pamidi S, Ayappa I, Garbuio S, Hewlett M, Kimoff RJ, Palombini LO, Rapoport DM, Redline S

0292 11:30am - 11:45am
CHANGES OF ELECTROENCEPHALOGRAM WITH FLOW LIMITATION DURING NREM STAGE II SLEEP IN PATIENTS WITH UPPER AIRWAY RESISTANCE SYNDROME EVALUATED BY A NOVEL RESPIRATORY CYCLE-BASED ANALYSIS
Lin C, Lo M, Guilleminault C

0293 11:45am - 12:00pm
RESPIRATORY CHEMOREFLEX ACTIVATION AND ATRIAL FIBRILLATION
Thomas RJ

0294 12:00pm - 12:15pm
IMPROVEMENT IN ACTIGRAPHY-DERIVED SLEEP METRICS FOLLOWING PAP-THERAPY IN OSA
Aksan N, Tippin J, Dawson J, Anderson S, Rizzo M

0295 12:15pm - 12:30pm
OPTIMAL TIDAL VOLUME FOR AVERAGE VOLUME ASSURED PRESSURE SUPPORT (AVAPS) IN OBESITY HYPOVENTILATION SYNDROME
Kodali L, Majid R, Mathew R, Chug LE, Holland J, Castriotta R

S05: Disturbed Sleep as a Suicide Risk Factor and Novel Treatment Target: An Opportunity for Prevention

10:30am – 12:30pm
Room 102F

Chair: Rebecca Bernert, PhD
Scientific Program | Monday

**Faculty:** Vaughn McCall, MD; Michael Perlis, PhD; and Wilfred Pigeon, PhD

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Review the evidence-base and public health significance supporting evaluation of disturbed sleep as a suicide risk factor and warning sign and common methodological problems that challenge this area of research;
2. Describe the scientific and clinical rationale regarding treatment development of interventions targeting sleep to reduce risk for suicide, as well as inherent methodological challenges; and
3. Discuss behavioral research findings in the development, conduct and feasibility testing of sleep-focused treatments for suicide prevention and preliminary indications of response.

10:30am – 11:00am Accounting for Wakefulness, Death by Suicide Exhibits an Increased Likelihood during the Circadian Night

Michael Perlis, PhD

11:00am – 11:30am Concurrent Hypnotic Treatment Along with Fluoxetine in the Care of Suicidal, Depressed Patients with Insomnia

Vaughn McCall, MD

11:30am – 12:00pm Effects of a Two- Versus Four-Session Behavioral Treatment of Insomnia on Depression and Suicidality

Wilfred Pigeon, PhD

12:00pm – 12:30pm Treatment Development and Preliminary Testing of a Brief Behavioral Insomnia Treatment for Suicide Prevention

Rebecca Bernert, PhD

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**Psychologist Level of Content:** Advanced

**Objectives:**

1. Review new data on the neuroscience of neurodegenerative disease and brain injury;
2. Discuss the association between genetic and sleep patterns, and development of specific neurodegenerative disorders; and
3. Analyze interventional strategies and their mechanisms.

10:30am – 10:40am Introduction

Clifford Saper, MD, PhD

10:40am – 11:10am Sleep as a Window into Neurodegenerative Disease

Jacques Montplaisir, MD, PhD

11:10am – 11:40am Effects of the Sleep-Wake Cycle on Alzheimer’s Disease-related Proteins: A Bi-directional Relationship?

David Holtzman, MD

11:40am – 12:05pm Sleep-Wake Disturbances Following Traumatic Brain Injury: Translational Insights

Christian Baumann, MD

12:05pm – 12:30pm Dietary Therapy as a Potential Treatment for Sleep-Wake Disturbances in Traumatic Brain Injury

Miranda Lim, MD, PhD

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**S07: Circadian Rhythms, Sleep and Metabolism**

10:30am – 12:30pm

Room L100F

**Chair:** Frank Scheer, PhD

**Faculty:** Marta Garaulet, PhD; Christopher Morris, DPhil; Esra Tasali, MD; and Kenneth Wright Jr., PhD

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Describe the impact of the circadian system, physiological sleep, and timing of food intake on glucose metabolism, caloric intake, energy expenditure, and body weight regulation;
2. Recognize the adverse metabolic consequences of disturbances of the circadian system and/or sleep; and

3. Discuss some of the mechanisms underlying the physiological and pathophysiological changes observed during sleep and circadian disturbances.

10:30am – 10:35am  Introduction
Frank Scheer, PhD

10:35am – 11:05am  Nutrigenetics and the Clock
Marta Garaulet, PhD

11:05am – 11:35am  Impact of Sleep and Sleep Deprivation on Energy Expenditure and Intake
Kenneth Wright Jr., PhD

11:35am – 12:00pm  Impact of Sleep Duration and Quality on Diabetes Risk
Esra Tasali, MD

12:00pm – 12:30pm  Separate and Interacting Circadian and Behavioral Cycle Effects on Glucose Metabolism and Energy Balance
Christopher Morris, PhD

O05: Investigations Evaluating the Relationship and Potential Mechanisms Underlying Sleep and Neurological Disorders

11:30am – 12:30pm  Room 102A

Co-chairs: Raman Malhotra, MD; and Nathaniel Watson, MD

Psychologist Level of Content: Intermediate

Objective: Discuss new investigations evaluating the neurobiological inter-relationship between sleep and neurological disorders.

0675  11:30am - 11:45am
HEALTH CARE DISPARITIES IN THE DIAGNOSIS AND TREATMENT OF SLEEP DISORDERED BREATHING IN PATIENTS WITH SPINAL CORD INJURY
Sankari A, Bascom AT, Martin JL, Badr MS

0676  11:45am - 12:00pm
PIB PET AMYLOID IS ASSOCIATED WITH SELF-REPORTED SLEEP IN COGNITIVELY HEALTHY LATE MIDDLE-AGED ADULTS
Sprecher KE, Bendlin BB, Okonkwo OC, Christian BT, Sager MA, Johnson SC, Benca RM

0677  12:00pm - 12:15pm
BLOOD PRESSURE AND HEART RATE REGULATION IS ALREADY DISTURBED IN “IDIOPATHIC” REM SLEEP BEHAVIOUR DISORDER DUE TO PERIPHERAL AUTONOMIC DENERVATION
Rupprecht S, Hoyer D, Witte OW, Schwab M

0678  12:15pm - 12:30pm
CYCLIC ALTERNATING PATTERN (CAP) NREM SLEEP MICROARCHITECTURE IN PATIENTS WITH CLINICALLY DIAGNOSED DEMENTIA WITH LEWY BODIES AND ALZHEIMER DISEASE
Pao W, Chang C, Ferman T, Lin S, Potter C, Boeve BF, St. Louis EK

Lunch Break 12:30pm – 1:45pm

American Academy of Sleep Medicine General Membership Meeting
12:30pm – 1:45pm  Room 205D
This meeting is open to all AASM members.
R01: Brown Bag Report: Challenging Cases
12:30pm – 1:30pm
Room 102A

During this session, four challenging cases will be presented and an expert panel will discuss their approach to diagnosis and treatment. This session is included in the general session registration; lunch is not provided.

Co-chairs: Cathy Goldstein, MD; and Katherine Sharkey, MD, PhD

Psychiatric Influences and Non-24 Sleep Wake Disorder in the Fully Sighted
Callum Dupre, DO

A Case of Stroke Leading to a Circadian Rhythm Sleep-Wake Disorder
James Wyatt, PhD

A Long Biological Night: A New Circadian Disorder? Overlap with the Idiopathic Hypersomnia Phenotype
Robert Thomas, MD

Treating Totally Blind Patients with Non-24-Hour Circadian Rhythms
Steven Lockley, PhD

L01: Should Non-commercial Drivers have Driving Licenses Suspended Pending a Sleep Apnea Evaluation?
12:30pm – 1:30pm
Room 200I

All Lunch Debate sessions require additional registration fees. CE credits for psychologists are not provided for these sessions.

Faculty: Indira Gurubhagavatula, MD; and Barbara Phillips, MD

Objectives:
1. Discuss driving risks associated with sleep-disordered breathing;
2. Review efficacy of treatments for sleep-disordered breathing; and
3. Consider the principles of fairness and justice.

Meet the Professors
12:30pm – 1:30pm

All Meet the Professors sessions require additional registration fees. CE credits for psychologists are not provided for these sessions.

M01: A 24-Year Rumination on Oral Appliance Therapy for OSA
Room M100B
Todd Morgan, DMD

M02: Complex Nocturnal Behaviors
Room M100C
Alon Avidan, MD, MPH

M03: Sleepiness and Driver Safety on the Real Road
Room M100D
Torbjörn Åkerstedt, PhD

M04: Sleep, Recovery and Human Performance in Elite Athletes: Case Presentation and Clinical Management
Room M100E
Charles Samuels, MD

M05: Business of Sleep Medicine
Room M100F
Neil Freedman, MD

M06: Nighttime Settling Difficulties in Children: Physiological Insights
Room M100G
Monique LeBourgeois, PhD

M07: Adaptive Servoventilation for Treatment of Central Sleep Apnea
Room M100H
Shahrokh Javaheri, MD
M08: Successes and Challenges in Disseminating Behavioral Treatments of Insomnia
Room M100I
Anne Germain, PhD

Late-breaking Abstracts
12:40pm – 1:40pm
Room 102F

Chair: Douglas Kirsch, MD

Authors selected for the late-breaking abstract session are allowed a 10-minute time period to present their abstract followed by a 5-minute time period for questions and answers. The late-breaking abstracts presented during this session are on page 98.

CME and CE for psychologists or nurse practitioners are not provided for this session.

LBA 1 12:40pm - 12:55pm
HOME SLEEP DURATION AND GLYCEMIA IN LEAN AND OBESE ADOLESCENTS
Koren D, O’Sullivan K, Gozal L, Bhattacharjee R, Gozal D

LBA 2 12:55pm - 1:10pm
OPTOGENETIC INHIBITION OF BASAL FOREBRAIN PARVALBUMIN GABA NEURONS SUPPRESSES CORTICAL ACTIVATION FROM BOTH GAMMA BAND AUDITORY STIMULATION AND HYPERCARBIA-INDUCED AROUSALS FROM SLEEP

LBA 3 1:10pm - 1:25pm
NON-VISUAL EFFECTS OF LIGHT ON MOOD THROUGH THE MELANOPSIN PATHWAY IN SEASONAL DEPRESSION
Roecklein KA, Miller MA, Donofry SD, Hasler BP, Franzen PL, Gamlin PD

LBA 4 1:25pm - 1:40pm
EFFICACY AND SAFETY OF ORAL ADX-N05 FOR THE TREATMENT OF EXCESSIVE DAYTIME SLEEPINESS IN ADULTS WITH NARCOLEPSY: RESULTS OF A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL
Black J, Swick T, Feldman N, Doekel R, Khayrallah M, Bream G, Ruoff C

I03: Sleep “in the Wild”: Insights from Comparative Cross-cultural Research
1:45pm – 2:45pm
Room L100H
Carol Worthman, PhD (Bio on page 33)

Psychologist Level of Content: Intermediate

Objectives:
1. Discuss sleep from a cultural ecological perspective;
2. Review findings from comparative cross-cultural studies; and
3. Analyze research design for community-based sleep studies.

I04: Sleep Disorders in Parkinson’s Disease
1:45pm – 2:45pm
Room 101E
Sonia Ancoli-Israel, PhD (Bio on page 29)
Psychologist Level of Content: Intermediate

Objectives:

1. Recognize the prevalence of sleep disorders in Parkinson’s disease;
2. Review the effects of treating OSA in Parkinson’s disease; and
3. Evaluate the relationship between REM sleep behavior disorder and other complaints in Parkinson’s disease.

O06: Sleep and Metabolism: Basic Research

1:45pm – 2:45pm
Room 205A

Co-chairs: Josiane Broussard, PhD; and Jonathan Wisor, PhD

Psychologist Level of Content: Intermediate

Objective: Review new insights into the interaction between sleep and metabolism at the brain and peripheral levels.

0051 1:45pm - 2:00pm
SLEEP DISRUPTION IMPAIRS BLOOD-BRAIN BARRIER FUNCTIONS
Pan W, He J, Hsuchou H, Kastin AJ

0015 2:00pm - 2:15pm
HYPOXIA INDUCIBLE FACTOR-1 MEDIATES INCREASED HEPATIC LYSYL OXIDASE IN HYPOXIA, AND LIVER FIBROSIS IN DIET INDUCED HEPATIC STEATOSIS
Mesarwi O, Shin M, Bevans-Fonti S, Jun J, Polotsky V

0016 2:15pm - 2:30pm
COMMON GLUCOSE LEVEL RISK VARIANTS IN MTNR1B ASSOCIATE WITH INSOMNIA AND SHOW GENETIC ENVIRONMENT INTERACTION WITH GLUCOSE LEVELS IN A FINNISH POPULATION SAMPLE
Ollila H, Kronholm E, Kettunen J, Silander K, Perola M, Salomaa V, Paunio T

O07: Neurocognitive and Mood Effects of Sleep in Women

1:45pm – 2:45pm
Room L100F

Co-chairs: Salvatore Insana, PhD; and Hawley Montgomery-Downs, PhD

Psychologist Level of Content: Intermediate

Objective: Recognize the impact of poor sleep on mood and neurocognitive functioning in women.

0994 1:45pm - 2:00pm
THE EFFECT OF EXERCISE ON SLEEP DURING PREGNANCY
Okun M, Baker J, Rothenberger S, Kline C

0995 2:00pm - 2:15pm
PERINATAL SLEEP AND POSTPARTUM DEPRESSION
Kita L, Mayers A, McDougall S

0996 2:15pm - 2:30pm
PSYCHOSOCIAL PREDICTORS OF SLEEP QUALITY AND QUANTITY DURING THE SHORT-TERM POSTPARTUM
Lillis TA, Hamilton N, Pressman SD

0997 2:30pm - 2:45pm
OBSTRUCTIVE SLEEP APNEA AND NEUROCOGNITIVE FUNCTION AMONG HISPANIC/LATINO MEN AND WOMEN: RESULTS FROM THE HISPANIC COMMUNITY HEALTH STUDY
O08: TMS, TDCS and Other Novel Approaches to Studying Sleep Related Movement Disorders

1:45pm – 2:45pm
Room 102A

Co-chairs: Rachel Salas, MD; and Arthur Walters, MD

Psychologist Level of Content: Intermediate

Objective: Discuss current studies utilizing novel mechanistic and diagnostic approaches to movement disorders of sleep.

0617  1:45pm - 2:00pm
PRELIMINARY STUDY: BRAIN IRON DEFICIENCY IN RESTLESS LEGS SYNDROME/WILLIS EKBOM DISEASE (RLS/WED) ASSESSED WITH QUANTITATIVE SUSCEPTIBILITY MAPPING (QSM) AT 7T IN RELATION TO SLEEP AND CORTICAL EXCITABILITY

0618  2:00pm - 2:15pm
Efficacy of Transcranial Direct Current Stimulation in Patients with Drug-Naive Restless Legs Syndrome

0619  2:15pm - 2:30pm
RIGHT TEMPORAL LOBE AND UNCINATE FASCICULUS STRUCTURAL ABNORMALITIES IN RLS
Winkelmann J, Schoerning L, Gonenc A

0620  2:30pm - 2:45pm
PERIODIC LIMB MOVEMENTS DURING SLEEP AND HYPERTENSION IN THE MULTI-ETHNIC STUDY OF ATHEROSCLEROSIS
Koo BB, Silau S, Dean D, Lutsey P, Redline S

O09: Chronobiology and Brain Function

1:45pm – 2:45pm
Room L100J

Chair: Laura Fonken, PhD; and Beth Klerman, MD

Psychologist Level of Content: Intermediate

Objective: Review changes in brain function by circadian disruption and misalignment.

0053  1:45pm - 2:00pm
MELATONIN PROMOTES SLEEP BY INHIBITING OREXIN NEURONS

0164  2:00pm - 2:15pm
THE ASSOCIATION OF CIRCADIAN RHYTHM AND SLEEP WITH COGNITIVE FUNCTIONING: A POPULATION-BASED STUDY
Luik AI, Zuurbier LA, Ikram MA, Van Someren EJ, Tiemeier H

0107  2:15pm - 2:30pm
THE EFFECT OF A SPLIT SLEEP SCHEDULES (6H-ON/6H-OFF) ON NEUROBEHAVIOURAL PERFORMANCE AND SLEEPINESS
Short M, Centofanti S, Hindt C, Banks S, Lushington K, Dorrian J

0466  2:30pm - 2:45pm
HUNGER RATINGS CHANGE WITH CIRCADIAN MISALIGNMENT AND SLEEP DEPRIVATION
Stothard ER, McHill AW, Jung CM, Higgins J, Connick E, Melanson EL, Wright KP

Refreshment Break in the Exhibit Hall

2:45pm – 3:00pm
B01: Research to Practice: Sleep Science and the New Regulations on Duty Hours in the Trucking and Aviation Industries

3:00pm – 5:00pm
Room 101E

Co-chairs: Alexandra Holmes, PhD; and Francine James, PhD
Faculty: Kimberly Honn; and Amy Sparrow, MS

Psychologist Level of Content: Intermediate

Objectives:
1. Discuss the increasing role of sleep science in rulemaking for hours of service in transportation industries;
2. Review data sets and study results that were influential with regard to the new duty regulations in US trucking and aviation; and
3. Describe the value of sleep research in operational settings for furthering the science of sleep and for improving safety and well-being in the real world.

3:00pm – 3:30pm
New Hours of Service Regulations in Trucking and Aviation
Francine James, PhD

3:30pm – 4:00pm
Field Study of the 34-hour Restart Break in Truck Drivers
Amy Sparrow, MS

4:00pm – 4:30pm
Data-driven Fatigue Risk Management on Ultra-long Range Flights
Alexandra Holmes, PhD

4:30pm – 5:00pm
Fatiguing Effects of Multiple Take-offs and Landings in Regional Airline Pilots
Kimberly Honn

W02: More is Less and Less is More: Augmentation Phenomena in Restless Legs Syndrome

3:00pm – 5:00pm
Room L100H

Co-chairs: Mauro Manconi, MD, PhD; and Michael Silber, MBChB
Faculty: Diego Garcia-Borreguero, MD; Alain Kaelin, MD; and David Rye, MD, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Identify augmentation, measure its severity and manage this severe drug-related complication by using a practical algorithm; and
2. Discuss possible mechanisms underlying augmentation.

3:00pm – 3:20pm
Standard and Innovative Tools to Identify and Measure Augmentation
Diego Garcia-Borreguero, MD

3:20pm – 3:45pm
The Gear Behind the Ticking Bomb
David Rye, MD, PhD

3:45pm – 4:10pm
Two Long-term Dopaminergic Phenomena: Augmentation in RLS and Levodopa-induced Dyskinesia in Parkinson’s Disease
Alain Kaelin, MD

4:10pm – 4:35pm
Pulsatile vs. Stable Dopaminergic Stimulation: Extended Release Dopamine-agonists to Cope Augmentation
Mauro Manconi, MD, PhD

4:35pm – 5:00pm
Proposal for Clinical Practical Guidelines to Manage Augmentation
Michael Silber, MBChB
D02: International Implementation of an Internet Intervention for Insomnia

3:00pm – 5:00pm
Room 102F

Chair: Lee Ritterband, PhD
Faculty: Nicholas Glozier, MBBS, PhD; Charles Morin, PhD; Frances Thorndike, PhD; Øystein Vedaa, PsyD; and Robert Zachariae, MDSci

Psychologist Level of Content: Intermediate

Objectives:
1. Identify challenges related to adapting an eHealth intervention for an international audience; and
2. Discuss possible solutions for translating and localizing eHealth interventions.

O10: Development, Aging and the Sleeping Brain

3:00pm – 5:00pm
Room 102A

Co-chairs: Salome Kurth, PhD; and Leila Tarokh, PhD

Psychologist Level of Content: Intermediate

Objective: Discuss the most recent findings on the relationship between sleep and brain development in animal and human models.

0023 3:00pm - 3:15pm
THE SELF-TUNING SLEEPING BRAIN: ACTIVITY-DEPENDENT SCALING OF NETWORK ACTIVITY IN THE DEVELOPING BRAIN
Tadjalli A, Tiriac A, Sokoloff G, Blumberg M

0024 3:15pm - 3:30pm
SLEEP PHENOTYPE CHARACTERIZATION OF MUSCLEBLIND-LIKE 1 AND 2 KNOCKOUT MICE, PERIPHERAL AND CENTRAL MODELS OF MYOTONIC DYSTROPHY
Sakai N, Sato M, Charizanis K, Lee K, Swanson MS, Nishino S

0025 3:30pm - 3:45pm
PRONOCICEPTIVE BEHAVIOR IN ADOLESCENT MICE: AN EFFECT OF SLEEP RESTRICTION DURING POSTNATAL DEVELOPMENT
Araujo P, Coelho CA, Oliveira MM, Tufik S, Andersen ML

0026 3:45pm - 4:00pm
LOWER SLEEP PRESSURE AT BEDTIME IS ASSOCIATED WITH LONGER SLEEP ONSET LATENCY IN PRESCHOOL CHILDREN

D03: Options for Treatment of Obstructive Sleep Apnea in Children and Improving Positive Airway Pressure Compliance

3:00pm – 5:00pm
Room L100F

Co-chairs: Dawn Dore-Stites, PhD; and Fauziya Hassan, MD
Faculty: Richard Conley, DMD; Sean Edwards, DDS, MD; Carole Marcus, MBBCh; Ron Mitchell, MD; and Susan Redline, MD, MPH

Psychologist Level of Content: Advanced

Objectives:
1. Examine strategies (e.g. PAP naps; systematic acclimation protocols) to increase adherence to CPAP;
2. Discuss alternatives to CPAP including both surgical options (e.g. uvulopalatopharyngoplasty (UPPP), mandibular advancement and non-surgical methods (e.g. nasal steroids; rapid maxillary expansion [RME]);
3. Identify strategies to assess success rates of surgical and non-surgical procedures especially in relation to the severity of OSA; and
4. Assess factors related to increased adherence to PAP therapy among children and programs.
0027  4:00pm - 4:15pm  
**ADOLESCENT DEVELOPMENT GOVERNS THE RESTORATIVE INFLUENCE OF SLEEP-SPINDLES ON NEXT-DAY HIPPOCAMPAL LEARNING**  
Saletin JM, Greer SM, Mander BA, Krause A, Cerreta A, Harvey AG, Dahl RE, Walker MP

0028  4:15pm - 4:30pm  
**HUMAN Β-AMYLOID PATHOLOGY IMPAIRS MEMORY IN OLDER ADULTS THROUGH ITS IMPACT ON NREM SLOW WAVES**  
Mander BA, Marks S, Rao V, Lu B, Saletin JM, Ancoli-Israel S, Jagust WJ, Walker MP

0029  4:30pm - 4:45pm  
**GREY MATTER ATROPHY EXPLAINS IMPAIRED AGE-RELATED DISSIPATION OF HOMEOSTATIC SLEEP PRESSURE DURING THE NIGHT**  

0030  4:45pm - 5:00pm  
**APOE4 GENOTYPE IMPAIRS SLEEP SPINDLE RESTORATION OF NEXT DAY HIPPOCAMPAL-DEPENDENT LEARNING IN OLDER ADULTS**  
Mander BA, Vogel J, Rao V, Lu B, Saletin JM, Ancoli-Israel S, Jagust WJ, Walker MP

**O11: Treating Obstructive Sleep Apnea**  
3:00pm – 5:00pm  
Room L100J

Co-chairs: Charles Davies, MD, PhD; and John Harrington, MD

Psychologist Level of Content: Intermediate

Objective: Discuss novel treatment methods for OSA.

0296  3:00pm - 3:15pm  
**AN EDUCATIONAL SMART PHONE APPLICATION IMPROVES CPAP ADHERENCE**  
Hostler J, Sheikh K, Khramtsov A, Andrada T, Holley A

0297  3:15pm - 3:30pm  
**COMORBID OSA AND PTSD: EFFECT ON OUTCOMES AND IMPACT OF CPAP**  
Lettieri CJ, Colleen JF, Williams SG

0298  3:30pm - 3:45pm  
**OBSTRUCTIVE SLEEP APNEA: LONG-TERM TREATMENT WITH CONTINUOUS POSITIVE AIRWAY PRESSURE INCREASES MORE EXTENSIVE BRAIN CORTICAL VOLUME**  
Kim H, Joo E, Kim J, Seo J, Choi S, Hong S

0299  3:45pm - 4:00pm  
**CLAUSTROPHOBIC TENDENCIES AND CPAP ADHERENCE IN ADULTS WITH OBSTRUCTIVE SLEEP APNEA**  
Cantey Edmonds J, King TS, Yang H, Sawyer AM

0300  4:00pm - 4:15pm  
**TREATING AEROPHAGIA INDUCED GASTRIC DISTRESS (AIGD) ASSOCIATED WITH CPAP THERAPY TO IMPROVE CPAP TREATMENT OUTCOME: UNDERSTANDING THE RELATIONSHIP BEHIND ORAL PRESSURE LEAKAGE AND AIGD DEVELOPMENT IS KEY TO TREATMENT SUCCESS**  
Simmons JH

0301  4:15pm - 4:30pm  
**THE EFFECTS OF A-FLEX ON AUTO-PAP ADHERENCE AND EFFICACY**  
Hostler J, Sheikh K, Khramtsov A, Andrada T, Foster B, Puderbaugh A, Holley A

0302  4:30pm - 4:45pm  
**EIGHTEEN-MONTH SAFETY AND EFFICACY OF UPPER AIRWAY STIMULATION IN THE TREATMENT OF OBSTRUCTIVE APNEA**  
Strohl KP, Strollo PJ

0303  4:45pm - 5:00pm  
**EFFICACY AND TOLERANCE OF A CUSTOM-MADE MANDIBULAR REPOSITIONING DEVICE FOR THE TREATMENT OF OBSTRUCTIVE SLEEP APNEA**  
S08: Dissection of Neural Circuitry Regulating Sleep-Wake Using Genetically Engineered Systems

3:00pm – 5:00pm
Room 205A

Chair: Patrick Fuller, PhD
Faculty: Antoine Adamantidis, PhD; Elda Arrigoni, PhD; and Nigel Pedersen, MD

Psychologist Level of Content: Intermediate

Objectives:

1. Discuss the most recent molecular-genetic technologies for "systems-level" neuroscience research in freely behaving animals in the framework of behavioral state regulation, including sleep and waking;
2. Review the conditional deletion of genes based on Cre/loxP technology, RNA interference and the in vivo reversible manipulation of neurons through the expression of genetically modified receptor and channel complexes, including genetically engineered optical switches; and
3. Analyze new insights into several sleep neuropathologies.

3:00pm – 3:30pm
Genetically-driven Interrogation of Forebrain Networks Supporting Cortical Arousal
Patrick Fuller, PhD

3:30pm – 4:00pm
Optogenetic Release of Histamine Reveals Distal and Autoregulatory Mechanisms for Controlling Arousal
Elda Arrigoni, PhD

4:00pm – 4:30pm
Genetic Dissection of a New Hypothalamic Node in the Wake Network
Nigel Pedersen, MD

4:30pm – 5:00pm
Optogenetic Dissection of MCH Neuron Modulation of REM Sleep
Antoine Adamantidis, PhD

Inaugural Thomas Roth, PhD Lecture of Excellence
4:00pm – 5:00pm | Auditorium 1
Thomas Roth, PhD

As the only individual to serve as President of the AASM, two-time President of the SRS, Editor-in-Chief of SLEEP and Chair of the APSS Program Committee, the APSS is recognizing the contributions of Dr. Thomas Roth in perpetuity with the Thomas Roth Lecture of Excellence to be presented on an annual basis at the SLEEP meeting.

Poster Viewing
4:00pm – 6:00pm | Exhibit Hall B
See page 127-194 for a complete listing of posters.
On Monday and Tuesday evenings, the Poster Hall will feature cash bar receptions. This is your opportunity to review the posters, discuss the latest discoveries in the field and network with colleagues.

AASM Membership Section Meetings
5:15pm – 6:15pm
All AASM members are invited to attend the AASM section meetings. Section meetings provide members with focused interests a means to share those interests, discuss ideas, develop methodologies, recommend programs, promote education through the AASM, stimulate research and express concerns.

Parasomnias Section Meeting
Room 205C
Childhood Sleep Disorders and Development Section Meeting
Room 205A
Sleep Related Breathing Disorders Section Meeting
Room 205D
Come visit Compumedics
Booth #309 at SLEEP 2014 Minneapolis
May 31 - June 4

AASM V 2.0 Compliant
Profusion Sleep4 meets the latest AASM scoring rules

All New User Interface
Ribbon bar
- Totally redesigned interface for ease of use and access

New in Profusion Sleep 4

High Definition Video … and more
- Expanded Workspaces for PSG Online
- Support for High Definition cameras
- New options in automatic analysis
- More peripheral device support

NEW Scoring and Reporting Functions
- User configurable MSLT nap times
- Esophageal Pressure Monitoring (Pes) support and Cyclic Alternating Pattern (CAP) scoring and reporting

Enhanced Pageback View
- Digital video available in pageback
- ECGFree trace transformation during pageback
- SUM channel available during recording and pageback

Subscribe at www.compumedics.com for in-depth videos on the Profusion Sleep 4 features.
**Educational Opportunities:**
C: Postgraduate Course  
B: Bench to Bedside  
W: Clinical Workshop  
D: Discussion Group  
I: Invited Lecturer  
L: Lunch Debate  
M: Meet the Professor  
O: Oral Presentation  
P: Poster Session  
R: Brown Bag Case Report  
S: Symposia

**BSM ICON** – Sessions with this icon focus on the behavioral therapies for sleep disorders.

See page 5 for a description of these session types.

**We Want Your Feedback**
You are encouraged to evaluate each session you attend.
Visit the SLEEP 2014 mobile app or www.sleepmeeting.org/evaluations at any time during the meeting to rate the sessions.
The evaluation site will close on July 1.

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**Poster Set-Up**
7:00am – 8:00am  
Exhibit Hall B  
Posters should be set-up for display during this time and should not be removed until 6:00pm.

**I05: How Molecular Genetics Can Tell Us How We Wake Up and Why We Sleep**
8:00am – 9:00am  
Room L100H  
Ravi Allada, MD (Bio on page 29)

**Psychologist Level of Content:** Intermediate

**Objectives:**
1. Analyze the molecular basis of circadian clock function and its conservation between flies and humans;  
2. Describe novel genetic strategies to reveal sleep homeostasis mechanisms and links to learning and memory; and  
3. Discuss the cardinal properties of sleep and their application to simple animal models.

**AASM Political Action Committee (PAC) Breakfast**
7:00am – 8:00am  |  Room 200I  
The AASM invites all AASM members to the AASM PAC Breakfast, featuring Rep. Erik Paulsen (R-MN), co-chair of the U.S. House of Representatives’ Medical Technology Caucus. Rep. Paulsen will talk about the important health care issues taking place in Washington, D.C. and discuss the importance of having our members participate in the political process. The meeting will also demonstrate how the AASM PAC is an essential part of our advocacy efforts. The cost of attending this event is $50, and tickets can be purchased at registration.

**Scientific Program | Tuesday**

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**We Want Your Feedback**
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Visit the SLEEP 2014 mobile app or www.sleepmeeting.org/evaluations at any time during the meeting to rate the sessions.
The evaluation site will close on July 1.
B02: Exercise as a Behavioral Sleep Medicine Intervention

8:00am – 10:00am
Room 102F

Chair: Kelly Baron, PhD
Faculty: Christopher Kline, PhD; Arthur Walters, MD; and Phyllis Zee, MD, PhD

Psychologist Level of Content: Intermediate

Objectives:

1. Describe the relationship between exercise and sleep in healthy sleepers;
2. Discuss the effects of exercise on sleep in the treatment of insomnia, circadian rhythm sleep disorders and obstructive sleep apnea; and
3. Review how exercise may be involved in the treatment of other sleep disorders conditions where there is little evidence, such as restless legs syndrome, periodic limb movements and circadian rhythm sleep disorders.

8:00am – 8:25am
Introduction: Sleep and Physical Activity in Normal and Sleep Disorder Populations
Kelly Baron, PhD

8:25am – 8:50am
Exercise as a Treatment for Insomnia
Phyllis Zee, MD, PhD

8:50am – 9:15am
Exercise as a Treatment for Obstructive Sleep Apnea
Christopher Kline, PhD

9:15am – 9:40am
Exercise as Treatment for Restless Legs Syndrome and Periodic Limb Movements
Arthur Walters, MD

9:40am – 9:50am
Discussion
Phyllis Zee, MD, PhD

9:50am – 10:00am
Questions and Answers

D04: Teens and Sleep Health

8:00am – 10:00am
Room 102A

Co-chairs: Conrad Iber, MD; and Kyla Wahlstrom, PhD
Faculty: Dean Beebe, PhD; Mary Carskadon, PhD; Jessica Payne, PhD; Barbara Phillips, MD; and Michelle Short, PhD

Psychologist Level of Content: Intermediate

Objectives:

1. Identify and locate resources in community settings for improving adolescent sleep health;
2. Provide guidance to families and schools for rationale and methods to develop healthy sleep habits and policies; and
3. Recognize the role sleep medicine professionals may have in influencing local and national policies that promote sleep health in adolescents.

O12: Role of Sleep in Psychiatric Functioning

8:00am – 10:00am
Room L100J

Co-chairs: Anne Germain, PhD; and Sarah Honaker, PhD

Psychologist Level of Content: Intermediate

Objective: Recognize the impact of sleep on psychiatric functioning.

0766 8:00am - 8:15am
CHRONIC INSOMNIA SYMPTOMS IN EARLY ADOLESCENCE PREDICT NEURAL REWARD PROCESSING AND DEPRESSIVE SYMPTOMS
Casement MD, Sitnick S, Keenan KE, Guyer AE, Hipwell AE, Forbes EE

0767 8:15am - 8:30am
ARE PATIENTS WITH CHILDHOOD ONSET OF INSOMNIA AND DEPRESSION MORE DIFFICULT TO TREAT THAN THOSE WITH ADULT ONSETS OF THESE DISORDERS?: A REPORT FROM THE TRIAD STUDY
Edinger JD, Manber R, Buysse DJ, Krystal AD, Thase ME, Fairholme CP, Luther J, Wisniewski S
**0768 8:30am - 8:45am**

WHEN ACCOUNTING FOR WAKEFULNESS, COMPLETED SUICIDES EXHIBIT AN INCREASED LIKELIHOOD DURING CIRCADIAN NIGHT

Perlis ML, Grandner MA, Basner M, Chakravorty S, Brown GK, Morales KH, Thase ME, Dinges DF, Gehrman PR, Chaudhary NS

**0769 8:45am - 9:00am**

SLEEP QUALITY IN PREGNANCY PREDICTS POSTPARTUM DEPRESSION AND STRESS

Stone KC, Miller-Loncar CL, Salisbury AL

**0770 9:00am - 9:15am**

YOU’LL FEEL BETTER IN THE MORNING: SLOW WAVE ACTIVITY AND OVERNIGHT MOOD REGULATION IN BIPOLAR DISORDER

Soehner AM, Saletin J, Kaplan KA, Talbot LS, Hairston I, Eidelman P, Gruber J, Walker M, Harvey AG

**0771 9:15am - 9:30am**

A SEVEN-DAY ACTIGRAPHY BASED STUDY OF SLEEP DISTURBANCE IN HIGH TRAIT RUMINATORS

Pillai V, Kalmbach D, Roth T, Drake CL

**0772 9:30am - 9:45am**

NEUROBIOLOGICAL EFFECTS OF PRAZOSIN ON NREM SLEEP IN VETERANS WITH PTSD

Suter D, Mammen O, Insana S, Nofzinger E, Germain A

**0773 9:45am - 10:00am**

THE RELATIONSHIP BETWEEN CORTISOL OUTPUT AND SLEEP EEG IN AUTISTIC AND TYPICALLY DEVELOPED ADULTS

Chicoine M, Limoges É, Chevrier É, Lupien S, Mottron L, Godbout R

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**S09: Upper Airway Stimulation for Obstructive Sleep Apnea**

**8:00am – 10:00am**

**Room 101E**

**Chair:** Atul Malhotra, MD

**Faculty:** Scott Longert; Alan Schwartz, MD; Ryan Soose, MD; Kingman Strohl, MD; and Patrick Strollo Jr., MD

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Describe the relationships between sleep regulatory molecules and molecules regulating inflammation;
2. Identify mechanisms by which localized inflammation can result in changes in sleep;
3. Recognize that sleep disruption, sleep apnea, obesity, aging and pain are associated with low grade inflammation; and

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**S10: Sleep Loss and Inflammation in Mice and Man: Cytokine Mechanisms for Sleep and Health Outcomes**

**8:00am – 10:00am**

**Room 205A**

**Co-chairs:** James Krueger, PhD; and Mark Opp, PhD

**Faculty:** David Gozal, MD; Leila Kheirandish-Gozal, MD; and Alexandros Vgontzas, MD

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Describe the relationships between sleep regulatory molecules and molecules regulating inflammation;
2. Identify mechanisms by which localized inflammation can result in changes in sleep;
3. Recognize that sleep disruption, sleep apnea, obesity, aging and pain are associated with low grade inflammation; and
4. Review the important public health consequences to sleep disruption and inflammation.

8:00am – 8:05am

Introduction
David Gozal, MD

8:05am – 8:30am

Systemic Inflammation/Infection Signaling to Brain
James Krueger, PhD

8:30am – 9:00am

Sleep Disruption, Cytokines and Mechanical Hypersensitivity: Bidirectional Interactions between Sleep and Pain
Mark Opp, PhD

9:00am – 9:30am

Sleep Loss in Men and Women: Health Implications
Alexandros Vgontzas, MD

9:30am – 10:00am

Sleep Apnea in Children: A Prototypic Clinical Model for Systemic Low-grade Inflammation
Leila Kheirandish-Gozal, MD

S11: Current Research and Clinical Insights into Sleep, Recovery and Performance in Elite Athletes

8:00am – 10:00am

Room L100F

Co-chairs: Greg Roach, PhD; and Charles Samuels, MD
Faculty: Sayaka Aritake, PhD; Amy Bender, MS; Charli Sargent, PhD; and Shawn Youngstedt, PhD

Psychologist Level of Content: Intermediate

Objectives:

1. Discuss the complex and controversial bidirectional relationship between exercise and sleep;
2. Explain the differences in sleep parameters that distinguish elite athletes from normal controls; and
3. Implement innovative research methods to investigate specific human performance outcomes using sleep/circadian interventions.

8:00am – 8:05am

Introduction
Greg Roach, PhD; and Charles Samuels, MD

8:05am – 9:00am

Interactions between Exercise and Sleep
Shawn Youngstedt, PhD

9:00am – 9:30am

Subjective Sleep Differences between Elite athletes and Non-athlete Healthy Controls
Amy Bender, MS

9:30am – 10:00am

Impact of Training Load on Daytime Sleepiness and Nighttime Sleep Quantity/Quality in Elite Cyclists
Charli Sargent, PhD

I06: Brain Function During Sleep Deprivation and Sleep Disorders: Is There a Common Dysfunction?

9:05am – 10:05am

Room L100H
Sean P.A. Drummond, PhD (Bio on page 31)

Psychologist Level of Content: Intermediate

Objectives:

1. Discuss changes in brain function, as measured with functional neuroimaging, during sleep deprivation and in sleep disorders;
2. Review common changes to the default mode network during sleep deprivation and in sleep disorders; and
3. Recognize potential physiological mechanisms underlying changes in brain function during sleep deprivation and in sleep disorders.

Exhibit Hall Open

10:00am – 4:00pm
Exhibit Hall B
See page 107 for a complete list of exhibitors.

Refreshment Break in the Exhibit Hall

10:00am – 10:20am
**W03: Positive Airway Pressure Therapy in Children: Reflecting on Experience and Developing Best Practices**

10:20am – 12:20pm  
Room L100H

Chair: Darius Loghmanee, MD  
Faculty: Rakesh Bhattacharjee, MD, RPSGT; Brigitte Fauroux, MD, PhD; Manisha Witmans, MD; and Lisa Wolfe, MD

**Psychologist Level of Content:** Intermediate

**Objectives:**
1. List indications for PAP therapy in children;  
2. Describe the evidence that supports the use of new PAP technologies; and  
3. Review strategies that address the unique needs of children on PAP therapy.

**10:20am – 10:45am**  
**The Role of Desensitization and Follow-up in Promoting Adherence to PAP in Children of All Ages**  
*Rakesh Bhattacharjee, MD, RPSGT*

**10:45am – 11:15am**  
**Selecting the Appropriate Mask and PAP Device in Children**  
*Brigitte Fauroux, MD, PhD*

**11:15am – 11:35am**  
**The Use of Home Testing, PAP Downloads, and In-lab Titration in the Care of Children on PAP**  
*Manisha Witmans, MD*

**11:35am – 12:00pm**  
**Transitioning Care for Chronically Ill Adolescents Requiring Treatment with Positive Airway Pressure: Important Considerations**  
*Lisa Wolfe, MD*

**12:00pm – 12:20pm**  
**Pediatric PAP: Proposed Guidelines and Questions for Further Study**  
*Darius Loghmanee, MD*
### O14: Sleep/Wake Regulatory Circuitry: New Findings

**10:20am – 12:20pm**
**Room 102A**

**Co-chairs:** Clifford Saper, MD, PhD; and Ronald Szymusiak, PhD

**Psychologist Level of Content:** Intermediate

**Objective:** Review the latest discoveries in the neuroanatomical circuitry underlying sleep/wake regulation.

<table>
<thead>
<tr>
<th>Session</th>
<th>Description</th>
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</table>
| 0110    | 10:50am - 11:05am  
**Late Chronotype is Associated with Increased Body Mass Index and Poorer Dietary Behaviors**  
Arora T, Taheri S |
| 0111    | 11:05am - 11:20am  
**Delayed Sleep Timing is Associated with Low Levels of Free-Living Physical Activity**  
Shechter A, St-Onge M |
| 0112    | 11:20am - 11:35am  
**Sex Differences in the Circadian Variation of Sleep in Humans**  
Boivin DB, Boudreau P, Begum EA, Shechter A, Yeh W |
| 0114    | 11:50am - 12:05pm  
**Evening Blue-Enriched Light Exposure Increases Hunger and Alters Metabolism in Normal Weight Adults**  
Cheung IN, Shalman D, Malkani RG, Zee PC, Reid KJ |
| 0115    | 12:05pm - 12:20pm  
**Sub-Cortical Temporal Integration of Ultra-Short Flashes of Light**  
Najjar RP, Heller H, Zeitzer JM |
| 0054    | 10:20am - 10:35am  
**Pharmacogenetic Stimulation of the Red Nucleus Influences Muscle Tone During Rapid Eye Movement (REM) Sleep in Mice**  
Li D, Peever J |
| 0055    | 10:35am - 10:50am  
**Pharmacogenetic Manipulation of Rapid Eye Movement (REM) Sleep Circuitry**  
Torontali ZA, Peever JH |
| 0056    | 10:50am - 11:05am  
**Optogenetic Investigation of Rapid Eye Movement (REM) Sleep Circuitry**  
Fraigne JJ, Adamantidis A, Peever JH |
| 0057    | 11:05am - 11:20am  
**Sleepless is a Bi-Functional Regulator of Neuronal Excitability and Cholinergic Synaptic Transmission Underlying Control of Sleep in Drosophila**  
Wu M, Robinson JE, Joiner WJ |
| 0058    | 11:20am - 11:35am  
**Optogenetic Excitation and Inhibition Identify a Physiological Role for Basal Forebrain Parvalbumin Neurons in Cortical Gamma Band Oscillations (GBO) in Freely Behaving Mice**  
| 0059    | 11:35am - 11:50am  
**Neuroanatomical Circadian Circuits in Humans: Evidence from Virtual White Matter Dissections with Diffusion Tensor Imaging Tractography**  
Koller K, Mullins PG, Rafal RD |
| 0165    | 11:50am - 12:05pm  
**Sleep Spindles, Resting-State Functional Connectivity, and Executive Functioning in Younger and Older Adults**  
Mantua J, Baran B, Spencer RM |
O15: Sleep and Behavior in Children and Adolescents

10:20am – 12:20pm
Room L100J

Co-chairs: Daniel Lewin, PhD; and Simon Smith, PhD

Psychologist Level of Content: Intermediate

Objective: Discuss manifestations and consequences of poor sleep health in childhood and adolescence.

0871 11:20am - 11:35am
SLEEP DISTURBANCES IN NAÏVE CHILDREN WITH ADHD COMPARED TO NORMAL CHILDREN IN SPANISH POPULATION
Sans Capdevila O, Ferreira Garcia E, Serrano Troncoso E, Alda Diez J, Izquierdo-Pulido M

0872 11:35am - 11:50am
EFFECTS OF OBJECTIVE SLEEP ON MOOD, TESTING A COGNITIVE VULNERABILITY MODEL OVER RESTRICTED AND EXTENDED SLEEP OPPORTUNITIES IN ADOLESCENTS
Bei B, Allen N, Trinder J

0873 11:50am - 12:05pm
EXPERIMENTALLY MANIPULATED SLEEP DURATION IN ADOLESCENTS WITH ASTHMA: FEASIBILITY AND PRELIMINARY FINDINGS
Meltzer LJ, Faino A, Gelfand EW, Covar RA, Szeffler SJ, Strand MJ

0874 12:05pm - 12:20pm
SLEEP INSTABILITY AND PERCEIVED HEALTH IN PARENTAL CAREGIVERS OF VENTILATOR-ASSISTED CHILDREN
Sanchez-Ortuno MM, Avis KT, Edinger JD, Meltzer LJ

S12: Cognitive and Behavioral Interventions for Insomnia in Military Populations

10:20am – 12:20pm
Room 102F

Co-chairs: Alan Peterson, PhD; and Daniel Taylor, PhD
Faculty: Philip Gehrman, PhD; Anne Germain, PhD; and Rachel Manber, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Recognize the scope of the insomnia problem in deployed, post-deployed, and veteran service members;
2. Differentiate the effectiveness and efficacy of behavioral and cognitive-behavioral therapies for insomnia delivered to a variety of military populations (e.g., active duty, Veterans); and

0201 12:05pm - 12:20pm
TNFΑ 308 POLYMORPHISM PREDICTS RESILIENCE TO PSYCHOMOTOR VIGILANCE PERFORMANCE IMPAIRMENT DURING TOTAL SLEEP DEPRIVATION IN A SAMPLE OF HEALTHY YOUNG ADULTS
Satterfield BC, Schmidt MA, Field SA, Wisor JP, Van Dongen H
3. Discuss the effectiveness and efficacy of behavioral and cognitive-behavioral therapies for insomnia delivered to military populations in a variety of formats (e.g., in-person, internet, telehealth).

10:20am – 10:40am  
**Insomnia in Active Duty Military Settings**  
*Alan Peterson, PhD*

10:40am – 11:05am  
**Comparing Internet and In-person Cognitive Behavioral Therapy of Insomnia**  
*Daniel Taylor, PhD*

11:05am – 11:30am  
**Telehealth Delivery of CBT-I to Active Duty Marines**  
*Philip Gehrman, PhD*

11:30am – 11:55am  
**Insomnia Treatments in Military Service Members and Veterans: How Brief Can it Be?**  
*Anne Germain, PhD*

11:55am – 12:20pm  
**Effectiveness of CBT-I among Veterans Treated by Newly Trained Clinicians**  
*Rachel Manber, PhD*

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**S13: Reward Processing: The Impact of Sleep on What We Find Reinforcing**

10:20am – 12:20pm  
**Room L100F**

**Chair:** Jennifer Goldschmied, MS  
**Faculty:** Peter Franzen, PhD; Brant Hasler, PhD; and W.D. Scott Killgore, PhD

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Describe the altered patterns of reward processing in the brain following sleep loss;
2. Recognize the influence of circadian rhythms on reward processing; and
3. Identify the behavioral consequences resulting from the relationship between sleep loss and reward processing.
R02: Brown Bag Report: Challenging Cases

12:30pm – 1:30pm
Room 102A
During this session, three challenging cases will be presented and an expert panel will discuss their approach to diagnosis and treatment. This session is included in the general session registration; lunch is not provided.

Co-chairs: Neil Freedman, MD; and Phyllis Zee, MD, PhD

A 10 Year Old with Nocturnal Dyspnea
Louella Amos, MD

Status Dissociatus
Muna Irfan, MD

Tongue Biting – A Rare Case of Sporadic Geniospasm
Mandana Mahmoudi, MD

L02: Is APAP as Good as CPAP for Titration or Treatment?

12:30pm – 1:30pm
Room 200I

All Lunch Debate sessions require additional registration fees. CE credits for psychologists are not provided for this session.

Faculty: Richard Berry, MD; and Sairam Parthasarathy, MD

Objectives:
1. Discuss the strenghts and weaknesses of APAP titration and its use in lieu of in-lab titration;
2. Evaluate patients for fitness with APAP or CPAP titration; and
3. Discuss interpretation of APAP download information and choose a level of CPAP for treatment.

Meet the Professors

12:30pm – 1:30pm

All Meet the Professors sessions require additional registration fees. CE credits for psychologists are not provided for these sessions.

M09: Geriatric Sleep: Dispelling Some Myths About Sleep and Aging
Room M100B
Michael V. Vitiello, PhD

M10: Fatal Familial Insomnia – Prion Disease: Past, Present and Future
Room M100C
William Jet Broughton, MD

M11: Utilization Review for Sleep Studies: What You Need to Know
Room M100D
A. Gray Bullard, MD

M12: Sleep Disturbance in Patients with Heart Failure
Room M100E
Nancy Redeker, PhD, RN

M13: Management of Pediatric Sleep Apnea
Room M100F
Ann Halbower, MD

M14: Treatment of Narcolepsy
Room M100G
Thomas Scammell, MD

M15: Fatigue Risk Management Science and Technology Solutions for Industry
Room M100H
Daniel Mollicone, PhD

M16: Using Video to Aid in CPAP Adherence
Room M100I
Mark Aloia, PhD
I07: Molecular Genetics of Sleep
1:30pm – 2:30pm
Room L100H
Mehdi Tafti, PhD (Bio on page 32)

Psychologist Level of Content: Intermediate

Objectives:
1. Review the bases of genetic contribution to sleep and the sleep EEG;
2. Analyze the functional relationships between genes and sleep or EEG phenotypes; and
3. Discuss the methodology to localize and identify genes involved in sleep and the EEG.

I08: Sleep and Work
1:30pm – 2:30pm
Room 101E
Christopher Barnes, PhD (Bio on page 30)

Psychologist Level of Content: Intermediate

Objectives:
1. Review a broader variety of work-based outcomes of sleep;
2. Discuss various methods of pursuing sleep research; and
3. Identify tactics for better collaboration between sleep medicine researchers and management researchers.

O16: Investigating Disparities in Delivering Sleep Medicine Education and Health Care
1:30pm – 2:30pm
Room 102A

Co-chairs: Luis Buenaver, PhD; and Nancy Collop, MD

Psychologist Level of Content: Intermediate

Objective: Discuss factors associated with current gaps in sleep medicine education and health care delivery and novel approaches to address it.

O17: Parasomnias
1:30pm – 2:30pm
Room 205A

Co-chairs: Hryar Attarian, MD; and Carlos Schenck, MD

Psychologist Level of Content: Intermediate

Objective: Discuss the relationship of sexsomnias and sleep forensics, and identify aspects of RBD across the age spectrum.
0603  1:45pm - 2:00pm
DIAGNOSTIC THRESHOLDS FOR QUANTITATIVE REM SLEEP PHASIC BURST DURATION, MUSCLE DENSITIES, AND REM ATONIA INDEX IN REM SLEEP BEHAVIOR DISORDER WITH AND WITHOUT COMORBIT OBSTRUCTIVE SLEEP APNEA
McCarter SJ, St. Louis EK, Duwell ER, Timm PJ, Sandness DJ, Boeve BF, Silber MH

0604  2:00pm - 2:15pm
QUANTITATIVE ANALYSES OF REM SLEEP WITHOUT ATONIA IN CHILDREN AND ADOLESCENTS WITH REM SLEEP BEHAVIOR DISORDER
Hancock KL, St. Louis EK, McCarter SJ, Kotagal S, Lloyd R, Boeve BF

0605  2:15pm - 2:30pm
A NOVEL NON-REM AND REM PARASOMNIA WITH SLEEP BREATHING DISORDER ASSOCIATED WITH ANTIBODIES AGAINST IGLON5

O18: New Sleep Analysis Techniques: Clinical Aspects
1:30pm – 2:30pm
Room L100F

Co-chairs: Joanne Getsy, MD; and E. John Lee, MD

Psychologist Level of Content: Intermediate

Objective: Review new methods under development for clinical sleep analysis.

1021  1:45pm - 2:00pm
A SIMPLIFIED METHOD FOR DISTINGUISHING SLEEP AND WAKEFULNESS
Younes M, Ostrowski M, Soiferman M, Younes H, Younes M, Ranieri J, Hanly P

1022  2:00pm - 2:15pm
WAKING EEG ARTIFACT REJECTION TECHNIQUES: AUTOMATED AND VISUAL
Cashmere D, Seres R, Begley A, Miewald J, Germain A, Buysse DJ

1023  2:15pm - 2:30pm
FORMANT FREQUENCIES OF TRACHEAL BREATH SOUND AS A SCREENING METHOD FOR OBSTRUCTIVE SLEEP APNEA DURING WAKEFULNESS
Solà-Soler J, Fiz J, Torres A, Jané R

O19: Novel Sleep Therapeutics in Preclinical Models
1:30pm – 2:30pm
Room L100J

Co-chairs: Helen Baghdoyan, PhD; and Éva Szentirmai, MD

Psychologist Level of Content: Intermediate

Objective: Identify novel compounds and their potential mechanisms in development as sleep therapeutics.

0001  1:30pm - 1:45pm
SLEEP PROMOTION BY DUAL AND NOVEL SELECTIVE OREXIN RECEPTOR ANTAGONISTS IN GENETIC MODELS SUGGEST ROLES FOR OX1R AND OX2R IN SLEEP REGULATION
Gotter AL, Stevens J, Garson SL, Harrell CM, Tannenbaum PL, Yao L, Kuduk SD, Coleman PJ, Renger JJ, Winrow CJ

0002  1:45pm - 2:00pm
PRECLINICAL PHARMACOLOGICAL CHARACTERIZATION OF E2006, A NOVEL DUAL OREXIN RECEPTOR ANTAGONIST FOR INSOMNIA TREATMENT
Beuckmann C, Suzuki M, Nakagawa M, Akasofu S, Ueno T, Arai T, Higashiyama H
0003 2:00pm - 2:15pm
E2006, A NOVEL DUAL OREXIN RECEPTOR ANTAGONIST PROMOTES PHYSIOLOGICAL SLEEP IN MICE AND RATS WITHOUT CAUSING MOTOR IMPAIRMENT OR ALCOHOL INTERACTION
Beuckmann C, Akasofu S, Nakagawa M, Suzuki M

0004 2:15pm - 2:30pm
GAL-160, A NOVEL ORALLY BIOAVAILABLE MODULATOR OF BREATHING CONTROL, DECREASES THE SEVERITY OF OBSTRUCTIVE APNEAS IN RATS
Hewitt MM, Baby S, Golder FJ, Mardirosian S, Peng S, MacIntyre DE

**B03: Sleep and Emotion Regulation from Bench to Bedside**

2:45pm – 4:45pm
Room L100H

Chair: Eus Van Someren, PhD
Faculty: Anne Germain, PhD; Gina Poe, PhD; Victor Spoormaker, PhD; and Matthew Walker, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Discuss the most recent findings of studies on the role of sleep in emotion regulation in animal models, healthy volunteers and people suffering from insomnia or PTSD;
2. Explain possible psychological and neurobiological mechanisms underlying hyperarousal, the most consistent characteristic of insomnia; and
3. Recognize targets for sleep manipulation to ameliorate emotional deregulation after trauma and in suffering from insomnia or PTSD.

2:45pm – 3:00pm
Introduction: Sleep to Unwind: Opportunities to Understand Hyperarousal in Insomnia
Eus Van Someren, PhD

3:00pm – 3:25pm
Sleep and Emotional Brain Homeostasis
Matthew Walker, PhD

3:25pm – 3:50pm
REM Sleep Deprivation and Fear Extinction: Psychophysiology-fMRI Studies in Healthy Volunteers
Victor Spoormaker, PhD

3:50pm – 4:15pm
The Role of Sleep in Emotional Memory Processing and PTSD: Animal Studies
Gina Poe, PhD

4:15pm – 4:45pm
Sleep and Neural Circuits Underlying Threat Responses in PTSD
Anne Germain, PhD

**W04: PAP Adherence: Utilizing Team-based Care and a Behavioral Approach to Maximize Success**

2:45pm – 4:45pm
Room 102F

Chair: Loretta Colvin, APRN-BC
Faculty: Ann Cartwright, PA-C; Jamie Cvengros, PhD; Patricia Dettenmeier, DNP, ANP, MSN; Neil Freedman, MD; and Robyn Woidtke, RN, RPSGT

Psychologist Level of Content: Intermediate

Objectives:
1. Discuss behavioral approaches for PAP therapy adherence;
2. Identify benefits to team-based PAP therapy care; and
3. Develop implementation strategies for maximizing PAP adherence within a sleep center.
W05: Occupational Sleep Medicine
2:45pm – 4:45pm
Room 101E

Chair: Stefanos Kales, MD
Faculty: Christopher Drake, PhD; Charles Samuels, MD; and Hans Van Dongen, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Evaluate the clinical presentation of occupational sleepiness/fatigue, determine its sleep and circadian related causes, and assess the impact on safety and productivity in the work environment;
2. Implement effective treatment strategies for workers suffering from occupational sleepiness/fatigue; and
3. Advise occupational medicine colleagues and local industries/institutions running 24/7 operations about the health and human performance implications of shift work and shift work disorder.

2:45pm – 3:05pm
Fatigue and Fatigue Countermeasures in Occupational Settings
Hans Van Dongen, PhD

3:05pm – 3:25pm
Diagnosis and Treatment of Shift Work Disorder
Christopher Drake, PhD

3:25pm – 4:05pm
Sleep Disorders in Occupational Settings: Patient-based Management Approaches
Stefanos Kales, MD

4:05pm – 4:45pm
Case Studies in Occupational Sleep Medicine
Charles Samuels, MD

D06: Stone Soup: Leveraging Research Resources and Opportunities
2:45pm – 4:45pm
Room 102A

Chair: Janet Mullington, PhD
Faculty: Charles Czeisler, MD, PhD; Allan Pack, MBChB, PhD; Till Roenneberg, PhD; Michael Twery, PhD; Kenneth Wright, Jr., PhD; and Phyllis Zee, MD, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Discuss the pipeline and the future of sleep and circadian research;
2. Evaluate ways in which existing resources can be leveraged to get research support for early stage investigators;
3. Recognize the importance of a diversified portfolio and the importance of making the health relevance of sleep and circadian neurobiology very clear in the grant proposal; and
4. Review the opportunities and challenges associated with the new era of Big Data, global research initiatives.

O20: Insomnia: Treatment
2:45pm – 4:45pm
Room L100F

Co-chairs: Colin Espie, PhD; and Brandy Roane, PhD

Psychologist Level of Content: Intermediate

Objective: Discuss treatment options for insomnia.
2:45pm - 3:00pm
A RANDOMIZED CONTROLLED TRIAL OF MINDFULNESS MEDITATION FOR CHRONIC INSOMNIA: LONG-TERM OUTCOMES
Ong JC, Manber R, Segal Z, Xia Y, Shapiro S, Wyatt J

3:00pm - 3:15pm
DURABILITY OF TREATMENT RESPONSE TO ZOLPIDEM WITH THREE DIFFERENT MAINTENANCE REGIMENS: NIGHTLY, INTERMITTENT, AND PARTIAL REINFORCEMENT DOSING
Perlis ML, Zee J, Bremer E, Whinnery J, Barilla H, Andalia PA, Gehrman PR, Morales KH, Grandner MA, Ader R

3:15pm - 3:30pm
COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA REDUCES NIGHT TO NIGHT VARIABILITY OF INSOMNIA SYMPTOMS
Dawson SC, Pillon AJ, Cousins J, Sidani S, Epstein D, Moritz P, Bootzin RR

3:30pm - 3:45pm
CAN WE CIRCUMVENT THE TRANSITION FROM ACUTE TO CHRONIC INSOMNIA WITH A ‘SINGLE-SHOT’ CBT-I?
Ellis JG

3:45pm - 4:00pm
EFFECTS OF GENDER ON ZOLPIDEM EFFICACY AND SAFETY
Roehrs T, Roth T

4:00pm - 4:15pm
COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA IN OLDER VETERANS: FINAL RESULTS OF A RANDOMIZED TRIAL

4:15pm - 4:30pm
IMPACT OF THE WEB-BASED COGNITIVE BEHAVIORAL THERAPY PROGRAM ON INSOMNIA SYMPTOMS AND PERCEIVED STRESS: RESULTS OF A RANDOMIZED CONTROLLED TRIAL

4:30pm - 4:45pm
A RANDOMIZED, PARTIALLY BLINDED, NON-INFERIORITY TRIAL OF MINDFULNESS-BASED STRESS REDUCTION COMPARED TO COGNITIVE-BEHAVIORAL THERAPY FOR THE TREATMENT OF INSOMNIA IN CANCER SURVIVORS
Garland SN, Carlson LE, Stephens AJ, Antle MC, Samuels C, Campbell TS

O21: Sleep Loss, Behavior and Physiology: Connecting the Dots
2:45pm – 4:45pm
Room L100J

Co-chairs: Mark Opp, PhD; and Andrea Spaeth, MA

Psychologist Level of Content: Intermediate

Objective: Evaluate new insights into the complex interaction between loss of sleep, neuroendocrine health and behavior.
S14: Differential Neural Mechanisms of Adenosine in Sleep-Wake Regulation

2:45pm – 4:45pm
Room 205A

Chair: Michael Lazarus, PhD
Faculty: Robert Greene, PhD; Philip Haydon, PhD; and Tarja Porkka-Heiskanen, MD, PhD

Psychologist Level of Content: Advanced

Objectives:
1. Discuss molecular, cellular and anatomical mechanisms of adenosine in sleep-wake regulation;
2. Recognize that adenosine differentially regulates sleep homeostasis and behavioral states via multiple pathways and/or receptors; and
3. Review the development and application of cutting-edge molecular neuroscience tools, including gene ablation strategies and genetically engineered receptor-channel systems for in vivo modulation of neuronal activities.

INHIBITORY CAPACITY IN RELATION TO FOOD STIMULI IN HEALTHY YOUNG MEN

Cedernaes J, Brandell J, Ros O, Nilsson VC, Broman J, Hogenkamp PS, Schiöth HB, Benedict C

0206 3:45pm - 4:00pm
LATE-NIGHT FAT INTAKE MODULATES NEXT DAY RESTING-STATE REWARD PATHWAY CONNECTIVITY DURING SLEEP DEPRIVATION

0207 4:00pm - 4:15pm
THE EFFECTS OF EXTENDED BEDTIMES ON SLEEP DURATION AND FOOD DESIRE IN OVERWEIGHT YOUNG ADULTS: A HOME-BASED INTERVENTION
Tasali E, Chapotot F, Wroblewski K, Schoeller D

0208 4:15pm - 4:30pm
MONOCYTE SENSITIVITY TO GLUCOCORTICOIDs IN RESPONSE TO PATTERNS OF REPEATED SLEEP RESTRICTION AND RECOVERY
Diolombi MS, Torrey J, Mullington J, Haack M

0209 4:30pm - 4:45pm
SLEEP DEPRIVATION RESULTS IN OXIDATIVE DNA DAMAGE: A DISEASE RISK FACTOR
Everson CA, Henchen CJ, Szabo A, Hogg N
Clinical Decision-Making in Narcolepsy Management:
STATE OF THE ART

Monday, June 2, 2014
Registration and Dinner 6:15 pm – 6:45 pm
Symposium 6:45 pm – 8:45 pm

Hyatt Regency Minneapolis
Nicollet Ballroom, Lobby Level
1300 Nicollet Mall
Minneapolis, Minnesota

Agenda
Registration and Dinner
Introduction
Chair: Michael Thorpy, MD
Pathophysiology and Diagnosis of Narcolepsy
Emmanuel Mignot, MD, PhD
Treatment of Narcolepsy
Michael Thorpy, MD
Case Presentation #1 — Adult Narcolepsy
A. Thomas Perkins, MD, PhD
Case Presentation #2 — Childhood through Adult Narcolepsy
Rafael Pelayo, MD
Case Presentation #3 — Adult Narcolepsy
Todd Swick, MD
Audience Question-and-Answer
Take-Home Messages

Faculty
Michael Thorpy, MD (Chair)
Professor of Neurology
Albert Einstein College of Medicine
Bronx, New York

Emmanuel Mignot, MD, PhD
Professor of Sleep Medicine
Stanford University School of Medicine
Palo Alto, California

Rafael Pelayo, MD
Clinical Professor,
Psychiatry and Behavioral Sciences
Stanford University School of Medicine
Redwood City, California

A. Thomas Perkins, MD, PhD
Medical Director, Sleep Medicine Program
Raleigh Neurology Associates, P.A.
Raleigh, North Carolina

Todd Swick, MD
Assistant Clinical Professor of Neurology
University of Texas School of Medicine
Houston, Texas

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This activity is supported by an independent educational grant from Jazz Pharmaceuticals, Inc.

Scan this code with your Smartphone to register and for more information
Nurses Breakfast
7:00am – 8:00am | Room 200I

This breakfast will provide an opportunity for Nurses, Advanced Practice Registered Nurses and Physicians Assistants to network during SLEEP 2014.

Educational Opportunities:
C: Postgraduate Course
B: Bench to Bedside
W: Clinical Workshop
D: Discussion Group
I: Invited Lecturer
L: Lunch Debate
M: Meet the Professor
O: Oral Presentation
P: Poster Session
R: Brown Bag Case Report
S: Symposia

BSM ICON – Sessions with this icon focus on the behavioral therapies for sleep disorders.

See page 5 for a description of these session types.

We Want Your Feedback
You are encouraged to evaluate each session you attend.
Visit the SLEEP 2014 mobile app or www.sleepmeeting.org/evaluations at any time during the meeting to rate the sessions.
The evaluation site will close on July 1.

Poster Set-Up
7:00am – 8:00am
Exhibit Hall B
Posters should be set-up for display during this time and should not be removed until 4:45pm.

I09: Telehealth: Changing the Location of Care to Make the Home and Local Community into Preferred Sites of Care
8:00am – 9:00am
Room 101E
Adam Darkins, MD, MPH (Bio on page 30)

Psychologist Level of Content: Intermediate

Objectives:
1. Review what telehealth is and the key principles of using it;
2. Summarize the clinical, technology and business impacts on developing telehealth; and
3. Discuss the training need for developing telehealth services.

D07: International Collaborations to Promote Discovery and Replication of Genetic Risk Factors for Sleep Disorders
8:00am – 10:00am
Room L100H

Co-chairs: Lyle Palmer, PhD; and Susan Redline, MD, MPH
Faculty: Sina Gharib, MD; Brendan Keating, DPhil; Sutapa Mukherjee, MBBS, PhD; Sanjay Patel, MD; Richa Saxena, PhD; and Mehdi Tafti, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Identify the attributes of successful collaborative models for sharing genetic data, coordinating in cross-study meta-analyses, and publishing novel genetic findings;
2. Describe the challenges and potential solutions for overcoming these in establishing international collaborations for discovering genetic variants for sleep disorders; and
3. Discuss large cohorts and datasets amenable for analysis of genetic variants for sleep disorders.

O22: Sleep Deficiency and its Consequences
8:00am – 10:00am
Room 102A

Chair: Amanda McBean, MS; and Katherine Sharkey, MD, PhD

Psychologist Level of Content: Intermediate

Objective: Describe physiological, behavioral and clinical consequences of sleep deficiency.

0084 8:00am - 8:15am
SEX DIFFERENCES IN INSULIN SENSITIVITY DURING INSUFFICIENT SLEEP AND ASSOCIATED CIRCADIAN MISALIGNMENT

0128 8:15am - 8:30am
STABILITY OF ENERGY BALANCE RESPONSES TO SLEEP RESTRICTION OVER LONG TIME INTERVALS
Spaeth AM, Wohl R, Dinges DF, Goel N

0129 8:30am - 8:45am
SLEEP PATTERNS DURING DUTY PERIODS AND RESTART BREAKS IN A FIELD STUDY OF COMMERCIAL MOTOR VEHICLE DRIVERS

0130 8:45am - 9:00am
HOMEOSTATIC AND CIRCADIAN VARIATION IN THE MULTIPLE SLEEP LATENCY TEST IN YOUNGER AND OLDER ADOLESCENTS DURING 28H FORCED DESYNCHRONY
Wu LJ, Acebo C, Carskadon MA

0131 9:00am - 9:15am
PER3 VNTR: SLEEP PATTERNS AND DEPRESSED MOOD IN COLLEGE STUDENTS
Carskadon MA, Sharkey KM, Barker DH, Roane BM, Van Reen E, Knopik VS, McGeary JE

0132 9:15am - 9:30am
DNA METHYLATION ASSOCIATED WITH SLEEP DURATION: PRELIMINARY RESULTS
Carskadon MA, McGeary JE, Jacobs D, Fu A, Sharkey KM, Knopik VS, Zhu Y

0085 9:30am - 9:45am
MAGNITUDE OF THE IMPACT OF OBJECTIVELY-RECORDED NOCTURNAL HOT FLASHES ON POLYSOMNOGRAPHIC SLEEP IN PERIMENOPAUSAL WOMEN

0133 9:45am - 10:00am
SLEEP-WAKE SYNCHRONY IN COUPLES IS ASSOCIATED WITH RELATIONSHIP FUNCTIONING
Gunn HE, Buysse DJ, Troxel WM

O23: Assessments and Associations of Obstructive Sleep Apnea
8:00am – 10:00am
Room L100J

Co-chairs: Cathy Goldstein, MD; and Michael Yurcheshen, MD

Psychologist Level of Content: Intermediate

Objective: Review the newest assessments of OSA and the diagnosis of co-morbid disorders.

0304 8:00am - 8:15am
EFFECT OF CONTINUOUS POSITIVE AIRWAY PRESSURE ON BLOOD PRESSURE IN RESISTANT HYPERTENSION AND HYPERTENSION IN A LARGE CLINIC-BASED COHORT
Walia HK, Griffith SD, Thomas G, Bravo EL, Moul DE, Foldvary-Schaefer N, Mehra R
0305  8:15am - 8:30am
ABNORMAL BRAIN BIOENERGETICS DURING
RESTING WAKEFULNESS ARE RELATED
TO NEUROBEHAVIOURAL DYSFUNCTION
IN PATIENTS WITH SEVERE OBSTRUCTIVE
SLEEP APNEA
D’Rozario AL, Bartlett D, Rae C, Wong K,
Grunstein RR

0306  8:30am - 8:45am
COMMON VARIANT-BASED HERITABILITY
ESTIMATES OF OBSTRUCTIVE SLEEP APNEA-
RELATED TRAITS IN THE MESA AND MROS
STUDIES
Cade BE, Bjonnes A, Feng T, Wang C, Evans D,

0307  8:45am - 9:00am
SLEEP APNEA AND HEAVY VEHICLE
CRASHES: A CASE-CONTROL STUDY
Grunstein RR, Stevenson M, Wong K, Sharwood L,
Elkington J

0308  9:00am - 9:15am
A GENOME-WIDE ASSOCIATION STUDY OF
OBSTRUCTIVE SLEEP APNEA-RELATED
TRAITS IN MULTIETHNIC COHORTS
Cade BE, Chen H, Bjonnes A, Below J, Evans D,
Hanis C, Tranah G, Zhu X, Lin X, Redline S

0309  9:15am - 9:30am
RELATIONSHIP OF AIR POLLUTION TO SLEEP
DISORDERED BREATHING AND SLEEP
DISRUPTION: THE MULTI-ETHNIC STUDY OF
ATHEROSCLEROSIS SLEEP AND AIR STUDIES
Billings ME, Leary PJ, Gold D, Aaron CP, Kaufman
J, Redline S

0310  9:30am - 9:45am
THE EFFECT OF SNORING TIME AND THE
APNEA/HYPOPNEA INDEX ON CHANGES IN
CAROTID ATHEROSCLEROSIS OVER 6 YEARS
Kim J, Pack AI, Riegel B, Tkacs N, Chirinos J,
Hanlon A, Shin C

0311  9:45am - 10:00am
ASSOCIATION BETWEEN SLEEP DISORDERED
BREATHING AND THE SUBSEQUENT
DIAGNOSIS OF DIABETES IN YOUNG
VETERANS: A RETROSPECTIVE COHORT
STUDY
Ryden AM, Martin J, Mitchell M, Ponec R, Santiago
S, Zeidler MR

S15: Insomnia Subtypes: The Mind, the Brain and the Body

8:00am – 10:00am
Room 102F

Chair: Eus Van Someren, PhD
Faculty: Georgina Cano, PhD; Jack Edinger, PhD; and
Alexandros Vgontzas, MD

Psychologist Level of Content: Intermediate

Objectives:
1. Apply the most recent human findings on the
   application of subjective, EEG, physiological and
   MRI profiles to elucidate diverging causes and
   consequences of poor sleep in different insomnia
   phenotypes;
2. Describe the outlines of data-driven insomnia subtype
   profiles that can be used to target specific subgroups
   for more focused future research on causes and
   treatment of insomnia; and
3. Identify possible new targets for the treatment of
   insomnia subtypes and how they can be evaluated
   side-by-side in both clinical trials and animal models.
9:30am – 10:00am  Animal Models Replicate Different Insomnia Phenotypes Observed in Humans
Georgina Cano, PhD

S16: A Perfect Time for Chronomedicine
8:00am – 10:00am
Room L100F

Co-chairs: Sabra Abbott, MD, PhD; and Phyllis Zee, MD, PhD
Faculty: Sonia Ancoli-Israel, PhD; Brant Hasler, PhD; Till Roenneberg, PhD; and Fred Turek, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Review the broad role of circadian dysfunction in human health and disease;
2. Discuss new techniques for diagnosing and treating circadian disorders; and
3. Appreciate the potential role for chronomedicine in sleep medicine.

8:00am – 8:25am  Basic Circadian Science: Implications for Health
Fred Turek, PhD

8:25am – 8:50am  Defining Circadian and Sleep Health in Populations
Till Roenneberg, PhD

8:50am – 9:15am  Circadian Based Approaches to Improve Treatment Outcomes
Sonia Ancoli-Israel, PhD

9:15am – 9:40am  Circadian Rhythms in Psychiatric Disorders
Brant Hasler, PhD

9:40am – 10:00am  Conclusion: The Chronomedicine Clinic Model
Sabra Abbott, MD, PhD; and Phyllis Zee, MD, PhD

Chair: Mehdi Tafti, PhD; and Anne Vassalli, DPhil
Faculty: Luis de Lecea, PhD; Giuseppe Plazzi, MD; Thomas Scammell, MD; and Jerome Siegel, PhD

Psychologist Level of Content: Advanced

Objectives:
1. Explain the conditions of high hypocretin/orexin release in healthy subjects and increased propensity of cataplexy in narcolepsy from both human and animal investigations;
2. Review the phenomenology of the hypocretin/orexin neural circuitry and its interactions with other wake-promoting pathways such as the noradrenergic pathway; and
3. Analyze clinical and polysomnographic observations of narcolepsy with cataplexy with developing knowledge in the brain circuits underlying behavior, and their alteration in absence of functional hypocretin/orexin signaling.

8:00am – 8:20am  Introduction
Mehdi Tafti, PhD; and Anne Vassalli, DPhil

8:20am – 8:45am  Neuronal Activity in Cataplexy
Jerome Siegel, PhD

8:45am – 9:10am  Forebrain Control of Cataplexy
Thomas Scammell, MD

9:10am – 9:35am  Human Cataplectic Behaviors
Giuseppe Plazzi, MD

9:35am – 10:00am  Optogenetic Control of Monoaminergic Nuclei and Cataplexy
Luis de Lecea, PhD

I10: Sleep and Pediatric Chronic Pain: Innovative Approaches to Assessment and Treatment
9:05am – 10:05am
Room 101E

Tonya Palermo, PhD (Bio on page 32)

Psychologist Level of Content: Intermediate

Objectives:
1. Summarize the evidence for sleep disturbances in
children with painful conditions;
2. Identify sociodemographic, environmental and clinical factors associated with risk for sleep disturbances in children with painful conditions; and
3. Discuss recent advances in the use of technology to deliver behavioral interventions to children and families.

Exhibit Hall Open

10:00am – 2:00pm
Exhibit Hall B

Refreshment Break in the Exhibit Hall

10:00am – 10:20am

W06: Critical Issues in the Evaluation, Diagnosis and Management of RBD Patients

10:20am – 12:20pm
Room L100H

Co-chairs: Birgit Högl, MD; and Carlos Schenck, MD
Faculty: Alex Iranzo, MD, PhD; Jacques Montplaisir, MD, PhD; and Yun Kwok Wing, MBChB

Psychologist Level of Content: Advanced

Objectives:
1. Discuss strengths and weaknesses of questionnaires for diagnosing REM sleep behavior disorder (RBD);
2. Identify different systems of vPSG analysis for detecting REM sleep without atonia and RBD, and discuss their specific advantages and disadvantages;
3. Review the long-term implications of the diagnosis of RBD; and
4. Describe different clinical profiles of RBD in different populations and the role of comorbidities.

10:20am – 10:40am Validated RBD Screening Questionnaires: Opportunities and Pitfalls

10:40am – 11:00am Yun Kwok Wing, MBChB
Currently Used Systems to Quantify EMG Activity during REM Sleep Manually and Automatically, Optimal EMG Montages
Birgit Högl, MD

11:20am – 11:40am
PSG Characteristics and Clinical Outcome in Patients with “Secondary RBD”
Jacques Montplaisir, MD, PhD

11:40am – 12:00pm
How to Distinguish True RBD Behaviors during REM Sleep from Non-RBD Behaviors?
Alex Iranzo, MD, PhD

12:00pm – 12:20pm
Comorbidities and Complex RBD Cases and the Probability of Future Parkinsonism/Dementia with High-risk Patients with Idiopathic RBD
Carlos Schenck, MD

D08: The American Sleep Medicine Foundation: Stimulating Innovation through Expanded Funding Opportunities

10:20am – 12:20pm
Room 205A

Chair: Merrill Wise, MD
Faculty: Ronald Chervin, MD; Clete Kushida, MD, PhD, RST, RPSGT; Timothy Morgenthaler, MD; Susan Redline, MD, MPH; and Nathaniel Watson, MD, MS

Psychologist Level of Content: Introductory

Objectives:
1. Review the history, mission and vision of the American Sleep Medicine Foundation (ASMF), and recent changes in ASMF governance;
2. Describe recent changes in how the AASM supports the ASMF, and how the ASMF establishes funding priorities in the evolving healthcare landscape; and
3. Discuss the ASMF’s approach to supporting new investigators, funding strategic research including health services research relevant to sleep medicine, and encouraging collaborative approaches to scientifically and clinically relevant questions.
O24: Insomnia: Co-morbid Associations

10:20am – 12:20pm
Room 102A

Co-chairs: Ruth Benca, MD, PhD; and Constance Fung, MD

Psychologist Level of Content: Intermediate

Objective: Identify co-morbid associations with insomnia.

0496 10:20am - 10:35am
COGNITIVE BEHAVIORAL INSOMNIA THERAPY LEADS TO PAIN REDUCTIONS THROUGH IMPROVING THE SLEEP OF FIBROMYALGIA PATIENTS

0497 10:35am - 10:50am
PERSISTENT INSOMNIA AND ALL-CAUSE MORTALITY IN A COMMUNITY-BASED COHORT
Parthasarathy S, Vasquez MM, Halonen M, Bootzin RR, Quan SF, Martinez FD, Guerra S

0498 10:50am - 11:05am
INCREASED PHYSICAL ACTIVITY IMPROVES SLEEP AND MOOD OUTCOMES IN SEDENTARY PEOPLE WITH INSOMNIA: A RANDOMIZED CONTROLLED TRIAL
Hartescu I, Morgan K, Stevinson CD

0499 11:05am - 11:20am
TREATING INSOMNIA IN THOSE WITH DEPRESSION: A RANDOMIZED CONTROLLED TRIAL
Carney C

0500 11:20am - 11:35am
INSOMNIA WITH OBJECTIVE SHORT SLEEP DURATION AND ALL-CAUSE MORTALITY: GENDER EFFECTS
Vgontzas AN, Fernandez-Mendoza J, Liao D, Pejovic S, Basta M, Calhoun SL, Bixler EO

0501 11:35am - 11:50am
IMPROVED SLEEP QUALITY PREDICTS LONG-TERM IMPROVEMENTS IN SLEEP, PAIN, AND FATIGUE IN OLDER ADULTS WITH CO-MORBID OSTEOARTHRITIS AND INSOMNIA
Vitiello MV, McCurry SM, Shortreed SM, Baker LD, Rybarczyk BD, Keefe FJ, Von Korff M

0502 11:50am - 12:05pm
ASSOCIATIONS BETWEEN INSOMNIA PHENOTYPE AND CHRONICITY WITH WEEKLY TREATMENT RESPONSE DURING ONLINE CBT-I: OBSERVATIONS WITHIN A LARGE ONLINE TREATMENT COHORT
Espie CA, Bostock S, Kyle S, Paluzzi B, Hames P

O25: Obstructive Sleep Apnea: Effects and Treatment

10:20am – 12:20pm
Room L100F

Co-chairs: Maryann Deak, MD; and Sandra Horowitz, MD

Psychologist Level of Content: Intermediate

Objective: Review the health and quality of life effects of OSA and its treatment.

0312 10:20am - 10:35am
EFFECT OF OBSTRUCTIVE SLEEP APNEA TREATMENT ON SYSTEMIC INFLAMMATION: RESULTS OF THE SLEEP APNEA STRESS STUDY (SASS) RANDOMIZED CONTROLLED TRIAL
Ashraf F, Tracy R, Li H, Auckley D, Patel SR, Walia HK, Mehra R

0313 10:35am - 10:50am
IMPACT OF SLEEP DISORDERED BREATHING TREATMENT ON SUBJECTIVE PATIENT REPORTED OUTCOMES IN A LARGE HYPERTENSION CLINIC-BASED COHORT ENRICHED WITH RESISTANT HYPERTENSION
Walia HK, Griffith SD, Bae C, Moul DE, Foldvary-Schaefer N, Mehra R
0314 10:50am - 11:05am
THE ASSOCIATION BETWEEN CHANGE IN CLINICAL OUTCOME MEASURES AND APNEA HYPOPNEA INDEX CORRECTED FOR CPAP USE
Kirkham EM, Weaver EM

0315 11:05am - 11:20am
THE EFFECT OF CPAP AND PDE-5 INHIBITOR ON ARTERIAL STIFFNESS AND ENDOTHELIAL FUNCTION IN MEN WITH OSA AND ERECTILE DYSFUNCTION: A RANDOMISED CONTROLLED STUDY
Melehan KL, Hoyos CM, Yee BY, Wong KK, O’Meagher S, Celermajer DS, Ng MK, Grunstein RR, Liu PY

0316 11:20am - 11:35am
CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) REDUCES CENTRAL BLOOD PRESSURE AND ARTERIAL STIFFNESS: A RANDOMISED CONTROLLED STUDY
Hoyos CM, Yee BJ, Wong KK, Grunstein RR, Phillips CL

0317 11:35am - 11:50am
CONTINUOUS POSITIVE AIRWAY PRESSURE RAPIDLY IMPROVES BLOOD PRESSURE AND ARTERIAL CONSTRICTION IN YOUNG ADULTS
Korcarz CE, Benca RM, Hansen K, Weber JM, Stein JH

0318 11:50am - 12:05pm
PAP USE CRITERIA AND CHANGE OF HEMOGLOBIN A1C
Neikrug AB, Cvengros JA, Fogg LF, Crisostomo I, Snyder S, Smith MA, Baldwin D, Park M

0319 12:05pm - 12:20pm
EFFECTS OF CONTINUOUS POSITIVE AIRWAY PRESSURE ON MEASURES OF ARTERIAL STIFFNESS IN OBSTRUCTIVE SLEEP APNEA: RESULTS OF THE SLEEP APNEA STRESS STUDY RANDOMIZED CONTROLLED TRIAL

ユーザーフレーズ：S18: Sleep in Children with Chronic Health Conditions: Challenges and Opportunities
10:20am – 12:20pm
Room 102F
Chair: Penny Corkum, PhD
Faculty: Valerie Crabtree, PhD; Lisa Meltzer, PhD; and Tonya Palermo, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Explain the relationship between sleep and a range of chronic health disorders in children and adolescents;
2. Describe how sleep problems/disorders can affect symptom presentation and functional consequences; and
3. Discuss how sleep problems/disorders can affect treatment response and identify methods of tailoring sleep interventions for children with chronic health conditions.

10:20am – 10:45am
Sleep Disturbances in Children with Mental Health Disorders
Penny Corkum, PhD

10:45am – 11:10am
Sleep Disturbances in Children and Adolescents with Chronic Pain
Tonya Palermo, PhD

11:10am – 11:35am
Sleep Disturbances in Children with Asthma
Lisa Meltzer, PhD

11:35am – 12:00pm
Sleep Disturbances in Children with Cancer
Valerie Crabtree, PhD

12:00pm – 12:20pm
Discussion

ユーザーフレーズ：S19: Metabolomics and Sleep: Translational Approaches from Animals to Humans
10:20am – 12:20pm
Room L100J
Chair: Namni Goel, PhD
**Scientific Program | Wednesday**

**Faculty:** Tarja Porkka-Heiskanen, MD, PhD; Debra Skene, PhD; and Aalim Weljie, PhD

**Psychologist Level of Content:** Intermediate

**Objectives:**

1. Recognize how various metabolomic technologies can be used in a systems approach to examine the well-established and important links between sleep loss and metabolism.
2. Describe the usefulness of metabolomic profiling for determining biomarkers in response to different degrees of sleep deprivation.
3. Describe the metabolomic effects of sleep loss and discuss how the contributions of these responses might vary under different types of sleep loss protocols (acute total vs. partial sleep deprivation); and
4. Evaluate metabolomic approaches and effects translationally – from rodents to humans – in similar experimental procedures.

**Poster Viewing**

**10:20am – 12:20pm | Exhibit Hall B**

See page 127-194 for a complete listing of posters.

On Wednesday, the Poster Hall will be open during exhibit hall hours. This is your final opportunity to review the posters, discuss the latest discoveries in the field and network with colleagues.

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**S20: Future Models of Care: The Veterans Health Administration Experience**

**10:20am – 12:20pm**

**Room 101E**

**Chair:** Kathleen Sarmiento, MD

**Faculty:** Charles Atwood, MD; Samuel Kuna, MD; Jennifer Martin, PhD; and Carl Stepnowsky Jr., PhD

**Psychologist Level of Content:** Introductory

**Objectives:**

1. Review the staffing and clinical challenges posed by health care systems with increasing demand and finite resources;
2. Discuss ambulatory models that can improve access to care including shared medical appointments, web-based portals, primary-care collaborations, and telehealth;
3. Describe the role of technology in making OSA management more patient-centric; and
4. Identify what models exist for integrating CBT-I treatment into sleep disorders centers.

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**10:20am – 10:25am**

**Introduction**

*Kathleen Sarmiento, MD*

**10:25am – 10:50am**

**Ambulatory Models of Sleep Care: Diagnosis and Therapy, Shared Medical Appointments, Primary Care Alliances and Telehealth**

*Charles Atwood, MD*

**10:50am – 11:15am**

**Using Information Technology to Improve CPAP Compliance**

*Carl Stepnowsky Jr., PhD*

**11:15am – 11:40am**

**Web-based Sleep Apnea Management Programs**

*Samuel Kuna, MD*

**11:40am – 12:05pm**

**Integrating CBT-I into Comprehensive Care for Sleep Disorders**

*Jennifer Martin, PhD*

**12:05pm – 12:20pm**

**Discussion**
L03: Does Objective Measuring of Compliance Improve Outcome?

12:30pm – 1:30pm
Room 200I

All Lunch Debate sessions require additional registration fees. **CE credits for psychologists are not provided for this session.**

**Faculty:** Najib Ayas, MD; and Richard Schwab, MD

**Objectives:**
1. Determine how to measure compliance effectively;
2. Evaluate patients for a compliance plan;
3. Discuss compliance measures to improve patients outcomes.

Meet the Professors

12:30pm – 1:30pm

All Meet the Professors sessions require additional registration fees. **CE credits for psychologists are not provided for these sessions.**

M17: Treatment Updates on Insomnia
Room M100B
Andrew Krystal, MD

M18: Exercise and Sleep
Room M100C
Shawn Youngstedt, PhD

M19: Home Sleep Testing
Room M100D
Max Hirshkowitz, PhD

M20: The Expanding Role of APRNs and PAs in Sleep Medicine
Room M100E
Loretta Colvin, APRN-BC

M21: How to Evaluate and Manage Excessive Daytime Sleepiness in Childhood
Room M100F
Suresh Kotagal, MBBS

M22: Increasing Public Awareness of Sleep through Employers
Room M100G
Charles Czeisler, MD, PhD

M23: Tired Cops and First Responders: Sleep, Justice and Public Safety
Room M100H
Hans Van Dongen, PhD

M24: Sleep, Memory and Emotion
Room M100I
Jessica Payne, PhD

I11: The Future of Sleep Apnea Therapy

1:30pm – 2:30pm
Room 101E

Atul Malhotra, MD *(Bio on page 31)*

**Psychologist Level of Content:** Intermediate

**Objectives:**
1. Recognize the multifactorial nature of OSA;
2. Define loop gain; and
3. Identify subsets of OSA amenable to therapy.

O26: Sleep Quality in Older Adults

1:30pm – 2:30pm
Room 102A

**Co-chairs:** Sonia Ancoli-Israel, PhD; and Nalaka Gooneratne, MD
**Psychologist Level of Content:** Intermediate

**Objective:** Identify circadian and EEG factors that may be associated with insomnia and cognitive decline in older adults and interventions to improve sleep quality in this population.

**0968 1:30pm - 1:45pm**

**UNMASKED CIRCADIAN RHYTHMS IN OLDER ADULTS WITH AND WITHOUT INSOMNIA**

Monk TH, Buysse DJ, Billy BD, Fletcher ME

**0969 1:45pm - 2:00pm**

**ASSOCIATIONS BETWEEN QUANTITATIVE SLEEP EEG DATA AND SUBSEQUENT COGNITIVE DECLINE IN COMMUNITY-DWELLING OLDER WOMEN**

Djonlagic I, Aeschbach D, Litwack Harrison S, Dean D, Ancoli-Israel S, Yaffe K, Stone K, Redline S

**0970 2:00pm - 2:15pm**

**A BEHAVIORAL INTERVENTION IMPROVES SLEEP QUALITY AMONG ADULT DAY HEALTH CARE PARTICIPANTS: RESULTS OF A RANDOMIZED CONTROLLED TRIAL**


**0971 2:15pm - 2:30pm**

**WHY ARE PEOPLE WITH INSOMNIA SYMPTOMS RETIRING EARLIER THAN PEOPLE WITHOUT INSOMNIA SYMPTOMS? AN ANALYSIS OF THE RETIREMENT AND SLEEP TRAJECTORIES STUDY (REST)**

Hale L, Hagen E, Barnet J, Steidl R, Salzieder N, Peppard PE

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**O27: Narcolepsy and Hypersomnias Related Psychiatric Disease**

**1:30pm – 2:30pm**

**Room 205A**

**Chair:** Cathy Goldstein, MD

**Psychologist Level of Content:** Intermediate

**Objective:** Identify the relationships of HLA-DQB1 and T-Cell autoimmunity to narcolepsy, and list associations of hypersomnia with depression and bipolar disease.

**0652 1:30pm - 1:45pm**

**QB1 LOCUS ALONE EXPLAINS MOST OF THE RISK AND PROTECTION IN NARCOLEPSY WITH CATAPLEXY IN EUROPE**


**0653 1:45pm - 2:00pm**

**CD4+ T-CELL AUTOIMMUNITY TO HYPOCRETIN/OREXIN IN NARCOLEPSY**


**0654 2:00pm - 2:15pm**

**PHYSIOLOGICAL SLEEP PROPENSITY AND DEPRESSION AS PREDICTORS OF INCIDENT EXCESSIVE DAYTIME SLEEPINESS**


**0655 2:15pm - 2:30pm**

**HYPERSOMNIA IN BIPOLAR DISORDER: CLARIFYING A DIAGNOSTIC DILEMMA**


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**O28: Sleep State Analysis: New Methods and Models**

**1:30pm – 2:30pm**

**Room L100J**

**Co-chairs:** Robert Stansbury, MD; and Hans Van Dongen, PhD

**Psychologist Level of Content:** Intermediate

**Objective:** Discuss new methods of analyzing sleep.

**0263 1:30pm - 1:45pm**

**VALIDATION OF A WORKLOAD-SENSITIVE MATHEMATICAL MODEL OF THE TEMPORAL DYNAMICS OF PERFORMANCE**

Van Dongen H, McCauley P
O264 1:45pm - 2:00pm
VALIDATION OF SMARTPHONE-BASED AND IPAD-BASED PSYCHOMOTOR VIGILANCE TESTS
Grant DA, Honn KA, Kogan CJ, Layton ME, Van Dongen H

O265 2:00pm - 2:15pm
AN IMPROVED METHOD FOR THE DETECTION OF DROWSY DRIVERS USING LANE HEADING DIFFERENCE
Morris DM, Pilcher JJ, Switzer FS

O266 2:15pm - 2:30pm
UPPER AIRWAY OBSTRUCTION INDUCES ABNORMAL SLEEP DYNAMICS IN JUVENILE RATS
Tarasiuk A, Berdugo-Boura N, Segev Y, Gradwohl G

O29: Circadian Misalignment and Circadian Sleep-Wake Disorders
1:30pm – 2:30pm
Room L100H

Co-chairs: Sabra Abbott, MD, PhD; and Jamie Zeitzer, PhD

Psychologist Level of Content: Intermediate

Objective: Describe the consequences of circadian disruption in healthy adults and in circadian rhythm sleep-wake disorders.

0467 1:30pm - 1:45pm
CIRCADIAN MISALIGNMENT INCREASES CARDIOVASCULAR RISK INDEPENDENTLY OF SLEEP LOSS
Grimaldi D, Holmbäck U, Van Cauter E, Leproult R

0468 1:45pm - 2:00pm
DIFFERENTIAL SLEEP DISTURBANCES IN TWO PHENOTYPES OF SHIFT WORK DISORDER
Roth T, Belcher R, Drake CL, Mengel HJ, Koshorek GL, Gable M, Gumenyuk V

0469 2:00pm - 2:15pm
UNEXPECTED PHASE DELAYS DURING NIGHT SHIFTS IN A NATURALISTIC PILOT STUDY IN PATROL OFFICERS
Martin J, Sasseville A, Lavoie J, Houle J, Laberge L, Hébert M

0470 2:15pm - 2:30pm
ASSESSMENT OF CLINICAL MEASURES IN NON-24-HOUR DISORDER (NON-24) PATIENTS ENTRAINED BY TASIMELTEON
Lockley S, Dressman MA, Xiao C, Licamele L, Polymeropoulos MH

O30: Sleep Timing, Duration and Napping: New Insights
1:30pm – 2:30pm
Room L100F

Co-chairs: Michael Grandner, PhD; and Sara Mednick, PhD

Psychologist Level of Content: Intermediate

Objective: Review recent developments in understanding napping and sleep duration.

0840 1:30pm - 1:45pm
ASSOCIATIONS BETWEEN RACE/ETHNICITY, TIMING OF SLEEP AND HYPERTENSION IN A POPULATION-BASED SAMPLE: CHICAGO AREA SLEEP STUDY (CASS)
Knutson KL, de Chavez P, Zee PC, Carnethon MR

0841 1:45pm - 2:00pm
THE RELATIONSHIP BETWEEN RACE/ETHNICITY AND SLEEP DURATION DEPENDS ON GEOGRAPHIC LOCATION
Schusche J, Pigeon W, Grandner MA

0842 2:00pm - 2:15pm
WHY DO PEOPLE NAP? A FACTOR ANALYSIS OF SELF-REPORTED SLEEP HABITS
Duggan KA, McDevitt EA, Whitehurst LN, Mednick SC

0843 2:15pm - 2:30pm
PREDICTORS OF PERCEIVED INSUFFICIENT SLEEP AMONG HABITUAL SHORT SLEEPERS
Huang S, Grandner MA
B04: Shining a Light on Sleep, Metabolism and Body Weight

2:45pm – 4:45pm
Room L100H

Chair: Kathryn Reid, PhD
Faculty: Mariana Figueiro, PhD; Laura Fonken, PhD; and Jamie Zeitzer, PhD

Objectives:
1. Describe how manipulating light exposure impacts sleep, metabolic function and weight control in animal and human models; and
2. Discuss data from animal models following the manipulation of the light-dark cycle and feeding patterns on metabolic and molecular function.

2:45pm – 2:50pm  
Introduction
Kathryn Reid, PhD

2:50pm – 3:20pm  
Exposure to Light at Night Disrupts the Circadian System and Leads to Weight Gain
Laura Fonken, PhD

3:20pm – 3:45pm  
The Impact of Light Exposure on Metabolic Function and Body Weight in Normal Adults
Kathryn Reid, PhD

3:45pm – 4:15pm  
Effects of Light on Sleep and Use of Light to Improve Sleep
Jamie Zeitzer, PhD

4:15pm – 4:45pm  
Light, Sleep and Biomarkers
Mariana Figueiro, PhD

W07: Hypersomnia and Narcolepsy in the Pediatric Population

2:45pm – 4:45pm
Room L100F

Co-chairs: Sejal Jain, MD; and Narong Simakajornboon, MD
Faculty: Suresh Kotagal, MBBS; and Emmanuel Mignot, MD, PhD

Objectives:
1. Describe common presentations for narcolepsy in children;
2. Review management strategies for hypersomnia and narcolepsy in children; and
3. Discuss hypersomnia associated with childhood neurological disorders.

2:45pm – 3:15pm  
Clinical Presentations of Childhood Hypersomnia
Suresh Kotagal, MBBS

3:15pm – 3:45pm  
Diagnosis of Narcolepsy and Hypersomnia in Children
Emmanuel Mignot, MD, PhD

3:45pm – 4:15pm  
Hypersomnia in Neurological Disorders
Sejal Jain, MD

4:15pm – 4:45pm  
Medical Treatment of Hypersomnia and Updates from Sleep Research Network (SRN)
Narong Simakajornboon, MD

O31: Insomnia: Modifying Factors

2:45pm – 4:45pm
Room 102A

Chair: Jennifer Martin, PhD

Objectives: Evaluate factors modifying insomnia.
0504 2:45pm - 3:00pm
NEUROPLASTICITY IN COMORBID CHRONIC PAIN AND CHRONIC INSOMNIA: IMPACT OF IMPROVED SLEEP ON CENTRAL SENSITIZATION

0505 3:00pm - 3:15pm
THE INTERACTION BETWEEN STRESS AND SLEEP-REACTIVITY: A PROSPECTIVE INVESTIGATION OF THE STRESS-DIATHESIS MODEL OF INSOMNIA
Pillai V, Roth T, Mengel HJ, Drake CL

0506 3:15pm - 3:30pm
MISPERCEPTION OF TIREDNESS IN INDIVIDUALS WITH INSOMNIA
Akram U, Ellis J, Myachykov A, Barclay N

0507 3:30pm - 3:45pm
IS THERE HABITUATION DURING SLEEP IN INSOMNIA INDIVIDUALS?
Bastien C, Perlis ML, Ceklic T

0508 3:45pm - 4:00pm
CORTICAL AROUSAL IS PRESENT IN ALERT INSOMNIACS BUT ABSENT IN SLEEPY INSOMNIACS WITHIN SHIFT WORK DISORDER: AN ERP STUDY
Gumenyuk V, Belcher R, Drake CL, Spear L, Roth T

0509 4:00pm - 4:15pm
TIME MONITORING BEHAVIOR: FACTOR ANALYSIS AND RELATIONSHIP TO SLEEP MEDICATION USE
Dawson SC, Krakow B, McIver ND, Ulibarri VA

0510 4:15pm - 4:30pm
NIGHT TO NIGHT VARIABILITY AMONG OLDER ADULTS WITH INSOMNIA: ASSOCIATIONS WITH SLEEP QUALITY AND DIABETES RISK
Baron KG, Reid KJ, Malkani RG, Zee PC

0511 4:30pm - 4:45pm
MODERATORS AND MEDIATORS OF THE RELATIONSHIP BETWEEN STRESS AND INSOMNIA: STRESSOR CHRONICITY, COGNITIVE INTRUSION, AND COPING BEHAVIORS
Mengel HJ, Pillai V, Roth T, Belcher R, Drake CL

0210 2:45pm - 3:00pm
EARLY BEDTIMES REDUCE 24-HR INTAKE FOR ADOLESCENTS WITH EARLY CHRONOTYPES, BUT NOT THOSE WITH LATE CHRONOTYPES
Beebe DW, Rausch J, Zhou A, Noe O, Simon S

0211 3:00pm - 3:15pm
THE RELATIONSHIP BETWEEN SLEEP DURATION AND CARDIOMETABOLIC RISK FACTORS DEPENDS ON RACE/ETHNICITY AND WHETHER RISK FACTORS WERE SELF-REPORTED OR OBJECTIVELY-DETERMINED
Grandner MA, Chakravorty S, Perlis M, Oliver L, Gurubhagavatula I

0212 3:15pm - 3:30pm
SLEEP DURATION AND SOCIAL DEPRIVATION IN TWINS
Watson NF, Horn E, Buchwald D, Turkheimer E, Vitiello MV, Pack AI, Duncan GE

0213 3:30pm - 3:45pm
MITOCHONDRIAL DNA COPY NUMBER IN SLEEP DURATION DISCORDANT MONOZYGOTIC TWINS

0214 3:45pm - 4:00pm
SEASONAL CHANGES OF PERFORMANCE IN DIFFERENT NATURAL DAYLIGHT CONDITIONS AMONG SHIFT WORKERS LIVING IN NORTHERN REGION
Bochkarev M, Ragozin O, Sirusina AV

032: Biobehavioral Impact of Short Sleep Duration and Shift Work
2:45pm – 4:45pm
Room L100J

Co-chairs: Jeanne Duffy, PhD; and Gemma Paech, PhD

Psychologist Level of Content: Intermediate

Objective: Describe the adverse consequences of short sleep duration, whether natural or induced by work schedule, on behavior, performance and health.
<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Topic</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0215</td>
<td>4:00pm - 4:15pm</td>
<td>SHIFTWORK PRACTICES IN THE UNITED STATES NAVY: A STUDY OF SLEEP AND PERFORMANCE IN WATCHSTANDERS ABOARD THE USS JASON DUNHAM</td>
<td>Shattuck NL, Waggoner LB, Young RL, Smith CS</td>
</tr>
<tr>
<td>0216</td>
<td>4:15pm - 4:30pm</td>
<td>FIGHTING FIRES AND FATIGUE: EFFECT OF 4-HOURS SLEEP DEPRIVATION ON FIREFIGHTER PHYSICAL PERFORMANCE DURING SIMULATED BUSHFIRE SUPPRESSION</td>
<td>Vincent G, Ferguson S, Tran J, Aisbett B</td>
</tr>
<tr>
<td>0217</td>
<td>4:30pm - 4:45pm</td>
<td>IMPACT OF HIGH DOSE CAFFEINE ON DAYTIME RECOVERY SLEEP FOLLOWING SLEEP DEPRIVATION</td>
<td>Paech GM, Della Vedova C, Pajcin M, Grant C, Kamimori GH, Banks S</td>
</tr>
</tbody>
</table>

**S21: The Importance of Sleep Disturbance in Mood Disorders: Evidence from Clinical Interventions and Scientific Experiments**

2:45pm – 4:45pm
Room 102F

Chair: Jared Minkel, PhD
Faculty: Ruth Benca, MD, PhD; Andrew Krystal, MD; and Rachel Manber, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Discuss the nature of sleep abnormalities in patients with major depression;
2. Describe the beneficial effects of treating sleep problems in patients with major depression; and
3. Identify behavioral and biological consequences of experimental sleep deprivation on emotional function.

2:45pm – 3:15pm  | Sleep Disturbances in Major Depression  | Ruth Benca, MD, PhD

3:15pm – 3:45pm  | Cognitive-Behavioral Treatments for Insomnia and Major Depression  | Rachel Manber, PhD

3:45pm – 4:15pm  | Pharmacotherapy for Insomnia and Major Depression  | Andrew Krystal, MD

4:15pm – 4:45pm  | Affective Consequences of Experimental Sleep Deprivation  | Jared Minkel, PhD

**S22: Autonomic Consequences of Sleep Loss and Risk of Hypertension**

2:45pm – 4:45pm
Room 205A

Chair: Huan Yang, PhD
Faculty: Jason Carter, PhD; Julio Fernandez-Mendoza, PhD; and Monika Haack, PhD

Psychologist Level of Content: Intermediate

Objectives:
1. Review the autonomic consequences of sleep loss which could contribute to increased risk of hypertension;
2. Recognize the sex differences in autonomic and hemodynamic responses to sleep loss; and
3. Discuss a novel behavioral approach to lowering blood pressure.

2:45pm – 3:15pm  | Influences of Acute Total Sleep Deprivation and Repetitive Sleep Restriction on Baroreflex Sensitivity and Blood Pressure Regulation  | Huan Yang, PhD

3:15pm – 3:45pm  | Sleep Deprivation and Neural Control in Humans: Does Sex Matter?  | Jason Carter, PhD

3:45pm – 4:15pm  | Insomnia with Objective Short Sleep Duration and Risk of Hypertension  | Julio Fernandez-Mendoza, PhD

4:15pm – 4:45pm  | Can We Lower High Blood Pressure and Vascular/Inflammatory Markers by Improving Sleep?  | Monika Haack, PhD
S23: Does OSA Cause Metabolic Consequences: Summary of the Existing Evidence and Presentation of New Data

2:45pm – 4:45pm
Room 101E

Co-chairs: Ronald Grunstein, MD, PhD; and Camilla Hoyos, PhD
Faculty: Vsevolod Polotsky, MD, PhD; Naresh Punjabi, MD; and Esra Tasali, MD

Psychologist Level of Content: Introductory

Objectives:
1. Describe the physiological mechanisms for why OSA may cause metabolic consequence;
2. Discuss evidence from randomized CPAP treatment studies investigating markers of metabolic health;
3. Review the most recent data, some unpublished, from randomized CPAP sham-controlled studies regarding metabolic health in both non-diabetic and diabetic patients; and
4. Identify the best direction to be taken for new research in the area of metabolic health.

2:45pm – 2:50pm Introduction
Ronald Grunstein, MD, PhD

2:50pm – 3:10pm Potential Mechanisms Linking OSA with Metabolic Dysfunction
Vsevolod Polotsky, MD, PhD

3:10pm – 3:30pm The Effect of CPAP Treatment on Metabolic Health: Summary of the Evidence from Randomized Controlled Studies
Camilla Hoyos, PhD

3:30pm – 3:50pm Effects of CPAP therapy on Insulin Sensitivity and Glycemia in Non-Diabetics and Diabetics: Results from Two Randomized Control Trials in Sleep Apnea
Naresh Punjabi, MD

3:50pm – 4:10pm Optimal CPAP Treatment: Effects on Glucose Metabolism
Esra Tasali, MD

4:10pm – 4:45pm Discussion
LBA 1
12:40pm – 12:55pm

Home Sleep Duration and Glycemia in Lean and Obese Adolescents
Koren D1, O’Sullivan K1, Gozal L2, Bhattacharjee R2, Gozal D2
1Departments of Pediatrics and Medicine, Section of Adult and Pediatric Endocrinology, Diabetes and Metabolism, University of Chicago, Chicago, IL, USA, 2Department of Pediatrics, Section of Pediatric Sleep Medicine, University of Chicago, Chicago, IL, USA

Introduction: Self-inflicted behaviorally mediated sleep restriction is rampant among adolescents, who may sleep as little as 6.4 hours on weeknights. In adults, chronic sleep restriction increases type 2 diabetes risk and experimental sleep restriction causes acute insulin resistance and glucose intolerance. Pediatric studies have associated short sleep with insulin resistance, but have not examined home sleep duration’s influence on post-prandial glucose metabolism. We report on a pilot study examining relationships between home sleep and dynamic glucose and insulin homeostasis in adolescents.

Methods: 10 adolescents (age 13-18 years, Tanner 2-5) underwent oral glucose tolerance test (OGTT), anthropometrics, overnight polysomnogram, and home sleep assessment via actigraphy and sleep diaries. Continuous variables were analyzed by correlation analysis. Linear regressions examined associations between home sleep duration and metabolic outcomes, controlling for weight.

Results: We found significant negative associations between home sleep duration (actigraphy) and weight (r=-0.63, p=0.049) and OGTT 90-minute glucose (r=-0.66, p=0.036). Trends emerged towards associations between sleep duration and waist circumference (r=-0.60, p=0.086), fasting insulin (r=-0.59, p=0.074) and insulin resistance measures, i.e. homeostasis model assessment of insulin resistance (HOMA-IR: r=-0.56, 0.091), and whole-body insulin sensitivity index (higher values denote greater insulin sensitivity: r=+0.56, p=0.091). Linear regression analysis revealed that sleep duration was the primary predictor of 90-minute glucose (R² change=0.44, p=0.036) and that body weight was not a significant predictor.

Conclusions: In this pilot study, the first to our knowledge to examine potential interrelationships between home sleep duration and dynamic insulin and glucose homeostasis in adolescents, significant negative relationships between home sleep duration and both weight and post-challenge glucose levels were identified, and trends towards negative associations between home sleep duration and both central obesity and insulin resistance were present. Our early results point towards an association between sleep and glucose/insulin homeostasis in adolescents that may be independent of body weight.

Support: This study was supported by a CTSA UL1 TR000430 award.

LBA 2
12:55pm – 1:10pm

Optogenetic Inhibition of Basal Forebrain Parvalbumin GABA Neurons Suppresses Cortical Activation from Both Gamma Band Auditory Stimulation and Hypercarbia-induced Arousals from Sleep

Introduction: We hypothesized that basal forebrain (BF) parvalbumin GABA (pvGABA) neurons form a key final common pathway for cortical activation from both sensory and visceral stimuli. We used the 40 Hz auditory steady state response (ASSR) as sensory stimuli and measured the resulting activation of cortical gamma band oscillations (GBO, ~40 Hz). Visceral stimuli were hypercarbia (10% CO2), to model obstructive sleep apnea and its cortical activation and arousal from sleep.

Methods: For optogenetic inhibition, we bilaterally injected a viral vector (AAV-FLEX-ArchT-GFP) with the proton pump ArchT and a green fluorescent protein marker (GFP) into the BF of parvalbumin (PV)-Cre mice (n=12), and histologically verified transduction. Inhibition was induced by 532 nM bilateral laser illumination preceding and during the 500ms ASSR or 30s hypercarbia stimuli and was compared with no illumination in the same animal.

Results: Projections of BF pvGABA neurons to frontal cortex was confirmed by GFP-labeled fiber tracing. Auditory Stimuli: In each of 8 successfully transduced mice, ArchT inhibition during wakefulness of BF PV cells attenuated ASSR-elicted GBO (binomial p<0.01). Overall,
ArchT inhibition reduced FFT power near 40 Hz from no-inhibition mean of 1.88±0.4 to 1.22±0.2 microvolts-squared. Moreover, preliminary data indicated a 23% reduction in arousals from NREM by loud white noise sounds (30 dB>background). Hypercarbia: With bilateral ArchT BF PV inhibition, NREM EEG arousal latencies with hypercarbia in 5 mice were significantly increased (6.5±0.8s without ArchT, 13.1±1.7s with ArchT, paired t-test, p=0.002), an increase of 101.5%. Additionally, under control conditions, arousals occurred at a mean ambient CO2 level of 6.3±0.6%, but when bilateral ArchT BF PV inhibition was applied, the CO2 level for arousal was significantly increased to 8.2±0.8% (paired t-test, p=0.025).

**Conclusion:** Inhibition of BF pvGABA neurons confirms their key role in cortical activation from both sensory (auditory) and visceral (respiratory) stimuli.

**Support:** Dept. of Veterans Affairs (VA merit), MH039683, HL095491 (Proj.3). MH094803, NS079866.

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**LBA 3**

1:10pm – 1:25pm

**Non-visual Effects of Light on Mood Through the Melanopsin Pathway in Seasonal Depression**

Roecklein KA\(^1,2\), Miller MA\(^1\), Donofry SD\(^1\), Hasler BP\(^3\), Franzen PL\(^3\), Gamlin PD\(^4\)

\(^1\)Department of Psychology, University of Pittsburgh, Pittsburgh, PA, USA, \(^2\)The Center for the Neural Basis of Cognition, Pittsburgh, PA, USA, \(^3\)Department of Psychiatry, University of Pittsburgh School of Medicine, University of Pittsburgh, Pittsburgh, PA, USA, \(^4\)Department of Ophthalmology, School of Medicine, University of Alabama, Birmingham, AL, USA

**Introduction:** Individual differences in the effect of light on mood, mediated by retinal subsensitivity, may explain seasonal affective disorder (SAD). Previously we found reduced retinal melanopsin cell responding in SAD (post-illumination pupil response, PIPR). However, the effect of light exposure prior to testing the PIPR could be significant given differential light exposure in SAD, and has not yet been studied.

**Methods:** Participants include 33 individuals with SAD (84% Female; age \(M=38.4, SD=13.6\)) and 17 controls (73% Female; age \(M=34.1, SD=12.8\)). The PIPR was assessed in summer and winter. Light exposures (1 sec) were 15.78nm full width half-maximum (FWHM 632.9nm) and 22.68nm FWHM (467.7nm) and 13.5 log Photons/cm\(^2\)/s retinal irradiance accounting for age-related blue light absorption. Light exposure in the days prior to testing was measured using actigraphy.

**Results:** Total photons on the day of PIPR testing accounted for significant variation in PIPR values in SAD but not controls. Blue total photons accounted for the greatest proportion of variance in PIPR (\(R^2=0.318, \beta=0.39, p=0.013\)), and remained a predictor (\(R^2\) change=0.14, \(p=0.013\)) when controlling for gender, chronotype, and time since wake. Furthermore, the PIPR was lower in SAD compared to controls (\(F(1,50.5)=6.34, p<0.05\)) and lower in evening chronotypes (\(F(1,53.2)=13.7, p<0.001\)) even when including group, season, gender, age, testing time, and wake time.

**Conclusion:** These data are the first to link light exposure and the PIPR in SAD. We speculate that low light levels in SAD trigger downstream changes in mood and behavior, and that the link between light and SAD may be mediated by the PIPR.

**Support:** The study was supported by MH096119.

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**LBA 4**

1:25pm – 1:40pm

**Efficacy and Safety of Oral ADX-N05 for the Treatment of Excessive Daytime Sleepiness in Adults with Narcolepsy: Results of a Randomized, Double-Blind, Placebo-Controlled Trial**

Black J\(^6\), Swick T\(^2\), Feldman N\(^3\), Doekel R\(^4\), Khayrallah M\(^5\), Bream G\(^5\), Ruoff C\(^6\)

\(^1\)Jazz Pharmaceuticals, Inc., Palo Alto, CA, USA, \(^2\)Neurology and Sleep Medicine Consultants of Houston, University of Texas-Houston School of Medicine, Houston, TX, USA, \(^3\)St. Petersburg Sleep Disorders Center at Palms of Pasadena Hospital, St. Petersburg, FL, USA, \(^4\)Sleep Disorders Center of Alabama, Birmingham, AL, USA, \(^5\)Aerial BioPharma, Morrisville, NC, USA, \(^6\)Stanford Sleep Medicine Center, Redwood City, CA, USA

**Introduction:** ADX-N05 (N05) is a unique wake-promoting agent with dopaminergic and noradrenergic activity that is being evaluated for the treatment of excessive daytime sleepiness (EDS) in adults with narcolepsy.
Methods: This double-blind, placebo-controlled, parallel-group, multicenter study evaluated safety and efficacy of N05 over 12 weeks in subjects aged 18-70 years with an ICSD-2 diagnosis of narcolepsy. Subjects were randomized to once-daily placebo (n=49) or N05 (n=44). Doses of N05 were 150 mg/day weeks 1-4 and 300 mg/day weeks 5-12. Co-primary efficacy endpoints were change from baseline to last assessment in average sleep onset latency (SOL) on the Maintenance of Wakefulness Test (MWT) and Clinical Global Impression-Change (CGIC). Secondary endpoints included change from baseline at weeks 4 and 12 on the Epworth Sleepiness Scale (ESS).

Results: Week 4 changes from baseline were significantly greater with N05 150 mg relative to placebo: increased MWT SOL (9.5 minutes vs 1.4 minutes; \( P<0.0001 \)), CGIC improvement (80% vs 51%; \( P=0.0066 \)) and decreased ESS scores (5.6 points vs 2.4 points; \( P=0.0038 \)). At week 12, following 8 weeks of 300 mg, N05 resulted in greater improvement from baseline than placebo on MWT SOL (12.8 minutes vs 2.1 minutes; \( P<0.0001 \)), ESS (8.5 points vs 2.5 points; \( P<0.0001 \)), and proportion of patients with CGIC improvement (86% vs 38%; \( P<0.0001 \)). Three subjects (6.8%) in the N05 group discontinued due to adverse events (AEs). The most common AEs with N05 vs placebo were headache (16% vs 10%), nausea (14% vs 6%), diarrhea (11% vs 6%), insomnia (14% vs 2%), decreased appetite (14% vs 0%) and anxiety (11% vs 0%). Two serious AEs (conversion disorder, acute cholecystitis) in the N05 group were considered probably unrelated to N05.

Conclusion: At doses of 150-300 mg/day, N05 was well-tolerated and significantly improved objective and subjective symptoms of EDS in adults with narcolepsy.

Support: This study was supported by Aerial BioPharma.
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The Industry Product Theaters, located in the back of the exhibit hall, will feature lunch time presentations. Boxed lunches will be provided; CME is not provided for these presentations. Please visit the exhibitors’ booths for additional information and to register.

**Monday, June 2**
12:30pm-1:30pm
ResMed – Industry Product Theater #1
Xenoport – Industry Product Theater #2

**Tuesday, June 3**
12:30pm-1:30pm
Philips Respironics – Industry Product Theater #1

### Industry Supported Events

**Clinical Decision-Making in Narcolepsy Management**
presented by Voxmedia, LLC and supported by Jazz Pharmaceuticals
Monday, June 2, 6:15pm – 8:45pm
Hyatt Regency Minneapolis, Nicollet Ballroom

**Light is Medicine**
presented and supported by Lighting Science
Monday, June 2, 6:15pm – 9:30pm
Minneapolis Convention Center, Ballroom

**4 Concepts to Practice in RLS**
presented by L&M Healthcare Communications and supported by UCB, Inc.
Monday, June 2, 6:15pm – 9:30pm
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Room: Symphony Ballrooms II & III, 2nd Floor

Dopaminergic Role in Pathophysiology
Stefan Clemens, PhD
East Carolina University

Symptoms Pathophysiology
David Rye, MD, PhD
Emory University

Treatment Guidelines & Recommendations
John Winkelman, MD, PhD
Massachusetts General Hospital

Long-Term Safety
Richard Allen, PhD
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Wrap-Up, Summary, Questions, and Comments

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Booth Number: 724
ActiGraph
Pensacola, FL
877-497-6996
www.actigraphcorp.com
ActiGraph is a leading provider of actigraphy monitoring hardware and software solutions for the global scientific community. ActiGraph’s innovative suite of wireless actigraphy monitors are among the most widely used and extensively validated devices of their kind, delivering objective and reliable sleep/wake and daily activity measures to clients in over 75 countries.

Booth Number: 619
Advanced Brain Monitoring
Carlsbad, CA
888-677-2737
www.advancedbrainmonitoring.com
Advanced Brain Monitoring is an industry leader in the development of novel diagnostic and treatment technologies for the sleep medicine field. Sleep Profiler provides clinicians with an in-home, objective assessment of patients’ sleep architecture, while Night Shift and Apnea Guard deliver therapy to those suffering from Sleep Apnea.

Booth Number: 227
Airway Management, Inc.
Carrollton, TX
866-264-7667
www.amisleep.com
Airway Management offers products that improve the health and quality of life for people who suffer from sleep-disordered breathing. We are committed to supporting the clinician, health care professionals and laboratory technician with high quality products for the treatment of snoring and sleep apnea.

Booth Number: 530
Ambu Inc.
Glen Burnie, MD
800-262-8462
www.ambuUSA.com
Ambu has been developing and manufacturing electrodes since 1971 and sleep diagnostic products since 1985. We know that sleep professionals need innovative diagnostic tools to help improve the lives of their patients. In short, we help people sleep by promoting excellence in the diagnosis of sleep disorders worldwide.

Booth Number: 224
Ambulatory Monitoring, Inc.
Ardsley, NY
800-341-0066
www.ambulatory-monitoring.com
Ambulatory Monitoring, Inc presents its line of Motionlogger Actigraphs backed by over 25 years of peer reviewed validations demonstrating a consistently high agreement with polysomnography across numerous populations including normal, sleep disturbed, pediatric, adult and geriatric. Don’t settle for actigraphs with no validation of their own or low specificity.

Booth Number: 906
Apex Medical Corp.
Brea, CA
714-671-3818
www.apexmedicalcorp.com
Apex Medical is a leading medical device manufacturer with product ranges from preventing pressure ulcers to treating sleep apnea. The new iCH Auto CPAP machine with its integrated heated humidifier has been thoughtfully designed to look like a piece of modern technology rather than a medical device. The XT series are small, light and quiet CPAP units that are perfect for travel. Also available WiZARD 220 full face mask and WiZARD 210 nasal mask.

Booth Number: 215
ApniCure, Inc.
Redwood City, CA
www.apnicure.com
ApniCure(TM) develops innovative home-use treatment options for obstructive sleep apnea (OSA).

Booth Number: 428
Battery Power Solutions
Portland, OR
877-445-5228
www.batterypowersolutions.net
Improve sleep therapy compliance by giving your patients the freedom to travel with their PAP device. Battery Power Solutions’ ultra-portable Super CPAP Battery Pack provides direct 12V current to CPAP or BiLevel machines giving users unparalleled freedom to power their device no matter where their world takes them!
Booth Number: 832
Beaumont Products, Inc.
Kennesaw, GA
800-451-7096
www.citrus2.com
Manufacturers of Citrus II brand of highly effective CPAP Mask Cleaners, Odor Eliminating Sprays and Solid Air Fresheners, Germicidal Cleaners, Hand Sanitizers, and Antibacterial Hand Soap.

Booth Number: 537
BeHealth Solutions, LLC
Charlottesville, VA
434-422-9090
www.shuti.me
Provides SHUTi (www.shuti.me), a self-guided, interactive, online intervention for insomnia with tailored Cognitive-Behavioral-Therapy (CBTi) content. Multiple peer-reviewed studies demonstrate exceptional effectiveness in improving sleep outcomes and program completion. New for 2014: SHUTi Wellness, an online, personalized, sleep health program. Ask about our no-cost Clinical Partners Program and user progress reporting.

Booth Number: 731
Better Rest Solutions
Uxbridge, MA
866-501-3705
www.BetterRestSolutions.com
The automated SoClean 2 destroys 99.9% of CPAP bacteria, viruses, and mold without any messy chemicals or water. The device utilizes a naturally safe means of sanitizing that is commonly used for water, produce, hotels, and hospitals. The SoClean 2 sanitizes CPAP accessories including the mask, hose, and water reservoir without any disassembly.

Booth Number: 910
BIOPAC Systems, Inc.
Goleta, CA
www.biopac.com
Powerful data acquisition and automated analysis for sleep research and education, Record 32-ch of biopotential & transducer data and AcqKnowledge® software provides automated analysis for Actigraphy, EEG, ECG, HRV, EDA, RSA, EMG and more. Noninvasive finger cuff BP, fNIR, and MRI solutions also available.

Booth Number: 1004
Board of Registered Polysomnographic Technologists (BRPT)
McLean, VA
www.brpt.org
BRPT is an independent, nonprofit certification board cultivating professional and ethical standards for polysomnographic technologists. BRPT develops, maintains and administers the Registered Polysomnographic Technologist (RPSGT™) credential and the Certified Polysomnographic Technician (CPSGT) certificate based on best credentialing practices. The RPSGT credential is the leading credential for polysomnographic technologists; BRPT has awarded over 20,000 RPSGT credentials since 1979.

Booth Number: 629
BRAEBON Home Apnea Testing
Kanata, ON
888-462-4841
www.braebon.com
BRAEBON introduces versions of our software for our best-in-class Type 3 MediByte Jr and MediByte recorders. High quality sleep sensors include our PVDF effort sensors, oronasal and nasal cannulae, new family of disposable airflow sensors, RIP effort, new & improved reusable disposable cTherm cannula thermistors.

Booth Number: 635
Brain Vision, LLC
Morrisville, NC
877-344-4674
www.brainvision.com
Brain Vision LLC offers full service solutions for customized neurophysiological research on infants and adults for sleep and non-sleep settings that include EEG/ERP as well as fNIRS software and hardware, fMRI compatible equipment, stimulation devices (TMS, tDCS, tACS), wireless system applications for passive, active, dry electrodes and accessories.

Booth Number: 709
Cadwell Laboratories, Inc.
Kennewick, WA
800-245-3001
www.cadwell.com
Cadwell has new and unique business solutions that include options for new reimbursements, increased referral business, provider networking tools and therapy options. Ask us how in booth 709.
Booth Number: 824
CamNtech, Inc.
Boerne, TX
830-755-8036
www.CamNtech.com
CamNtech Ltd. is a leader in designing, manufacturing & supporting Ambulatory Devices used in Sleep Research. Our product line consist of: Actiheart, Cardio, Actiwave, PRO-Diary, MotionWatch 8, and Actiwatch Mini. By combining ECG and three axis of accelerometry CamNtech set a new standard in Sleep & Circadian measurement and monitoring.

Booth Number: 535
CareCredit
Costa Mesa, CA
800-300-3046
www.carecredit.com
Help more of your patients improve their quality of life by offering them CareCredit’s Payment Option. Grow your practice, reduce A/R and increase cash flow. For patients facing higher deductibles or for those that don’t have insurance CareCredit can help them start treatment immediately with a convenient monthly payment plan. Your practice gets paid in 2 business days.

Booth Number: 109
CareFusion
San Diego, CA
www.carefusion.com
CareFusion combines technology and intelligence to measurably improve patient care. Our clinically proven products are designed to help improve the safety and cost of healthcare for generations to come. Some of our most trusted brands include Alaris®, ChloraPrep®, Pyxis®, PleurX®, V. Mueller® and VIASYS.

Booth Number: 834
Cell Power, LLC
Pleasanton, CA
www.4longlife.com
Vitamin E: delta-tocotrienol is the smallest natural vitamin E molecule with potent anti-oxidant activity that can reach the inner cellular membranes to reduce oxidative stress, thereby increasing oxygen utilization within the mitochondrial electron transport system and increasing the efficiency of oxidative phosphorylation to produce Adenosine Triphosphate (ATP) – one of the ultimate foals of sleep apnea patients.

Booth Number: 828
Chase Dental SleepCare
Hauppauge, NY
www.chasedentalsleepcare.com
Our system was developed in collaboration with dentists to provide a comprehensive dental sleep medicine program within an existing practice. We provide training for dentists and their staff on sleep apnea and treatment with oral appliance therapy. As well as billing services.

Booth Number: 1005
Choice Laboratory Services
Dallas, TX
888-595-8477
www.yourchoicelab.com
Choice Lab is a National provider of clinical toxicology services whose testing enable providers to adhere to Federal and State regulations. Our compliance algorithm is a precise, efficient and effective clinical tool that, on a daily basis, helps our clients mitigate the risk of prescribing scheduled medications to their patients.

Booth Number: 718
Circadiance
Export, PA
888-825-9640
www.circadiance.com
Circadiance creates and markets high-performance products to give people the freedom to sleep and breathe in comfort. Our designs have revolutionized the future of positive airway pressure (PAP), and we’re continuing to develop new ways to help our customers.

Booth Number: 733
Cleveland Clinic Wellness Enterprise
Cleveland, OH
www.ClevelandClinicWellness.com
A driving force in health & prevention, Cleveland Clinic Wellness Enterprise partners with organizations to create a culture of good health & high performance. Focused on changing behavior which improves performance and quality of life, CCWE combines science and proven engagement strategies to improve participant health.

Booth Number: 435
CleveMed
Cleveland, OH
877-253-8363
www.CleveMed.com
CleveMed is a leader in medical services and devices for portable sleep testing. The SleepView® and ClevedmedSleepview.com Web Portal allow providers to conduct home sleep testing for their patients with the support of sleep professionals. The SleepView solution is easy for patients, streamlines operations, and cost efficient for healthcare providers.
See More and Do More™ with Compumedics Sleep Systems. From research level recordings to home testing, Compumedics Sleep Systems perform. See our latest innovations including the GRAEL HD-PSG, SomtePSG and Somte HST Systems. See how to maximize the productivity of your enterprise with the ProFusion Nexus Lab Management Software.

DeVilbiss Healthcare
Somerset, PA
800-338-1988
www.DevilbissHealthcare.com
Celebrating 125 years of business, DeVilbiss Healthcare is a leader in the design, manufacture, and marketing of medical products that address the respiratory needs of patients in institutional and homecare settings. DeVilbiss products are manufactured primarily in the United States and are distributed in more than 100 countries around the world.

DME Data Solutions, Inc.
San Diego, CA
855-723-7700
www.dmedatasolutions.com
CPAP Inventory Management System. HST device Check-out/Check-in System. Patient Data Analyzer System.

Dream Water
Hollywood, FL
305-792-7900
www.drinkdreamwater.com
Dream Water is a natural, fast acting, 2.5 oz. shot with zero calories designed to help you relax, fall asleep and improve sleep quality. Dream Water is a natural alternative to prescription and OTC sleep aids for the 1 in 3 Americans with sleep problems.

Dymedix Diagnostics, Inc.
Shoreview, MN
888-212-1100
www.dymedix.com
Dymedix offers a line of diagnostic sensors for your sleep lab needs. NEW: Disposable effort belts!

Fisher & Paykel Healthcare
Irvine, CA
800-446-3908
www.fphcare.com
Fisher & Paykel is a leading innovator that excels in the treatment of Obstructive Sleep Apnea (OSA). We offer a comprehensive range of CPAP devices, masks and humidifiers that deliver sleep performance for an energized lifestyle.
The EMA Oral Appliance from Myerson increases airway space by advancing the mandible using interchangeable straps. FDA cleared for the treatment of snoring and Obstructive Sleep Apnea, EMA's patient friendly design offers advantages not found in other oral appliances.

NovaFerrum Liquid Iron Supplements TASTE GREAT. Come by our booth and we will provide you with a sample taste so you can see for yourself. NovaFerrum’s main ingredient is of a polysaccharide-iron complex; free of iron salts, sugar free, and alcohol free. Naturally sweetened.

For over 20 years, Great Lakes has been providing effective, clinically proven sleep appliances, diagnostic tools, and technical support to dentists for their patients with snoring and OSA. Stop by our booth to see the new Narval CC™ - the first and only CAD/CAM custom made MRD.

Finally, CPAP without hose struggles! The HoZer significantly improves comfort and increases patient compliance. The HoZer improves mask performance and reduces mask exchanges. The HoZer eliminates ALL hose related sleep interruptions. The HoZer is 100% guaranteed. Stop making patients sleep with a hose in their bed! Distributorships are now available.

HSINER is a leading manufacturer and exporter in Taiwan, specializing in the Respiratory, Emergency care, Anesthesia and Sleep Apnea products. Our company is certified with ISO 13485, CMDCAS ISO13485, CE and Taiwan GMP quality standards. We manufacture completely in house to allow us to be more in control of all the processes in the manufacturing and to provide products with consistent quality.

The Infinity IT 8800 offers state of the art roller foot technology, thigh & hip massage, an amazing spinal decompression stretch, customized targeted massage, lumbar heat and music. Endless luxury, Ultimate Massage.
Inspire Medical Systems, Inc. is a leading developer of implantable neurostimulation systems to treat Obstructive Sleep Apnea (OSA). Utilizing well-established technologies from cardiac pacing and neurostimulation, Inspire developed a proprietary Upper Airway Stimulation (UAS) therapy designed to improve sleep and enrich the lives of people suffering from this challenging condition.

iSideSleep delivers a superior night’s sleep using a revolutionary sleep surface shaped to fit the human body. We reinvented the bed to optimally reposition the body into an inclined side-sleep position that eliminates pressure points and delivers natural therapy. Please join us at our booth for a test rest.

Itamar Medical’s medical devices are based on its proprietary non-invasive PAT® technology: WatchPAT™ device for the diagnosis and follow-up on treatment of obstructive sleep apnea, and EndoPAT™ for CVD diagnosis. WatchPAT™ is a portable home-based sleep test offering unparalleled ease-of-use and comfort while generating accurate validated clinical data at lowest fail rates.

Jazz Pharmaceuticals is a specialty biopharmaceutical company that identifies, develops and commercializes products to meet unmet patient needs in narcolepsy, oncology, pain and psychiatry. Our US products in these areas include: Xyrem ® (sodium oxybate), Erwinaze® (asparaginase Erwinia chrysantheni), Prialt® (ziconotide), Luvox CR® (fluvoxamine maleate), and FazaClo® (clozapine, USP).

KEGO FMI Diagnostics Solutions is an international distributor of sleep and neurodiagnostic supplies. With locations in the USA and Canada, KEGO FMI is your national “One Stop Shop”, representing major manufacturers of sleep and neurodiagnostic products. We look forward to becoming your favorite supplier.

LifeWatch provides the NiteWatch home sleep service for unattended sleep testing of patients with suspected Obstructive Sleep Apnea (OSA). Our service utilizes the NOX T-3 monitor which provides 9 channels of data enabling an accurate diagnosis, which mirror those of a sleep lab for the diagnosis of OSA.
At Lighting Science, we unleash the science of light to make people and our planet look, feel and heal better. We believe that lighting goes beyond simple illumination and our scientists have engineered a way to make lighting work with your body and the environment, not against it.

Booth Number: 534
Lippincott, Williams & Wilkins
St. Louis, MO
www.lww.com
Books for sleep doctors, sleep techs, EEG, pediatric sleep, etc. Free shipping available at our booth.

Booth Number: 334
Magic Massage Therapy
Ocean City, MD
800-980-8579
www.magicmassagetherapy.com
Magic Massage Therapy specializes in the marketing & sales of high quality magic massagers. Using TENS (unit) technology our portable massagers are built with three main benefits: treat pain, massage & relaxation, and workout/tone muscles.

Booth Number: 228
Medtronic Surgical Technologies
Jacksonville, FL
www.medtronicENT.com
Medtronic ENT is a leading developer, manufacturer and marketer of surgical products for use by ENT specialists. Medtronic ENT markets over 5,000 surgical products worldwide addressing the majorENT subspecialties - Sleep, Sinus, Rhinology, Laryngology, Otology, Pediatric ENT and Image Guide Surgery.

Booth Number: 230
MGC Diagnostics
St. Paul, MN
800-950-5597
www.mgcdiagnostics.com
MGC Diagnostics® - a global medical technology company that is dedicated to diagnostic solutions for detecting, classifying, and managing cardiorespiratory disease. As the exclusive US and Canadian distributor of Sleep Virtual® BWII PSG and BW3 PSG/EEG systems, MGC Diagnostics offers comprehensive diagnostic systems for your COPD, asthma and sleep apnea patients.

Booth Number: 416
MVAP Medical Supplies, Inc.
Newbury Park, CA
877-735-6827
www.mvapmed.com
MVAP Medical Supplies, Inc. offers a large selection of supplies for sleep disorders testing. By providing superior customer service and technical service combined with unbeatable pricing, we are able to give 100% satisfaction to our customers. Order online or call toll free.

Booth Number: 328
Narcolepsy Network, Inc.
North Kingstown, RI
888-292-6522
www.narcolepsynetwork.org
Narcolepsy Network is a patient support organization. We advocate for people with narcolepsy; raise awareness; educate the medical and lay community; support research. We offer an annual conference, walks, support groups, online groups and more.

Booth Number: 515
Natus Neurology Incorporated
Middleton, WI
800-356-0007
www.natus.com
Natus presents a comprehensive line of laboratory and home Sleep Diagnostic and High-level Disinfection Systems. Our REMbrandt™, RemLogic™, Sandman®, SleepWorks™, Nicolet and Grass PSG applications, along with our family of PSG/EEG amplifiers and Enterprise Data Management, provide exceptional diagnostic options. Ask about our latest family of scalable amplifiers…Embletta MPR.

Booth Number: 424
NeilMed Pharmaceuticals, Inc.
Santa Rosa, CA
877-477-8633
www.neilmed.com
The mission of the company is to create and maintain safe, affordable and effective products to sustain long-term growth and create drug free and effective nasal/sinus care devices for millions of consumers worldwide.
Nihon Kohden's Neurology and Sleep product portfolio includes instrumentation for Polysomnography, Out of Center Sleep Testing, Epilepsy Monitoring, Electroencephalography, EEG & PSG Ambulatory Recording, Wireless EEG & PSG, Electromyography, Evoked Potentials, Intra-operative and cEEG ICU monitoring. Nihon Kohden's instrumentation offers the flexibility and expandability needed to meet the changing demands of today's neurodiagnostic field.

Nonin Medical, the inventor of finger pulse oximetry, specializes in the design and manufacturing of noninvasive physiological monitoring solutions. Nonin distributes its pulse and regional oximeters, capnographs, sensors and software to healthcare professionals and consumers in more than 125 countries and has more that 200 OEM partners worldwide.

NovaSom, the first AASM-approved OCST supplier, offers the AccuSom home sleep test with wireless transmission of test results, reducing the time between diagnosis and therapy initiation. Our service models allow you to maintain clinical control of patients, while avoiding capital expenditures, additional staff burden, and the hassle of managing devices.

The PAD A CHEEK mission is to help people with sleep apnea sleep more comfortably. By padding key areas of the interface, patients can use their CPAP with more comfort. Our products prevent irritation and marks keeping the therapy private and improving the likelihood that the patient will be adherent.

Philips Respironics, a global leader in the sleep and respiratory markets, is passionate about providing solutions that lead to healthier patients, healthier practices, and healthier businesses. For us, innovation is driven by gaining insight into the needs of the people who use our products in the areas of sleep apnea management, oxygen therapy, noninvasive ventilation and respiratory drug delivery.

The Pillar Palatal Implant Procedure has been used to treat snoring and mild to moderate OSA in over 45,000 patients. It is done under local anesthetic in the doctor’s office in less than 20 minutes. Patients return to normal activity immediately.

Pinnacle Technology provides turn-key EEG/EMG systems for preclinical studies. Biosensors can be easily incorporated for simultaneous neurochemical measurements. Our innovative software scores and analyzes your sleep data. Sleep deprivation and fragmentation systems can operate in stand-alone mode or based on real-time biopotential feedback. Synchronized video can be added.
We specialize in neurobehavioral performance measurement. Our gold-standard PVT has been validated in laboratory research, clinical drug trials, and occupational settings, including NASA astronauts. The Joggle® Research platform delivers accurate cognitive testing on the iPad. STARwatch streamlines accurate actigraphy data collection to support remote studies and insomnia treatment.

Radiometer America Inc.
Westlake, OH
800-736-0600
www.radiometeramerica.com

Radiometer’s TCM TOSCA monitor helps clinicians assess the status of patients suffering from CO₂ retention during sleep, chronic hypercapnia and terminal respiratory insufficiency. Lightweight, portable and simple to maintain, the TCM TOSCA provides patient status and trends at a glance and other noninvasive measurements at the touch of a screen.

RemZzzs CPAP Mask Liners. RemZzzs is a disposable cotton liner worn with a PAP (Positive Air Pressure) mask and provides the following benefits to its users: Eliminates and/or reduces noisy air leaks and skin irritations, absorbs facial moisture and oil, promotes a comfortable full night of sleep... for patient and partner. (Ask about our new products)

ResMed is a global leader in medical equipment for the screening, treatment, and management of sleep disordered breathing and other respiratory disorders. Our product line includes automatic positive airway pressure devices, bilevel devices, continuous positive airway pressure devices, nasal pillows systems, nasal mask systems, full face mask systems, humidifiers, and software/clinical systems.

SANOSTEC’s Sinus Cones® I Max-Air Cones ® are soft, nasal airway relief aids that are patented, latex free, hypoallergenic and reusable. The Cones stenx opens the nasal airway to maximize inspiratory flow for snoring relief, and as adjunct therapy to aid CPAP and OA compliance for OSA.
Sensory Medical focuses on improving quality-of-sleep for those suffering from Restless Legs Syndrome. We’ve developed the only FDA-cleared device for treating quality-of-sleep in primary RLS. Our devices are a clinically proven alternative to drug therapy providing in-bed symptom relief, allowing patients an expedited return to sleep.

Sentec, by Master Distributor Bemes, Inc.
Fenton, MO
800-969-2363
www.sentec.ch

The Sentec Monitor provides ACCURATE, continuous, non-invasive “real time” monitoring of patient PCO2, where studies correlate closely to PACO2; utilizing the “V-Sign II Sensor”, the world’s only DIGITAL Transcutaneous sensor. Through accurate real time monitoring and patient trend memory, we can better assess patient ventilation and oxygenation in all clinical settings.

Seven Dreamers Laboratories is a “motion analysis company” which develops innovative technologies and products aimed at improving people’s lifestyle. Nastent, one of our products, is a medical device designed for the treatment of sleep apnea syndrome and snoring. Nastent alleviates breathing difficulty during sleep by preventing obstruction of nasal airways.

Sleep Multimedia version 8.5 is a computerized textbook of sleep medicine with text, sound, graphics, animation, and video. Updated annually, the program covers sleep research, sleep physiology, and clinical sleep medicine, including orofacial management of sleep apnea. SleepMultiMedia features over 5,000 Abstracts, 135 CME credits, extensive information on polysomnography, and an updated sleep center policy and procedure manual.

Sleep Source Alliance ENT
Holderness, NH
866-720-8080
www.sleepsource.us

Products and services for the Sleep Physician:
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-Surgical Solutions for OSA: Encore Adjustable Tongue Suspension
-HSTServices: IDTF with Watch-pat

Sleep Strategies is a leading provider of professional sleep scoring and training services for sleep disorder facilities worldwide. Sleep Strategies plays a key role in the successful growth of leading hospitals and private sleep disorder laboratories which is achieved through their ongoing commitment to quality, affordability and exceeding customer expectations.

SleepCEU provides a simple, quick interface for sleep professionals to earn CE credit through approved internet-based courses. Complete your education requirements from the comforts of your own home, on your own time. Created by sleep professionals who understand the requirements of maintaining your license.
Booth Number: 329  
SleepEx Acquisition, LLC  
Norristown, PA  
800-235-9830  
www.MyLabRetriever.com  
“LabRetriever” is the web-based sleep practice management platform by SleepEx. Designed for single-site to enterprise class laboratory networks, LabRetriever provides the most interoperable solution in the sleep industry. Users can efficiently manage patient scheduling, referrals, physician review, reporting, messaging, HST and DME fulfillment to deliver high quality patient care.

Booth Number: 1017  
Sleepio  
London, United Kingdom  
www.sleepio.com  
Sleepio is a digital sleep improvement program, clinically proven to help overcome insomnia without pills or potions. Co-created by ex-insomnia-sufferer Peter Hames and sleep expert Prof Colin Espie (University of Oxford), it teaches you proven cognitive and behavioral techniques to overcome even long-term poor sleep.

Booth Number: 634  
SleepMed Inc.  
Columbia, SC  
800-373-7326  
www.sleepmedinc.com  
A leader in the field of sleep medicine, SleepMed operates labs for hospitals and practices as well as free-standing facilities. By emphasizing high quality patient care and customer service, we have earned the support of thousands of primary care physicians and hundreds of sleep specialists who rely on our services.

Booth Number: 915  
SleepSense  
Elgin, IL  
888-757-7367  
www.sleepsense.com  
For over 20 years SLP has been introducing innovative and high quality diagnostic sensors into sleep labs worldwide. The SleepSense line of sleep diagnostic sensors is designed to offer more accurate signal readings, higher durability, and better patient compliance.

Booth Number: 908  
SleepWorks/PDS  
Greenville, SC  
866-527-5970  
www.SleepWorksInc.com  
SleepWorks/PDS are national leaders in creating innovative solutions for patients with sleep disorders. Our integrated delivery models ensure patients receive proper diagnostic services from referral to therapy. Our efficient and cost-effective in-lab and home sleep testing services with customized management software make partnering with SleepWorks/PDS a dream come true.

Booth Number: 425  
SomnoMed  
Frisco, TX  
888-447-0073  
www.somnomed.com  
SomnoMed is a public company providing diagnostic and treatment solutions for sleep-related breathing disorders. SomnoMed has over 2,500 North American dentists actively providing SomnoDent® treatment and a medical initiative to build broader medical acceptance. Visit our booth to see our latest innovations.

Booth Number: 417  
SOMNOmedics  
Randersacker, Germany  
866-361-9937  
www.somnomedics-diagnostics.com  
SOMNOmedics designs, manufactures, markets, distributes and services products dedicated to sleep diagnostics. Our products are utilized for a variety of sleep related tests and comply with the AASM standards. SOMNOmedics devices are small, lightweight, and worn by the patient. We are compatible with IN LAB diagnostics as well as HOME SLEEP testing.

Booth Number: 409  
Somnoware Healthcare Systems, Inc.  
Charlotte, NC  
888-503-5688  
www.somnoware.com  
Somnoware is a centralized data management platform for sleep medicine and the sleep wellness industry. As the exclusive web-based patient management software for the Welltriniscis Sleep Network, Somnoware streamlines care coordination, automates workflow, and improves outcome data collection and reporting. Somnoware eliminates the obstacles confronting your sleep practice.
Booth Number: 617

Theravent Inc.
San Jose, CA
855-265-7667
www.theraventsnoring.com

Theravent Inc. is dedicated to providing simple, clinically proven solutions to effectively treat sleep disordered breathing. Theravent’s unique line of clinically-proven medical devices use nasal Expiratory Positive Airway Pressure (PAP) technology, featured in Provent© Sleep Apnea Therapy and, new OTC treatment, Theravent™ Advanced Nightly Snore Therapy.

Booth Number: 325

Transcend
New Brighton, MN
877-621-9626
www.mytranscend.com

Transcend is manufactured by Somnetics; a privately-held medical device company based in Minnesota. Somnetics is a leader in customer-driven design, development and production of respiratory medical devices to treat sleep apnea and related issues. Somnetics provides innovative, high quality products that improve quality of life for people with respiratory disorders.

Booth Number: 830

Tri-State Adjustments, Inc.
La Crosse, WI
800-562-3906 #5
www.wecollectmore.com

Early Out/Private Pay Collections, Bad Debt Collections, CPAP Supply Calls & Compliance Calls. TSA is a unique company that utilizes its expertise to provide services that are customized to meet each facility’s requirements and expectations. TSA partners with their clients, which allows interaction to fully understand and uphold the facilities mission statement. TSA strives to provide professional and personalized service to all of their clients.

Booth Number: 324

TSI Healthcare
Chapel Hill, NC
800-354-4205
www.tsihealthcare.com/pulmonary

TSI Healthcare, founded in 1997, is a national leader in the sales and support of customized NextGen® Practice Management and Electronic Health Record solutions for Pulmonary and Sleep Medicine. TSI Healthcare’s solutions are designed to meet the unique needs of Pulmonary & Sleep Medicine practices through specialty specific content, unmatched services, and award winning software.

Booth Number: 701

Vanda Pharmaceuticals, Inc.
Washington, DC
240-599-4500
www.vandapharma.com

Vanda Pharmaceuticals Inc. is a biopharmaceutical company focused on the development and commercialization of medicines to address unmet medical needs. Vanda is committed to providing education and awareness for Non-24-Hour Sleep-Wake Disorder (Non-24), a chronic circadian rhythm disorder affecting the majority of totally blind individuals.

Booth Number: 833

VGM Sleep Center Network
Waterloo, IA
800-642-6065
www.vgm.com

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Booth Number: 1003

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Booth Number: 728

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Worcester, MA
www.wakeupnarcolepsy.org

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Booth Number: 516
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Darien, IL
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www.welltrinsic.com
Welltrinsic is a national network of sleep physicians and accredited centers united to deliver high-quality, integrated care. We are a single solution connecting practice development, patient care, data management and insurance contracting. Network membership is intrinsic to the viability of your sleep practice in the changing healthcare landscape.

Booth Number: 729
World Association of Sleep Medicine (WASM)
Rochester, MN
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WASM’s mission is to advance sleep health worldwide. WASM fulfils this mission by promoting and encouraging education, research and patient care. The 6th World Congress on Sleep Medicine in Seoul, Korea (March 2015) will bring together sleep clinicians and researchers to discuss advances made in sleep research and clinical knowledge.

Booth Number: 209
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