Issue Highlights:

• Research Highlight: Novel Findings on the Molecular Effects of Sleep Deprivation
• Update from the NCSDR
• NSF Sleep in America Poll 2010 Results
Celebrate the SRS 50th Meeting at SLEEP 2010
Grand Hyatt Hotel - Lone Star Ballroom
San Antonio, Texas
Monday, June 7, 2010 at 6:30 p.m. – 8:00 p.m.
(Immediately following the SRS Business Meeting)

All SRS members are welcome!

Visit the Society Booth located near the Exhibit Hall to receive your complimentary commemorative SRS 50th Meeting lapel pin. Lapel pins are limited to one per SRS member and will be distributed on a first-come, first served basis. Quantities are limited.

Also, help us show the impact the SRS has had on the field of sleep research. Pick up a “Former SRS Trainee” ribbon to put on your name badge if you have ever received a trainee award.
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Dear Colleagues,

As we approach the pinnacle of the year for our organization, the annual SLEEP meeting, it is my pleasure to update you on the flurry of activities the members of the SRS have undertaken in preparation for this event and in efforts to advance our field of research.

50th Meeting of the SRS

SLEEP 2010 marks a milestone for the SRS—it is our 50th meeting. In order to celebrate this event the a Presidential Task Force lead by Sonia Ancoli-Israel, PhD has been working very hard on a number of projects to help us celebrate this occasion (look for more details in this issue of the Bulletin and in the SRS Update). One of the highlights of the 50th Meeting will be a reception that will be held on Monday, June 7, 2010 from 6:30 p.m. to 8:00 p.m. in the Grand Hyatt, Lone Star Ballroom. I invite you to attend this event and help us celebrate and reflect on the rich history of our organization and field of research.

SRS Bulletin Editor

I would like to thank J. Todd Arnedt, PhD for his excellent work over the past three years to bring you this publication as Editor of the SRS Bulletin. Under his leadership, he continually ensured the contents of the Bulletin were of the highest caliber in every issue. Additionally, he was an essential part of the initiative to take the Bulletin into the electronic era. His efforts have paved the way for all future editors who will have the benefits of his knowledge and labors in producing a high-quality publication.

I am pleased to announce that Helen Burgess, PhD, has been selected as the next Editor of the SRS Bulletin. Her three-year term will commence in June following SLEEP 2010. The Board of Directors and I look forward to working with Dr. Burgess in her new role.

SRS Elections

Earlier this spring, the SRS held elections to fill the position of President-Elect, one open seat on the Board of Directors, and all four Section Heads. The field of candidates for these positions was impressive. I thank all candidates who ran for these leadership positions. The health and future success of a volunteer organization such as ours depends upon the hard work and sacrifice of dynamic individuals who are willing to step forward into leadership roles. I am pleased to announce the results of the elections and welcome the following members to their various new responsibilities:

President-Elect
Phyllis C. Zee, MD, PhD

Director-at-Large
Allan I. Pack, PhD, MBChB

Section Heads
Basic Sleep Research – Marcos Frank, PhD
Sleep and Behavior Research – Michael Bonnet, PhD
Circadian Rhythms Research – Jeanne Duffy, PhD
Sleep Disorders Research – Ann Rogers, PhD, RN

Additionally, Allison Brager was selected as the Trainee Member-at-Large Elect. She will join the Board of Directors as the non-voting Trainee Member in 2011-2012.

SRS Bylaw Revision Vote Results

As part of the SRS Elections, voting members were asked to approve several changes to the SRS Bylaws. The changes include clarifying definitions within membership categories, and allowing members to join more than one Research Section.

All of the proposed changes to the SRS Bylaws were approved by a vote of the membership. You may view the updated Bylaws on the SRS website at http://www.sleepresearchsociety.org/ByLaws.aspx.

Merging of the Communications and Membership Committees

Each year, the SRS Board of Directors reviews appointments to standing committees. As part of this process, the board evaluates the needs of the society and how the committees fit into the overall structure based upon those needs. After careful consideration, including a review of committee charges, the SRS Board of Directors voted to merge the Communications and the Membership Committees beginning in June 2010. Because the Communications Committee mainly supervised the SRS Bulletin and the SRS website, whose purpose is communication with our membership, the Board felt that the two committees had much in common and their overarching goals would be best accomplished through a single committee. The Chair of the new Membership and Communications Committee will be Kathryn Reid, PhD.

The Membership and Communications Committee will be responsible for a variety of important societal activities including publishing the SRS Bulletin; updating and adding content to the SRS website; recruitment and retention of members; and providing material for the SRS Update.

Career Development

During SLEEP 2010 the SRS Research Committee will be hosting a discussion group entitled “Participant Observation of a Mock NIH
R01 Application Review” on Tuesday, June 8th from 2:45 p.m. to 4:45 p.m. in room 206AB of the Convention Center. This discussion group will be led by Andrew Krystal, MD, Chair of the SRS Research Committee and Kathryn Lee, PhD, RN a member of the SRS Research Committee. This session will be valuable to investigators at all levels especially in light of the new NIH grant scoring system.

The Trainee Education Advisory Committee (TEAC) will again be hosting the Trainee Symposia Series on Saturday, June 5th at SLEEP 2010. The Trainee Symposia Series is a unique opportunity for students from undergraduate to post graduate status to hear from many of the top scientists in the field of sleep and circadian research. Once again this year, Dr. Jennifer Martin and TEAC have assembled an outstanding program. Following the Trainee Symposia Series is a reception and career fair for all participants.

Professional Education

The SRS will be presenting a half-day course, “Basic Science of Sleep for the Sleep Specialist,” August 12, 2010 in Denver, Colorado and September 30, 2010 in Reston, Virginia (a suburb of Washington, DC). This course will be held in conjunction with the American Academy of Sleep Medicine “Board Review for the Sleep Specialist” course. Course Chairs Ruth Benca, MD, PhD and Thomas Scammell, MD will be joined by Gary Richardson, MD and Ron Szymuski, PhD in presenting this course. Preliminary registration figures for the course are promising and indicate both sessions will be well attended. Look for more information on these courses in the near future on the SRS website and in the SRS Update.

NIH News

Recently, I joined Jim Walsh, PhD, President-Elect of the SRS, Clete Kushida, MD, PhD, RPSGT, President of the AASM, and Pat Strollo, MD, President-Elect of the AASM, in meeting with officials at the National Heart Lung and Blood Institute (NHLBI) in an effort to ramp-up activities within the institute related to sleep and circadian research. This includes holding more frequent meetings of the Sleep Disorders Research Advisory Board, increasing the outreach of the National Center on Sleep Disorders Research, and re-emphasizing the role of the trans-NIH sleep council as a vehicle to advance sleep research since sleep cuts across many institutes. I was pleased with the nature of the conversation and look forward to an enhancement of activities in this area.

These meetings are just the beginning of a process that is being led by Fred Turek, PhD, Chair of the SRS Government Relations Committee, to meet regularly with NIH Directors and Program Officers to promote sleep research.

Earlier this year, the NHLBI formed a search committee to aid in the process of selecting a new Director for the Institute. In anticipation of the formation of this committee the SRS wrote to NIH Director Francis Collins, MD, PhD, recommending several members of the SRS for service on a search committee for a new director of NHLBI. I am pleased to report that Susan Redline, MD, MPH, a member of the SRS was appointed to the search committee. Dr. Redline’s presence on the search committee is excellent news for the sleep and circadian community. It is important that our community be represented in the process of selecting a new director of NHLBI as this institute is the “home” of the National Center on Sleep Disorders Research and sponsors a large share of sleep research at NIH.

SLEEP 2010

In addition to the 50th Meeting Reception at SLEEP 2010, there are several other events I hope you will consider attending. On Sunday, June 6th there will be a “Welcome to San Antonio” networking reception held in the Grotto of the Convention Center. Tickets for this event can be purchased for $50.00 with all proceeds benefiting the Sleep Research Society Foundation and the American Sleep Medicine Foundation. This event is a great way to connect with colleagues and kick-off the SLEEP meeting.

I also encourage you to attend your Section meetings this year. In response to input received last year at the SRS Annual Business Meeting, the Section meetings were staggered over three days to allow members to attend one or more meetings of interest.

Final Thoughts and Acknowledgements

The end of SLEEP 2010 will mark the end of my term as President of the SRS. I would like to thank the many volunteers in the society who have spent considerable time and energy to strengthen our organization and our field. This year 23 members of standing committees concluded their terms. I would like to extend my heartfelt gratitude to all of these volunteers for the efforts they have put forth over the past three years. Among these committee members is Steven Lockley, PhD the Chair of the Communications Committee.

A special thank you is extended to Michael Vitiello, PhD, as he retires from the Board of Directors. Dr. Vitiello served as President last year and is concluding his term as SRS Past-President and President of the SRS Foundation. Dr. Vitiello’s leadership and insight as a member of the board will be missed. I personally found his vigorous and thoughtful style to be inspiring, and I have and continue to learn a great deal from him. We were very lucky to have his leadership over the past years.

I would also like to thank Sara Nowakowski, Trainee Member-at-Large for service on the Board of Directors and for her extensive role in organizing the Trainee Symposia Series. Getting the perspective of trainees on the Board of Directors is invaluable as the board makes decisions that may affect them. Sara was a great representative for all trainees.

Lastly, I would like to thank all of the members of the SRS for putting their trust in me to serve as President of the past year. It has been a great honor and privilege to serve in this role. I hope that the new committees we have put in place under the leadership of Fred Turek, PhD, for Government Relations, both for NIH Liaison and for Congressional Liaison, will be able to advance the cause of Sleep Research nationally and to enhance the funding for our field that we are so passionate about. Finally, I have been very fortunate over the last year to have had the help and support of Jim Walsh, PhD, in the role of President-Elect. I have given Jim a larger role in the organization than has been traditional for the President-Elect, as in many matters before the Society he has had more experience than I have had. In effect, he has been a co-President this last year, and I feel very confident in leaving the future of the SRS in his hands over the next year, secure in the knowledge that Jim, assisted by Phyllis Zee, MD, PhD, our new President-Elect will do an outstanding job.

I look forward to seeing all of you in San Antonio for SLEEP 2010.

Sincerely,

Clifford B. Saper, MD, PhD
President
Spring is one again upon us and so is SLEEP 2010. The Lone Star state should be a fun, if steamy hot, setting for our annual meeting. This year’s meeting will be particularly special since it marks the 50th SRS meeting. Several special events are planned to commemorate this special occasion, thanks to the hard work of the Presidential Task Force headed by Sonia Ancoli-Israel, PhD. Please see Dr. Saper’s Presidential Message for an update on the flurry of activity that has been taking place over the past several months in anticipation of the annual meeting and in relation to SRS business. The chairs of the Research and Trainee Education Advisory Committees also provide updates in this issue of their activities and initiatives over the past year.

This issue of the Bulletin introduces two new features that we anticipate will be recurring contributions. The first, “Trainee Corner,” is a column dedicated to upcoming trainee-related events, trainee-focused research, or other important trainee-related issues that will be highlighted by the SRS Trainee Member-at-Large. The second new feature, the creation of incoming SRS Bulletin Editor Helen Burgess, PhD, is titled “Sleep in the News” and will feature commentary from experts about sleep and circadian issues relevant to a recent news story. This issue highlights the experience of two circadian experts on the use of melatonin in children, precipitated by a news story about a daycare that was alleged to be giving melatonin to children under its care to prolong their naps.

This issue continues the tradition of highlighting recent scientific achievements by our members. This issue features a contribution by Drs. Ted Abel and Christopher Vecsey from the University of Pennsylvania, who describe their work on some of the molecular underpinnings of sleep deprivation. As is evident from the summary of their recently published manuscript, these findings may have implications for our basic understanding of sleep deprivation and provide direction to therapeutic targets for counteracting impairments associated with sleep deprivation.

This issue also features an update by the National Center on Sleep Disorders Research on a new initiative at NIH, the Basic Behavioral and Social Science Opportunity Network (OPPNET), that will be launched in fiscal year 2011. This initiative will provide new and exciting opportunities for sleep and circadian researchers to study interactions among basic biology, behavior, psychology, and sociocultural influences. Thanks to Drs. Daniel Lewin and Michael Twery for advancing efforts to maintain an active dialogue between NIH and SRS members.

Finally, this issue of the Bulletin recaps key findings from the National Sleep Foundation’s (NSF) 2010 Sleep in America Poll, which focused on ethnic differences in sleep habits and sleep patterns. The Bulletin also highlights the recipients of the three NSF annual awards: the Lifetime Achievement Award, Excellence in Sleep and Psychiatry Award, and Sleep Educator Award. Congratulations to the distinguished scientists who were this year’s recipients!

This issue of the Bulletin will mark my last as Editor. I would like to take this opportunity to recognize in particular Nick Cekosh (and John Slater before him) and the staff at the home office, who were essential players in the production of each Bulletin issue. I would also like to thank my fellow Communications Committee members and the Presidents with whom I had the privilege of working—Mark Opp, PhD, Eric Nofzinger, MD, Michael Vitiello, PhD, and Clif Saper, PhD—for their helpful comments and feedback about ideas for each issue. Finally, I am especially excited that Helen Burgess, PhD has agreed to assume the Bulletin editorship. I have no doubt that she will do an exceptional job in this role, bringing a fresh perspective and new ideas to the Bulletin that will continue to improve the quality of the product and be of great benefit to the SRS membership.

Comments about the Bulletin and ideas for future issues can now be submitted to Helen Burgess, PhD at Helen_J_Burgess@rush.edu. I look forward to seeing you in San Antonio!
SRSF Mission and History

The Sleep Research Society Foundation (SRSF) was established in 2005 by the Sleep Research Society (SRS) to help researchers become more competitive in securing large-scale funding for their research by providing smaller stimulus finding for promising, higher risk, early stage research. The SRSF exists to provide support for investigators to conduct pilot studies that will form the basis of more comprehensive applications to federal agencies and private foundations.

Since 2005, the SRSF has awarded nearly $500,000 to fund projects from 21 investigators. Positive results of the efforts of the SRSF are becoming apparent as several investigators have leveraged SRSF grants to obtain NIH funding. With your support, the SRSF will be able to continue funding promising investigators conducting the best research in our field. You may make a donation to the SRSF by downloading a donation form on the SRSF website at www.sleepresearchsociety.org/foundation.

Grant Reviews

The SRS Research Committee is charged with reviewing grant applications. The members of the committee act as standing reviewers and members of the SRS with expertise in the area addressed in the grant applications are invited to be ad hoc reviewers. Each grant application receives three written reviews, one from a committee member and two from ad hoc reviewers chosen for their relevant specific expertise. Once all of the reviews have been received the Research Committee meets, much like a NIH Study Section, and discusses each grant application. From there each application is given a scoring range and each committee member submits their priority score. Once the scores are tabulated the results are sent to the SRSF Board of Directors with recommendations on funding. The ultimate decision on funding lies with the SRSF Board of Directors.

Grant Funding

The primary goal of the SRSF is funding the best science possible. Although good science is the chief criteria for grant funding, the SRSF may consider other factors when funding grants given the quality of the applications are equal. These may include conceptual independence and potential impact on research career, funds available in a given funding cycle, history of previously funded grants, and the programmatic priorities of the SRSF.

2010 Grant Recipients

J. Christian Gillin, MD, Research Grant Recipient
Robert (Vincent) Gerbasi, PhD
University of Chicago Medical School
Project Title: “Molecular Signatures of Sleep Apnea in Endothelial Cell”

Katherine M. Sharkey, PhD
Brown University, Alpert Medical School
Project Title: “Sleep and Circadian Phase Disruption in Postpartum Depression”

Stephanie Crowley, PhD
Rush University (Chicago), Biological Rhythms Research Lab
Project Title: “A Light Phase Response Curve to Treat Delayed Sleep in Adolescents”

Elliot D. Weitzman, MD, Research Grant Recipient
Hans Van Dongen, PhD
Washington State University, Spokane
Project Title: “Biomarkers of Vulnerability to Sleep Loss”

Michael V. Vitiello, PhD
SRS Foundation President
This year marks the launch of the Basic Behavioral and Social Science Opportunity Network (OppNet) at the NIH. Starting in fiscal year 2011, OppNet will be supported through NIH’s pool of common funds shared among 27 Institute, Centers, and Offices. The initiative aims to stimulate mechanistic studies of the processes that influence behavior at individual, group, community and population levels, including approaches for reducing risky behaviors and improving the adoption of healthy practices. Current and future funding opportunities linked to basic behavioral and social science research (basic-BSSR) will present new opportunities for sleep and circadian researchers to synergize with other disciplines and establish the importance of sleep and circadian biology among other factors that influence the interactions among biology, behavior, sociocultural processes, cultural systems, and biopsychosocial interactions (http://oppnet.nih.gov/news-012810.asp). The OppNet funding initiatives will also present new challenges for sleep/circadian applicants in terms of posing competitive “scientific” questions and research designs linking primary sleep/circadian manipulations to basic-BSSR outcomes.

Basic-BSSR specific funding opportunities will be listed by the NIH Office of Behavioral and Social Science Research (http://oppnet.nih.gov/funding-bssr-funding.asp). New funding opportunities are anticipated for fiscal year 2011. Members of the sleep and circadian research community-at-large are invited to subscribe for updates issued by the National Center on Sleep Disorders Research (NCSDR) through the listserv, SleepRFA-L (https://list.nih.gov/cgi-bin/wa.exe?A0=SLEEPRFA-L). Ongoing funding opportunities are aimed at methodology development including Methodology and Measurement in the Behavioral and Social Sciences (PAR08-214, PAR08-212) and Biobehavioral Methods to Improve Outcomes Research (PA09-126). A program is also available to support international research collaboration (PAR08-223).

There are rich and complex reciprocal relationships between basic mechanistic determinants of behavior and social environments and mechanisms regulating sleep and circadian function. These links are routinely encountered in the clinical setting and are linked to increased risk of poor health. Chronic and intermittent sleep restriction is a prime example of a phenomenon that affects social interactions and individuals’ safety and health. Systematic research is at an early stage of development and as our understanding of sleep and circadian biology in disease pathophysiology advances, studying these relationships in the context of improving health and disease prevention are important OppNet priorities.

While there are a host of potential opportunities for which the field of sleep and circadian biology is especially well-situated, specific applications must be relevant to the mission of an NIH Institute or program sponsoring specific Program Announcements and Request For Applications. Sleep and circadian researchers should discuss their particular research plans well in advance of anticipated submission dates with appropriate NIH program staff or the representatives of the sleep and circadian research grant portfolios (http://www.nhlbi.nih.gov/about/ncsdr/comm/comm2.htm).

In addition to the SleepRFA-L listserv, the NCSDR welcomes comments and questions from researchers and the community-at-large at any time on issues and concerns about sleep and circadian research. Please feel free to contact us at ncsdr@nih.gov

Daniel Lewin, PhD
Michael Twery, PhD
National Center on Sleep Disorders Research, NHLBI

From the Desk at NIH
Update from the NCSDR

Updates from the National Center on Sleep Disorders Research (NCSDR)

This year marks the launch of the Basic Behavioral and Social Science Opportunity Network (OppNet) at the NIH. Starting in fiscal year 2011, OppNet will be supported through NIH’s pool of common funds shared among 27 Institute, Centers, and Offices. The initiative aims to stimulate mechanistic studies of the processes that influence behavior at individual, group, community and population levels, including approaches for reducing risky behaviors and improving the adoption of healthy practices. Current and future funding opportunities linked to basic behavioral and social science research (basic-BSSR) will present new opportunities for sleep and circadian researchers to synergize with other disciplines and establish the importance of sleep and circadian biology among other factors that influence the interactions among biology, behavior, sociocultural processes, cultural systems, and biopsychosocial interactions (http://oppnet.nih.gov/news-012810.asp). The OppNet funding initiatives will also present new challenges for sleep/circadian applicants in terms of posing competitive “scientific” questions and research designs linking primary sleep/circadian manipulations to basic-BSSR outcomes.

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In addition to the SleepRFA-L listserv, the NCSDR welcomes comments and questions from researchers and the community-at-large at any time on issues and concerns about sleep and circadian research. Please feel free to contact us at ncsdr@nih.gov

Daniel Lewin, PhD
Michael Twery, PhD
National Center on Sleep Disorders Research, NHLBI
A growing body of literature shows that sleep deprivation can be detrimental for learning and memory, both in humans and in model organisms such as rodents and fruit flies. But why is this the case? What does sleep deprivation do to the brain that impinges on the ability to form and maintain new memories? A host of molecular markers have been identified that go up or down following sleep deprivation, but the relevance of these changes for deficits in memory has remained stubbornly unclear.

Clues to the molecular targets of sleep deprivation came initially from behavioral experiments showing that when a 5-hour period of sleep deprivation in mice was given immediately following contextual learning, a hippocampus-dependent task, memory was impaired the next day, but no effect was seen when the sleep deprivation window was applied from 5-10 hours after learning (Graves et al., 2003). This window of susceptibility coincided with the time frame for the stage of learning called consolidation, in which memories are stabilized into long-lasting forms. Importantly from a mechanistic perspective, this process depends on several molecular cascades, including the cyclic-AMP (cAMP)-protein kinase A (PKA) signaling pathway, leading to transcription and translation.

In a paper published last year (Vecsey et al., 2009), we and our collaborators examined the effects of the same 5-hour period of sleep deprivation on several forms of synaptic plasticity in the mouse hippocampus, each with differing sets of molecular requirements. Interestingly, of all the forms of plasticity we tested, only those that required cAMP/PKA were impacted by sleep deprivation. Consistent with these findings, biochemical studies showed that sleep deprivation reduced cAMP induction in hippocampal slices. This effect on cAMP signaling may be explained by the finding that sleep deprivation increased hippocampal activity of the phosphodiesterase-4 (PDE4) enzyme, which is crucial for the breakdown of cAMP in the mammalian brain. In particular, protein levels of the PDE4A5 isoform were raised, suggesting a surprisingly specific target of sleep deprivation in the hippocampal region.

We next asked if inhibition of PDE4 would prevent the effects of sleep deprivation on memory. We found that the PDE4 inhibitor rolipram rescued synaptic plasticity deficits in vitro, and prevented memory deficits when animals were treated with the drug during the sleep deprivation period. These findings suggested that effects of sleep deprivation on cAMP and PDE4 signaling were responsible for memory deficits produced by sleep deprivation (see Figure). Together, these results lay the groundwork for future experiments to determine if the cAMP pathway is a target of sleep deprivation in other brain regions or in other tissues in the body, and to define the molecular pathway by which levels of PDE4 are altered by sleep deprivation. It will also be interesting to determine how the cAMP signaling pathway interacts with adenosine, which may be generated from ATP released from glia (Halassa et al 2009). These studies of cAMP signaling (Vecsey et al., 2009) and of the role of glial-released transmitters (Halassa et al., 2009) suggest that there are several potential therapeutic targets to combat the cognitive deficits of sleep deprivation. It will be interesting to see if these rescue experiments can be translated into therapies to counter the effects of sleep deprivation that accompanies aging as well as many neurological and psychiatric disorders.

Ted Abel & Christopher G. Vecsey
University of Pennsylvania

References
Trainee Education Advisory Committee Update

A key highlight of the Trainee Education Advisory Committee’s (TEAC’s) yearly activities is assembling the program for the annual Trainee Symposia Series (TSS), held in conjunction with the SLEEP meeting. I would like to not only provide an update on our committee’s efforts, but also to provide some historical background about the event.

The first TSS was held in Washington DC in 1996. This meeting was organized under the direction of Sonia Ancoli-Israel, PhD, who served as the SRS’s Director of Training at the time, and Michael Perlis, PhD, who served as the Trainee Program Committee Chair. The committee members included Polly Moore, Clete Kushida and Sean Drummond. On a very personal level, I would like to thank them for starting something that was a key part of my training.

Since that time, much has changed. The field has expanded tremendously, technology has advanced the science of sleep in ways one could only imagine 14 years ago. The opportunities for new investigators entering the field are unlimited. Despite the excitement of sleep science, there continue to be significant challenges to beginning an academic career in the midst of an economic recession, which has followed closely on the heels of a period of challenging federal funding for scientific research. Despite these challenges, a growing number of students continue to enter our field. In 2009 over 225 trainee members of the SRS attended the TSS. This is remarkable.

The 2010 Trainee Symposia Series will be held on Saturday June 5, a day prior to the start of the Scientific program on Sunday June 6. For the past several years, over 40 faculty members have volunteered their time to participate in this event. TEAC is truly grateful for this generosity. Without the support of faculty presenters, discussion moderators and mentors, the TSS would not be possible. In addition, a committee of Trainee SRS members assists TEAC in developing the program. I would like to thank these student members as well. Their input helps us to continually improve the TSS year after year.

TEAC also continues to oversee the SRS Trainee Travel Awards programs. We would like to thank those faculty members who reviewed abstracts for Merit Based Travel Awards this year. The SRS will provide travel support to approximately 34 students with highly-scored abstracts to attend the TSS. I am also pleased to report that the new competitive First Time Travel Awards Program has successfully targeted students who are likely to attend and present at future SLEEP meetings and to maintain their membership in the SRS over time. This year we will provide a total of 23 travel awards to students attending their first SLEEP meeting.

Jennifer Martin, PhD
Committee Chair

Research Committee Update

The primary responsibility of the Research Committee has been to review applications for the SRS Foundation’s small grants program. This highly successful program began 5 years ago when the Gillin and Weitzman grants were introduced. The Gillin grants support pilot studies by early career investigators, while the Weitzman grants provide bridge funding for investigators who submitted an application to NIH that received a positive review but did not get funded.

This year, the Committee received an excellent set of proposals, which consisted of 14 Gillin applications and 2 Weitzman applications. Applications are reviewed by 3 reviewers with expertise in the area relevant to each application and rankings are forwarded to the SRS Foundation for funding decisions.

The SRS annually sponsors a Young Investigator Award program as well. The Research Committee review applications for these awards which consist of a recently published paper and letter of recommendation for a mentor. This year the committee reviewed 8 Young Investigator Award applications.

Through these activities the Research Committee aims to aid the SRS in achieving its goal of advancing sleep research. I would like to thank our committee members, our outside reviewers, and the SRS staff for their hard work in advancing this worthy goal.

Andrew D. Krystal, MD, MS
Committee Chair
The National Sleep Foundation released its annual *Sleep in America* poll in March. This year's poll examined sleep habits among four ethnic groups: Blacks/African-Americans, Asians, Hispanics and Whites. It was the first poll to explore this topic.

The poll results echo recent findings in the scientific literature and will hopefully help promote understanding of cultural differences in patients' sleep for the medical and research communities. It was striking that each group showed pronounced differences in their habits and beliefs about sleep, but that the vast majority agreed that adequate sleep is an important part of overall health.

Here's a recap of some of the most interesting findings:

**Asians reported getting the best sleep.**

Asians were the most likely ethnic group (84%) to say that they had a good night’s sleep at least a few nights or more a week. Asians were the least likely (9%) to say that they “rarely” or “never” have a good night's sleep, compared with 20% of Whites, 18% of Blacks/African-Americans and 14% of Hispanics.

**Blacks/African-Americans reported the least amount of sleep, but they also said they need less sleep.**

Blacks/African-Americans reported getting the least amount of sleep on workdays/weekdays (6 hours and 14 minutes). Interestingly, they also said that they need only 7 hours and 5 minutes of sleep each night to perform at their best during the day, which is significantly less sleep than Asians and Hispanics (7 hours and 29 minutes each).

- Blacks/African-Americans reported getting an average of 34 minutes less sleep on a work night/weeknight than Asians and 38 minutes less than Whites.

**Blacks/African-Americans report the busiest bedtime routines.**

Blacks/African-Americans were the most likely to report performing activities in the hour before going to bed every night or almost every night, specifically watching TV (75%) and/or praying or doing another religious practice (71%).

- Blacks/African-Americans and Hispanics (10% each) were ten times more likely to report having sex every night than Asians (1%) and 2.5 times more likely than Whites (4%).
- Blacks/African-Americans (17%) and Asians (16%) are more likely than Whites (9%) and Hispanics (13%) to report doing job-related work in the hour before bed, among those employed.

**Hispanics are the most likely to say they are kept awake by financial, employment, personal relationship and/or health-related concerns.**

Overall, at least one-third of Hispanics (38%) and Blacks/African-Americans (33%) report that any of these concerns disturb their sleep at least a few nights a week, compared to about one-fourth of Whites (28%) and/or Asians (25%).

- Moreover, about two in ten Hispanics (19%) and Blacks/African-Americans (19%) say their sleep is disturbed every night or almost every night by at least one of these concerns.

- Hispanics (16%) are more likely than Blacks/African-Americans (12%), Asians (9%) and Whites (7%) to say that health-related concerns have disturbed their sleep at least a few nights a week.

**Whites are the most likely to report sleeping with their pets and/or their significant other/spouse.**

Among those married or partnered, Whites are much more likely (14%) than the other ethnic groups (2% each) to say they usually sleep with a pet.

- Among those married or partnered, 90% of Whites report that they sleep with their significant other compared to 84% of Blacks/African-Americans, 76% of Hispanics and 67% of Asians.
- Interestingly, among all respondents, Whites are the least likely to say they sleep alone (21% versus 41% Blacks/African-Americans, 37% Asians and 31% Hispanics.)

**Sleep disorder diagnosis is different among the four ethnic groups.**

The 2010 poll found that sleep disorders continue to be very common among the adults surveyed, with specific disorders occurring at different frequency among the four groups.

- Whites report the highest rate of diagnosis for insomnia (10%), and Blacks/African-Americans have the highest rate of diagnosed sleep apnea (14%) among the four groups.

**Ethnic groups seek help for sleep problems differently.**

When experiencing a specific sleep problem, Blacks/African-Americans say they are more likely to speak with their doctor (16%) or research online (10%) than to get recommendations from friends or family (4%).

- Asians (15%) are the most likely to say they get advice from family and friends.
- Respondents were also asked if their healthcare professional or doctor had ever asked them about their sleep during a routine visit. At least four in ten Whites (48%), Blacks/African-Americans (42%) and Hispanics (40%) say yes; however, only 28% of Asians had been asked about sleep by their doctor.

If you would like to read the entire summary of findings, please visit www.sleepfoundation.org.
The National Sleep Foundation 2010
Sleep in America Poll Task Force

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Professor of Psychiatry
Director, Gillin Sleep and Chronomedicine Research Center
Department of Psychiatry
University of California, San Diego

Daniel P. Chapman, PhD
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Medical Director, Sleep Medicine Center
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Poll Methodology and Definitions
The National Sleep Foundation began surveying American sleep health and behaviors in 1991. The 2010 *Sleep in America* annual poll was conducted for the National Sleep Foundation by WB&A Market Research, using a random sample of 1,007 adults between the ages of 25-60 and identifying themselves as White, Black/African-American, Asian or Hispanic. This poll has adopted the group definition used by the Centers for Disease Control and Prevention (CDC), the U.S. Census Bureau, and related public health groups; while NSF also acknowledges that this is an imperfect description of race and ethnic groups. No effort was made to verify the accuracy of the respondent’s self-identification. Individuals from other ethnic groups were excluded from participating. The *Sleep in America* Poll Task Force did consider economic factors in analyzing the data. The margin of error is 3.1 percentage points at the 95% confidence level.

Jennifer Cowher Williams
Marketing and Communications Manager
National Sleep Foundation

**SLEEP2010**

**SUNDAY, JUNE 6, 2010**

**Welcome to San Antonio Reception**

Make plans to attend the *Welcome to San Antonio* reception from 6:00pm–7:30pm on the evening of Sunday, June 6, 2010. This casual event provides you with the opportunity to network with other SLEEP 2010 attendees while experiencing the flavor of San Antonio.

**Tickets are only $50 per person and include:**

- **Food:** Regional Texas cuisine
- **Drinks:** Admission includes two drink tickets
- **Entertainment:** Performance by Mariachi Los Galleros
- **Donation:** Proceeds support the American Sleep Medicine Foundation (ASMF) and the Sleep Research Society Foundation (SRSF)

To attend the *Welcome to San Antonio* reception, indicate the number of tickets that you would like to reserve when registering for SLEEP 2010: online at www.sleepmeeting.org, or by fax or mail using the registration form in the SLEEP 2010 Preliminary Program. **Questions?** Contact the APSS Meeting Department at 708-492-0930.
Allan I. Pack, MBChB, PhD
John Miclot Professor of Medicine, University of Pennsylvania School of Medicine
Director, Center for Sleep and Respiratory Neurobiology, University of Pennsylvania
Dr. Pack received his MBChB in 1968 and his PhD in mathematical modeling in 1976 from the University of Glasgow. In 1976, Dr. Pack came to the United States to work in the Cardiovascular-Pulmonary Division of the Department of Medicine at the University of Pennsylvania.

In 1982, Dr. Pack became Principal Investigator of a project studying the effects of sleepiness in the elderly and the role of sleep apnea. Since that time, he has been heavily involved in various projects related to sleep and its disorders. He directed an NIH-funded Special Center of Research in sleep apnea from 1988 to 2008.

In January of 1991, the University of Pennsylvania created the Center for Sleep and Respiratory Neurobiology with Dr. Pack as its Director. Two years later, Dr. Pack was named Medical Director of the National Sleep Foundation. Under Dr. Pack’s leadership the Foundation established its reputation as the leading voice in drowsy driving prevention.

Dr. Pack continues to be committed to bringing the message of the dangers of driving while drowsy to the public. He continues an active research career now focused on genomic/genetic approaches and directs two Program Project Grants as well as NIH training grants. He is the author of over 240 original papers and chapters and has edited three books.

Pietro Badia, PhD
Distinguished University Professor Emeritus, Bowling Green State University
Dr. Badia has a BA and MA from Kent State University and earned his PhD at Adelphi University, where he taught prior to taking a teaching position at Bowling Green State University in the mid-1960s. In 1980, Dr. Badia was given the title of Distinguished University Professor, the highest honor the university can bestow. He has been the major advisor to 22 PhDs, more than half of whom are doing research on sleep in academic or clinical settings.

Dr. Badia has gained an international reputation through his publications and presentations at scientific meetings in the U.S., Canada, and Europe. His research reports have appeared in numerous scientific publications. He is also coauthor of two books on research methods. Dr. Badia was elected Fellow of the American Association for the Advancement of Science in 1982. In addition to his work on cognitive activity in sleep, Dr. Badia’s research has addressed such diverse topics as sleep disorders, sensory processes in sleep, circadian rhythms, and bright light effects on melatonin, body temperature and performance.

Wallace B. Mendelson, MD
Professor of Psychiatry & Clinical Pharmacology (ret.), The University of Chicago
Dr. Mendelson is currently in the practice of consultation in psychopharmacology. He was formerly Professor of Psychiatry and Clinical Pharmacology and the Director of the Sleep Research Laboratory at the University of Chicago. Dr. Mendelson earned an MD and completed his residency in psychiatry at the Washington University School of Medicine in St. Louis. He has held professorships at Ohio State University and the State University of New York at Stony Brook. He also was Chief of the Section on Sleep Studies at the National Institute of Mental Health in Bethesda, Maryland, and Director of the Sleep Disorders Center at the Cleveland Clinic.

Among his many honors is the William C. Dement Academic Achievement Award from the American Sleep Disorders Association, and he is a distinguished fellow of the American Psychiatric Association. He has served on many boards and committees, including the International Journal of Sleep and Wakefulness and the American Psychiatric Association Handbook of Psychiatric Measures. In 1997, he was President of the Sleep Research Society. Dr. Mendelson has authored or co-authored three books, co-edited another, and published over 190 peer-reviewed papers on various aspects of sleep research.
A rain storm begins with a single drop of water…
A promising career can begin with a single small grant

Each SRSF grant begins with a single donation
Visit the SRSF website and help launch a promising career

CONGRATULATIONS TO OUR 2010 GRANT RECIPIENTS

J. CHRISTIAN GILLIN, MD, RESEARCH GRANT RECIPIENTS

Robert (Vincent) Gerbasi, PhD
University of Chicago Medical School
Project Title: “Molecular Signatures of Sleep Apnea in Endothelial Cell”

Katherine M. Sharkey, PhD
Brown University, Alpert Medical School
Project Title: “Sleep and Circadian Phase Disruption in Postpartum Depression”

Stephanie Crowley, PhD
Rush University (Chicago), Biological Rhythms Research Lab
Project Title: “A Light Phase Response Curve to Treat Delayed Sleep in Adolescents”

ELLIOT D. WEITZMAN, MD, RESEARCH GRANT RECIPIENT

Hans Van Dongen, PhD
Washington State University, Spokane
Project Title: “Biomarkers of Vulnerability to Sleep Loss”
The 15th Annual Trainee Day Symposia series held at SLEEP 2010 will be in San Antonio, Texas this year. The series will offer trainees the opportunity to network with peers and leaders in the field of sleep research and attend scientific and career development sessions. A big change to the program is that Trainee Day will be held on Saturday, June 5 this year instead of the traditional day of Sunday. This is due to the desire to minimize conflicts with the SLEEP 2010 scientific program which is starting on Sunday, June 6 this year.

We anticipate another successful event with attendance of 235 trainees. This will put the workshops at maximum capacity and it will be of extreme importance to attend the workshop you registered for. In order to ensure this occurs, the Trainee Education Advisory Committee (TEAC) has decided to collect tickets to the specific workshops that trainees are registered for. This will guarantee that trainees that registered in advance have a seat in their designated workshop.

The day will begin with a welcoming address by Dr. Clifford Saper, Sleep Research Society (SRS) President, at 8:00 a.m. This year marks the SRS’ 50th Meeting and what better way to kick off the celebration than to have Dr. Mary Carskadon review the history of the SRS and its progress and impact on career choices over the years? Following Dr. Carskadon’s remarks, the keynote address entitled “An Accidental Sleep Researcher with 5 Misguided Career Suggestions” will be given by Dr. Matthew Walker from 8:45-9:45 a.m. Dr. Walker will also address his own professional trajectory during the keynote address.

As usual, there will be four, 55-minute workshop sessions throughout the day. Workshops will range in topics from career advice to basic and clinical research. Topics were chosen (and listed on the registration form) to tailor to varying levels of training expertise. Following the completion of the second workshop lunch will be provided courtesy of the SRS. As with previous years, trainees will be given the opportunity to present their own research to their peers and research leaders who will moderate the 90-minute lunch sessions. Trainees will be given the opportunity to ask questions and receive feedback on presentation content, format, and style.

Following the workshop sessions, the day will end with a trainee reception and career development fair. During this time, trainees will have the opportunity to mingle with lab groups and heads of labs and seek out potential job and training opportunities. Approximately 25 laboratories have reserved tables, and we anticipate another very successful event. The SRS and Membership Committee will have a table at the Career Fair, where recipients of first-time travel awards or merit-based awards can pick up their checks and all attendees can turn in their feedback forms. We encourage you to take the time to complete the survey related to the day’s events and provide feedback. Your feedback is reviewed and used to improve the following year’s events.

In honor of the 50th Meeting celebration, former trainees can pick up special ribbons to attach to their badge commemorating the SRS commitment to trainees over the years. These ribbons can be picked up at the SRS Society Booth, which will be located outside the exhibit hall (and will also be selling SRS products). Finally, be sure to look for SRS events in the SLEEP 2010 program that will also be celebrating the 50th Meeting (e.g., SRS membership meeting and reception that follows).

Acknowledgements
The Trainee Education Advisory Committee is instrumental in the planning the Trainee Day Symposia Series. Thank you to members of TEAC: Jennifer Martin, PhD (chair), Philip Gehrman, PhD (Vice-Chair), Allan Pack, PhD, MBChB, Amy Wolfson, PhD, David Raizen, PhD, Jonathan Wisor, PhD, Lisa Meltzer, PhD, Ronald Harper, PhD, and Janet Mullington, PhD (Board Liaison). Thank you to members of the Training Sub-Committee who helped select topics and speakers for the symposia, including: Brant Hasler (Trainee Member-At-Large Elect), Allison Brager, Jacob Williams, Janine Hall, Jared Saletin, Tina Burke, Lora Wu, Megan Ruiter, S. Justin Thomas, Lauren Daniel, and Adam Bramoweth. A special thank you to Nick Cekosh, Annie Walker-Bright, and Anna Qunitanilla for their administrative support. Finally, thank you to the 40+ faculty who are volunteering their time and participating in the day’s events.

Sara Nowakowski, M.S.
Trainee Member-At-Large
SRS Bylaw Revision Vote Results

As part of the SRS Elections, voting members were asked to approve several changes to the SRS Bylaws. The changes included clarifying definitions within membership categories and allowing members to join more than one Research Section.

All of the proposed changes to the SRS Bylaws were approved by a vote of the membership. You may view the updated Bylaws by clicking on the following link: http://www.sleepresearchsociety.org/ByLaws.aspx

SLEEP 2010 Abstract Supplement is Available Online

The SLEEP abstract supplement for SLEEP 2010, the 24th Annual Meeting of the Associated Professional Sleep Societies LLC (APSS), is available for download on the journal Web site. This comprehensive resource contains all 1,133 research abstracts that will be presented both orally and as posters at SLEEP 2010 in San Antonio, Texas, this June.

In an effort to be environmentally friendly and reduce costs, there will be no print edition of the 400-page supplement this year. Instead, SRS and AASM members will receive a complimentary copy of the abstract supplement on CD-ROM, which will be mailed together with the May issue of the journal SLEEP. The convenient electronic format of the CD-ROM will make it easier for you to enjoy the latest research in the sleep field.

Harvard Sleep Conference: Finding a Research Path for the Identification of Biomarkers of Sleepiness

On September 21-22, 2010, the Harvard Division of Sleep Medicine will convene a panel of experts in assessing sleepiness, genomics, proteomics and molecular biology from across the U.S. and Europe to discuss future research directions for identification of biomarkers of sleepiness. Conference participation is open to the sleep research community. No registration fee.

Conference information, agenda and registration online: http://sleep.med.harvard.edu/what-we-do/biomarkers-conference. Or call 617 998-8843, e-mail: marcia_feldman@hms.harvard.edu.

Population Studies Workshop to be Held by NHLBI and Northwestern University in July

The National Heart, Lung, and Blood Institute and Northwestern University have announced that a workshop to inform researchers on how to access and use data from major NHLBI-sponsored cohort studies will be held July 11-14, 2010, at Northwestern Memorial Hospital in Chicago.

This workshop will feature datasets from the Women’s Health Initiative (WHI) and the Atherosclerosis Risk in Communities Study (ARIC). The workshop and datasets may be of interest to sleep and circadian researchers since both datasets include self-report data on sleep, and hundreds of demographic and health-related data measurements. The existing datasets could potentially facilitate exploratory data analysis and hypothesis generation.

Presenters will include NHLBI staff, senior investigators and data analysis staff from WHI and ARIC. The registration fee for the workshop is $300, which includes hotel accommodations and some meals. Some financial assistance is available; inquiries are invited. Get complete details on the Northwestern University Clinical and Translational Sciences Institute Web site.

Society for Light Treatment and Biological Rhythms Annual Meeting

The Society for Light Treatment and Biological Rhythms (SLTBR) Annual Meeting will be held in Vienna, Austria on July 1-3, 2010.

The 2010 international meeting will feature a CME course on chronobiology, sleep, seasonality and pharmacological interventions, cutting-edge research presented in oral and poster sessions, and 3 symposia:

· “Circannual Changes in Neurobiology and Psychopathology”
· “How to Shift Circadian Rhythms with Light and Melatonin, PRCs, Night Shift”
· “Work and Sleep Deprivation”
· “Lighting and Health”

SLTBR is a not-for-profit international organization dedicated to fostering research, clinical applications, and consensus development in conditions related to light and biological rhythms, including seasonal affective disorder, jet lag, shift work, sleep disorders, eating disorders, nonseasonal major depression, bipolar disorder, and premenstrual syndrome. We study light therapy, chronotherapy, melatonin, serotonergic medications, etc., as well as the biological effects of environmental lighting.

For more information on this meeting visit the SLTBR website at http://www.sltbr.org/.

News from NCSDR on Clinical and Translational Training

The National Center for Sleep Disorders Research (NCSDR), would like to share information about clinical and translational training that is emerging from the NCRR CTSA programs.

From an NIH programmatic perspective, the ongoing focus on ‘translation’ represents an immense opportunity for sleep and circadian biology researchers and trainees. More than ever, individual academic research career planning can benefit from a thoughtful and strategic perspective of NIH directions and planning for the full range of potential research/funding opportunities.

It may be worth considering whether any of the developments listed below are of importance to your respective organizations and future planning; and whether the stature of sleep/circadian interests...
at institutions with CTSA programs could be elevated by promoting member participation.

CTSA Education Committee Activities
http://www.ctsaweb.org/index.cfm?fuseaction=committee.viewCommittee&com_ID=5

Development of Core competencies for Clinical and Translational Research
The competencies might be considered as a possible component or in the organization of future trainee meetings.

National CTSA Educational Resource Program
Packaged Modules and Syllabi
Training events/activities
http://www.rochesterctsa.org/courses/
Association for Clinical Research Training Website
http://www.acrtraining.org/

NIH Funding Opportunities

a. Ancillary Studies in Clinical Trials (R01)
The National Heart, Lung, and Blood Institute has re-issued an initiative to support “time-sensitive” ancillary studies related to heart, lung, and blood diseases and sleep disorders in conjunction with ongoing clinical trials and other large clinical studies (large epidemiological cohorts). Each ancillary study application must be well-coupled to the NHLBI mission and must demonstrate the time-sensitive nature of the proposal, explicitly addressing why an expedited review is essential to its feasibility. This funding opportunity announcement (FOA) will utilize the NIH Research Project Grant (R01) mechanism. The NHLBI intends to commit approximately $4.8 million in FY 2011 to fund up to 12 new grants under this FOA.

b. Cross Organ Mechanism-Associated Phenotypes for Genetic Analyses of Heart, Lung, Blood, and Sleep Diseases (MAPGen for HLBS) Research Centers (U01)
The purpose of this FOA issued by the NHLBI, National Institutes of Health, is to invite applications to participate in the MAPGen consortium. This consortium seeks to utilize evolving knowledge of cellular and molecular networks to define common mechanism-associated traits across organ systems. The ultimate goal is to re-define disease at the level of pathogenetic mechanisms and phenotype individuals based on pathobiology, rather than clinical presentation. This approach will provide the basis for the development of mechanism-based strategies for prevention, diagnosis and treatment in individual patients. This FOA encourages applications for research centers and runs in parallel with a separate FOA that solicits applications for the MAPGen Knowledge Base and Coordination Center (MAPGenKB) (see HL-11-004).

Join SLEEPRNA-L@LIST.NIH.GOV!
SLEEPRNA-L@LIST.NIH.GOV is a listserv that generates NIH initiatives of potential interest to sleep and circadian researchers. To join SLEEPRNA-L@LIST.NIH.GOV, contact Michael Twery, PhD at twerym@NHLBI.NIH.GOV.
In December of last year melatonin was in the news. Parents in Cincinnati Ohio were suing a day care where it is alleged child care workers gave infants melatonin in order to prolong their naps. The day after the story broke a colleague, who was volunteering in a class of 5th graders in Cincinnati, reported that after one child mentioned the story, several children remarked that their parents regularly give them melatonin to help them sleep at night.

**Sources:**

Below, a circadian researcher and sleep pediatrician comment on their experience with melatonin use in children.

**Commentary 1:**
Light is the primary synchronizer of the hypothalamic circadian pacemaker and in the majority of blind individuals lacking light perception, the clock is no longer synchronized to the 24-hour day.¹ In the studies of such blind free-runners (BFRs) conducted by Dr. Al Lewy and myself, we have enrolled over a dozen children aged 3 to 19 years over the past several years. Of the six children found to be free-running we had the opportunity to treat three with low-dose oral melatonin and all three successfully entrained using doses of 0.1 to 0.5 mg.² These subjects were given melatonin for a total of 254 to 766 days with no obvious ill effects. Although the numbers of blind children treated with melatonin in our lab is small, we think it is important to consider that such BFRs likely face a lifetime of difficulties with daytime somnolence and nighttime insomnia if their free-running sleep disorder is left untreated³,⁴ as well as host of other possible sequela such as adverse metabolic effects.⁵

**Jonathan Emens, MD**
*Department of Psychiatry*
*Oregon Health & Science University*
*Portland, Oregon*


**Commentary 2:**
A discussion of the pros and cons of melatonin administration generally does not occur within my adult practice. By the time such patients have been referred for sleep consultation, they have typically already experimented with melatonin, either in the form of a hypnotic or as a chronobiotic in an effort to counter jet lag symptoms.

As I also frequently see adolescents with delayed sleep phase disorder, however, I frequently engage in a discussion with the patient and his/her parent/guardian as to the merits of utilizing melatonin as an agent to exert phase advances. Both parents and patients typically express no spontaneous concerns at all regarding the use of this substance, as it is available “over the counter.” For purposes of informed consent, I state that the substance is not regulated by the U.S. Food and Drug Administration, as it is characterized as a nutritional supplement.

I also typically quote a relatively recent comprehensive review by the National Academy of Sciences, which stated that, given available data, short-term use of melatonin in total daily doses ≤10mg in healthy adults appears to be safe. This publication recommends caution when administering to children or to women of reproductive age, however, as animal studies have demonstrated teratogenic effects with relatively high-dose melatonin.¹ Moreover, a randomized, placebo-controlled study by Luboshitzky and colleagues demonstrated decreased semen quality in two of eight healthy men receiving 3 mg melatonin for a six-month period. In one subject, abnormalities persisted six months after melatonin cessation.² A separate placebo-controlled study by Volcavi and colleagues demonstrated that oral administration of melatonin (10 mg) in 32 healthy adult men increased both basal growth hormone release and growth hormone response to growth hormone releasing hormone.³

I temper this information with the fact that I am recommending dosages of 0.5 mg or less (i.e. physiologic doses). After sharing this information, most patients/parents/guardians agree to proceed with a trial of the medication. As it is typically prescribed during late afternoon or early evening hours for a phase-advancing effect, I suggest that it is initially taken in a situation where sedation will not be problematic. Anecdotally, I have never encountered sedative effects at the dosages described.

**R. Robert Auger, MD**
*Department of Psychiatry & Psychology*
*Mayo Center for Sleep Medicine*
*Rochester, Minnesota*

SLEEP AND CIRCADIAN TRANSLATIONAL RESEARCH LABORATORY

The Stanford University/VA Palo Alto Health Care System Sleep and Circadian Translational Research Laboratory (SCTRL) is located on the beautiful VA Palo Alto campus. Our base is the Department of Psychiatry and Behavioral Sciences at Stanford University but our work takes place in multiple venues: we have a newly constructed suite for conducting precision studies of circadian rhythms and sleep, a primate facility for studying squirrel monkeys, a rodent testing facility, as well as a wet lab space for conducting biochemical and genetic analyses. Stanford University hosts many prominent sleep and circadian researchers, including the “father of sleep medicine,” Bill Dement, Emmanuel Mignot, Luis de Lecea, Craig Heller, Christian Guilleminault, Seiji Nishino, Rachel Manber, Clete Kushida, Jed Black, and many others. As our lab is affiliated with both Stanford and the VA, we are able to make use of the facilities at both institutions, giving us access to (among other things) a flight simulator, neuroimaging (MRI, PET, NIRS), brain stimulation (TMS), clinical space support, and the Stanford Sleep Disorders Clinic.

RESEARCH INTERESTS

The several lines of ongoing research in the laboratory have two main goals. The first is a better understanding of the basic mechanisms underlying non-visual responses to light by the human brain. The second is to gain insight into basic sleep-wake mechanisms in order to develop targeted, physiology-based treatments for sleep disorders.

CURRENT RESEARCH

Current research projects in the SCTRL include those funded by the NIH, US Air Force, VA, and private industry. Ongoing studies include:

• Examination of circadian, sleep and immune abnormalities underlying survival in women with metastatic breast cancer (collaboration with Drs. Firdaus Dhabar and David Spiegel of Stanford University);
• Determination of the effects of light stimuli on non-visual function of the human brain (collaboration with Dr. Craig Heller of Stanford University)
• Clinical trial of melatonin replacement in individuals with cervical spinal cord injury for the treatment of insomnia
• Basic studies on the relationship between thermoregulation and sleep in both normal and pathophysiological conditions (collaboration with Dr. Craig Heller of Stanford University)
• Examination of different treatment modalities for the amelioration of sleep/wake disconsolidation in individuals with Alzheimer’s disease
• Use of a primate model (squirrel monkey) to better understand the physiology underlying the consolidation of sleep and wake.

TECHNICAL CAPABILITIES

The laboratory is equipped to conduct both laboratory-based and ambulatory studies of circadian and sleep physiology. Portable polysomnography equipment, ultra lightweight EEG recorders, actigraphs, skin and core temperature recorders, sleep apnea screening devices, and a Ganzfeld stimulator are just some of the tools that we use. Our laboratory has the capacity for high frequency blood sampling both from within and outside the room in which the subject is resting. The wet laboratory is fully equipped to conduct all standard genetic and biochemical assays, as well as having an Illumina gene chip machine for genome-wide association studies. There is also a variety of equipment to test learning and memory in rodents.

TRAINING OPPORTUNITIES

We are always interested in having highly motivated, independent minded colleagues join our team. Although it is expected that all members of the lab be fully responsible for their own projects, all projects are highly collaborative both within the group and with different laboratories around the University. Doctoral students typically come from the fields of biology and neuroscience, although we can affiliate with other disciplines. Work hard, play hard, and did I mention the weather?
Representative Publications


Current Research

1. Understand the mechanisms underlying age-related changes in the sleep-wake cycle

Co-investigators: Drs Julien Doyon (Université de Montréal), Pierre Maquet (Université de Liège), Alan Evans (University McGill), Célyne Bastien (Université Laval), Jean-François Gagnon (Université de Montréal)

The current overwhelming evidence that aging is associated with a significant increase in sleep-wake cycle complaints has important individual, social and economical consequences. Multiple factors, including health problems and side effects of medications, account for this age-related increase in sleep difficulties. However, critical changes in the sleep-wake cycle are also observed in healthy aging. We and others have demonstrated that, compared to young people (20-39 y.o.), the sleep of healthy middle-aged subjects (40-60 y.o.) is shorter, shallower and more fragmented. In addition, N-REM sleep (stages 1, 2 and slow-wave sleep (SWS)) changes drastically with aging. We also demonstrated that middle-aged subjects are more sensitive to challenges to their sleep-wake cycle. Yet, the cerebral mechanisms underlying age-related sleep modifications are unknown.

This funded research program includes two main themes. First, we propose to identify cerebral mechanisms associated with lower N-REM sleep synchronization in aging. In this new funded project, we will use a multi-modal approach with anatomical magnetic resonance imaging (aMRI) and a combination of simultaneous functional MRI (fMRI) and electroencephalographic (EEG) recordings during sleep to test the general hypothesis that age-related changes in N-REM sleep EEG oscillations are associated with detectable structural and functional changes in the brain. We will also evaluate the relationship between cognition and N-REM oscillations in young and older subjects. Second, we propose to use a pharmacological approach to modulate N-REM sleep synchronization in young and older subjects and evaluate its influence on the effects of various challenges to the homeostatic and circadian processes regulating both sleep quality and vigilance levels. We will compare the effects of caffeine on sleep, vigilance and circadian rhythms in young and older subjects in situations involving manipulation of both homeostatic and circadian sleep processes. We selected caffeine as a first pharmacological manipulation because it is an antagonist of adenosine, an inhibitory neuromodulator involved in homeostatic sleep regulation and N-REM sleep synchronization.

The present research program will determine structural and functional changes in the brain associated with age-related changes in N-REM sleep EEG oscillations. This series of projects will also provide crucial cues as to how age-related changes in N-REM sleep synchronization may underlie changes in vigilance and cognition. Furthermore, this research will provide important answers as to how aging affects N-REM sleep oscillations in their role of protecting sleep when challenged by internal (e.g., circadian) and/or pharmacological (e.g., caffeine) stimulations under different doses of sleep loss.

2. Evaluate the consequences of age-related changes of the sleep-wake cycle

Co-investigators: Drs Julien Doyon (Université de Montréal), François Prince (Université de Montréal)

Our research program also aims to evaluate the consequences of age-related changes of the sleep wake cycle. For example, we are currently running a series of sleep deprivation studies to determine how increased sleep pressure deteriorates the main components of postural control according to the availability of attentional resources and visual input in young and older subjects. In addition, throughout our collaborative work with Dr Doyon we investigate the effects of
normal aging on motor memory consolidation and the related brain plasticity through behavioral and fMRI imaging studies.

3. Estimate changes in retinal and cerebral light sensitivity in seasonal affective disorder (SAD)

Marc Hébert (Université Laval), Co-Principal investigator; co-investigators: Gilles Vandewalle (Université de Montréal), Julien Doyon (Université de Montréal), Marie Dumont (Université de Montréal), Pierre Maquet (Université de Liège), Julien Doyon (Université de Québec).

At the University of Liège, Dr. Maquet and Gilles Vandewalle characterized neural correlates of the nonvisual effect of light on brain activity using fMRI in normal subjects. Dr. Vandewalle is now pursuing a postdoctoral stay in the teams of Dr. Carrier and Dr. Doyon. He has successfully installed in Montréal the techniques he developed to administer light in fMRI. In this current research axis, we propose the etiology of SAD is linked to a retinal sensitivity anomaly triggering an abnormal brain response to light. Therefore, the main goal of this research program is to assess the non-visual impact of light on brain activations associated with auditory emotional stimuli in SAD patients. This project should improve our understanding of SAD and contribute to improve its treatment.

4. Evaluate the impact of sleep on development

Finally, our team maintains active collaborations with the research team of Dr Reut Gruber (University McGill, Douglas Hospital) and the laboratory of Dr Annie Bernier (Université de Montréal). Current collaborative work includes sleep in children with Attentional Deficit and Hyperactive Disorder, infant/children sleep regulation and subsequent cognitive functioning.

**Technical Capabilities**

Methodology and Techniques: Actigraphy; Light exposure; Polysomnography; Quantitative sleep EEG; Magnetic Resonance Imaging (MRI); Functional MRI (fMRI); Salivary melatonin and cortisol assays; Neuropsychological assessment; Motor learning tasks; Constant routines; Pharmacological challenges (e.g. caffeine); Postural control measures; Electrotetinography.

Facilities: Dr Carrier is co-director with Dr Marie Dumont of the Chronobiology laboratory at the Center for Advanced Research in Sleep Medicine (CARS; Hôpital du Sacré-Cœur de Montréal). The CARS benefits from a 1,500-square-metre area entirely dedicated to sleep and chronobiology research. These new facilities include 12 full equipped rooms to record sleep, three temporal isolation units to study circadian rhythms and four control rooms. Nine full-time sleep researchers and their students are pursuing their main research program at the CARS (including Drs. Jacques Montplaisir, Téri Nielsen, Gilles Lavigne, Antonio Zadra, Paola Lafranchi, Valérie Mongrain, Nadia Gosselin, Jean-François Gagnon). The facilities also include a high resolution SPECT scanner dedicated exclusively to research on sleep and biological rhythms, a high-resolution (256-channel) ERP laboratory and an electrotetinography (ERG) laboratory.

In 2006, Dr Carrier also put together a sleep and chronobiology laboratory next to the Functional Neuroimaging Unit (UNF) of the Institut Universitaire de gériatrie de Montréal (IUGM). The UNF facilities include a Magnetom TRIO 3 Tesla MRI scanner from Siemens. This scanner is using the TIM Total Imaging Matrix technology and is entirely dedicated to research. It is used for research projects involving functional imaging, anatomical imaging, diffusion imaging and spectroscopy.

**Training Opportunities**

M.Sc. and PhD psychology/neuropsychology (research or research/clinical profile); M.Sc., PhD Biomedical sciences/Neurosciences.

**Representative Publications**


The Sleep Research Society welcomes members who recently joined the organization. Our membership continues to grow — help us strengthen the impact of the profession by encouraging your colleagues to join. Information regarding membership can be found on the Society website (www.sleepresearchsociety.org).

Full Members

Michael J Brennick, PhD  University of Pennsylvania, Philadelphia, PA
Sandra Carvalho Bos, PhD  Institute of Medical Psychology, Coimbra, Portugal
Mariana Figueiro, PhD  Rensselaer Polytechnic Institute, Troy, NY
Tetsuya Hirano, MD, PhD  Hirano Clinic, Izumisano, Osaka, Japan
Richard Li, MD, PhD  University of Chicago, Chicago, IL
Anne Richards, MD  San Francisco VA Medical Center / UCSF, San Francisco, CA
Nancy F Woods, PhD, RN  University of Washington, Seattle, WA
Wei Zhou, PhD  SRI International, Menlo Park, CA

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## New Members

### Pre Doctoral Students

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<th>Institution</th>
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<td>Spencer C Dawson</td>
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<tr>
<td>Genevieve Desaulniers</td>
<td>Austin, TX</td>
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<td>Lindsay E Dickey</td>
<td>Kirksville, MO</td>
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<td>Katie Esterline</td>
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