Issue Highlights:

- Sleep Research Highlight: Sleep Duration in Early Life and Subsequent Childhood Obesity
- Skills for the Researcher
- Sleep Research Networks: Necessary for Advances in Sleep Medicine
- From the Desk at the NIH: Enhancing Opportunities for Sleep and Circadian Research Training and Education
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The Sleep Research Society (SRS) is a member-based organization of more than 1,200 scientists from a variety of disciplines committed to fostering scientific investigation on all aspects of sleep and its disorders, promoting training and education in sleep research, and providing forums for the exchange of knowledge pertaining to sleep. For 50 years the SRS has been the premier organization dedicated to sleep and circadian research.

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For information or questions regarding membership renewal, please contact the SRS membership department at 630-737-9702 or SRSmembership@srsnet.org
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Dear Colleagues,

I hope you had a relaxing and enjoyable holiday season. As we embark upon a new year I would like to take this opportunity to update you on the various activities the SRS is currently undertaking and some that you will be hearing more about in the next few months.

During the most recent meeting of the SRS Board of Directors a decision was made to hire a Washington, D.C. based representative to assist in SRS efforts to increase funding for sleep and circadian research throughout federal agencies. After considering several proposals for advocacy services, the board decided to employ the Health and Medicine Council of Washington (HMCW) headed by Mr. Dale Dirks. Currently, Mr. Dirks and the HMCW are drafting an action plan for the SRS. Some of the activities addressed in this plan include organization of SRS member visits and communications with their legislators, delivery of contemporary sleep public policy information to key legislators, and identification of federal programs in which sleep research may be fostered. SRS members will be asked, from time to time, to participate in our efforts by calling or writing your federal lawmakers and visiting your Senator or Representative in their state/district office. The effort we will be asked, from time to time, to participate in our efforts by calling or writing your federal lawmakers and visiting your Senator or Representative in their state/district office. The effort we put into increasing the awareness of our field and the opportunities our research holds for improvement in health and safety will reap benefits in the future.

NIH Sleep Disorders Research Plan

I would like to thank all of the members who submitted input on the plan during the initial phase of the process to revise the NIH Sleep Disorders Research Plan last Fall. Your input has been extraordinarily valuable in our efforts to work with NIH to create a plan that will help grow and promote our field. The SRS continues to provide significant input on the new NIH Sleep Strategic plan that is currently being drafted by the Sleep Disorders Research Advisory Board (SDRAB). In order to obtain broad-based input from the scientific community, SDRAB, under the chairmanship of Dr. Charles Czeisler, formed a number of working groups composed of SDRAB members, NIH staff, and academic researchers. Virtually all of the academic working group members are SRS members who have provided substantial input to the Plan which was submitted by SDRAB for NIH review in early January. The current timeline projects completion of the plan during the Spring or early Summer, 2011.

Committee Volunteers Needed

The SRS is currently accepting applications from members for positions on all five SRS standing committees. Committees do the vast majority of the work within the SRS. For more information on the committees, including an application form, use the following link: http://www.sleepresearchsociety.org/Committees.aspx

The five standing committees of the SRS have been active working on a wide variety of projects. Below are brief summaries of the activities they are undertaking on behalf of the society.

Government Relations Committee

The NIH Liaison Group, which is organized by the Government Relations Committee, chaired by Dr. Fred Turek, traveled to Bethesda in October to meet with Institute Directors and program staff at various NIH Institutes and Centers. The series of meetings were extremely productive and helped to demonstrate the relevance of sleep to the missions of a variety of NIH Institutes and Centers. Additionally, the feedback the SRS volunteers received will be beneficial in approaching NIH on matters of concern for our field in the future.

Educational Programs Committee

The Educational Programs Committee (EPC), chaired by Dr. Charles Amlaner, has begun work on three new projects. The first project is hosting a full-day Basics of Sleep post-graduate course at SLEEP 2011. Drs. Amlaner, James Shaffery and Stephanie Crowley spearheaded this project and will serve as co-chairs of the course at SLEEP 2011. The EPC is also considering stand-alone courses the SRS could offer to members and the public in 2012 and beyond. These courses will serve as valuable educational opportunities and a source of revenue for the society. The final project the committee has begun work on is modification of content from the SRS Basics of Sleep Slide Set to make it relevant to high school biology classes. Over the past several years the NIH has developed curricula for sleep at the high school level, but does not have educational materials to accompany the curricula. In an effort to educate the public and spur interest in the sleep field from young future scientists, the EPC will develop the materials to accompany the NIH curricula.

Membership and Communications Committee

The Membership and Communications Committee, under the direction of Dr. Kathryn Reid, is currently in the midst of the membership recruitment and retention season. With the help of SRS staff, the committee has sent letters to potential new members and is working to bring back members that did not renew their membership in 2010. Growing the membership of our organization is essential to the long-term viability of the SRS. The past two years have seen a slight decline in membership. It is my goal, and that of the committee, to reverse that trend and increase membership this year. I encourage you to recruit your colleagues to join the SRS. The Membership and Communications Committee is also in
the process of creating a Facebook account for the SRS, posting links to trainee theses, updating the SRS website and adding entries to a scholarly online encyclopedia called Scholarpedia.

Research Committee

The Research Committee, chaired by Dr. Andrew Krystal, is currently reviewing applications for the SRSF Gillin and Weitzman Grants. This year the SRSF received 13 Gillin Grant applications and 3 Weitzman Grant applications. Following the grant reviews, the committee will review applications for the Young Investigator Award.

Trainee Education Advisory Committee

The Trainee Education Advisory Committee (TEAC), chaired by Dr. Jennifer Martin, recently finalized the agenda and speaker invitations for the Trainee Symposia Series (TSS) at SLEEP 2011. This year, the TSS will be held in two half-day segments. The first half day will be on the afternoon of June 11th and include a keynote address by Dr. Daniel Buysse, two workshop sessions and end with a reception, career fair and trainee datablitz. The committee will be accepting applications for the First Time Travel in January and will be offering a new Undergraduate Award. Look for the details of these awards in the bi-weekly SRS Update and on the SRS website.

In addition to planning for TSS, TEAC continues to evaluate the effectiveness of the TSS in attracting trainees to the field and in contributing to the development of careers in sleep and circadian research. Although the TSS continues to be a huge success as far as attendance and participant satisfaction, the SRS would like to see if the program helps create a pipeline of new investigators in the field, which is critical for the advancement of sleep science.

Nominating Committee

A slate of nominees for SRS positions of president-elect, secretary/treasurer, directors and section heads has been compiled by the Nominating Committee. Please be certain to vote when the ballots are distributed to the membership in March.

As you can see the SRS continues to be very active. The work of our organization will continue to increase as we approach the SLEEP annual meeting in June…and speaking of the annual meeting, please make every effort to attend the SLEEP meeting in Minneapolis, June 11-15. SRS member attendance is very important for the financial health of the organization.

On behalf of the board of directors, I extend a heartfelt thank you to all of our members who volunteer and contribute so much to the organization over the past year, as well as our national office staff, and I look forward to continued success in 2011.

Sincerely,

James K. Walsh, PhD
President

By Helen J. Burgess, PhD

Welcome to the winter issue of the Sleep Research Society’s Bulletin. Whether you are curled up in front of a roaring fire watching the snow fall outside or enjoying warmer temperatures down south, I wish you good health and time to rest and recharge over this holiday season.

As we look back on 2010, we note the hard work that our Society’s committee members put in this year. In this issue we have reports from two SRS committees who have developed innovative strategies to increase membership in our Society and have continued an essential dialogue with NIH leadership. This issue includes the yearly report from our Secretary-Treasurer detailing the improved financial status of our Society, as well as reports from the Circadian Rhythms and Sleep and Behavior research sections. We also look back on an important meeting held on identifying biomarkers of sleepiness, and important recent research on the potential link between sleep duration and obesity in children. As in each issue of the Bulletin, we highlight the research and training opportunities available at a particular domestic and an international sleep research laboratory.

In addition, we take a look forward to events planned for 2011. This includes details on a new award to support travel to our Society’s annual SLEEP meeting to be held in Minneapolis, Minnesota in June 12-15, 2011 and the WorldSleep Congress to be held in October 2011 in Kyoto, Japan. There are also articles in this issue covering the continued development of sleep research networks, the latest news from the desk at NIH, and tips on creating better grant budgets.

As I sign off for 2010, I would again like to thank Nick Cekosh, the SRS Coordinator, for his guidance and help in putting together this issue of the Bulletin, and of course I also give thanks to all who contributed to this issue. In particular we are extremely thankful to Dr. Daniel Lewin for keeping open the lines of communication between NIH and our Society. As always, this Bulletin must serve the needs of all of the members of the Sleep Research Society. To that end I am very interested in receiving suggestions for new articles and/or suggested contributors. I would also like to hear from you if you would like your laboratory highlighted in one of the domestic or international laboratory spotlights. Please email me at Helen_J_Burgess@rush.edu with all your ideas and suggestions.
The 16th Annual Trainee Symposia Series (AKA Trainee Day) will be held at SLEEP 2011 in Minneapolis, Minnesota. 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 split over two days (Saturday, June 11, and Sunday, June 12, 2011). The program will begin on Saturday afternoon and conclude early Saturday evening. The program will resume Sunday morning, ending prior to the start of the main meeting on Sunday afternoon. The specific workshops and speakers are being finalized, and will continue to meet the high standards set by prior years’ line-ups. Notably, the Sunday morning schedule will include F- and K-award grant-writing workshops, which were very well-received when they were offered in the Trainee Symposia Series at SLEEP 2009.

The Sleep Research Society will continue to offer a range of travel awards to participating trainees, including a brand-new award aimed specifically at undergraduates. The three categories of awards include:

**Merit-Based Travel Awards (also known as Abstract Awards):** These awards are given to trainees who submit abstracts of exceptional quality and thus deserve special recognition. Their primary purpose is to further the career development of trainees, with a secondary benefit of defraying the cost of travel to the SLEEP meeting. Applying for these awards is easy—simply check the appropriate box when submitting your abstract. Award decisions are made and conveyed to the awardees prior to the SLEEP 2011 advanced registration deadline, so you will have plenty of notice prior to registering for the meeting. There are a few eligibility requirements, most notably including SRS membership, being the first author of the abstract, and registration for and attendance at the Trainee Symposia Series. (Awards are distributed during Trainee Day, so you must be present.) Exact dollar amounts of the award vary year to year, depending on the number and quality of applications.

**First Time Travel Award:** These awards are given to trainees who have not previously attended a SLEEP meeting, with the intention of encouraging commitment to the pursuit of contributions to the sleep research field. Award selections are based on a variety of criteria, including abstract submissions, research activities and productivity to date, overall promise as a sleep researcher, and a letter of recommendation from a mentor who is a SRS member. Applications for these awards are accepted in the winter (the submission deadline is February 7, 2011), and winners are announced prior to the meeting. As with the Merit-Based awards, exact dollar amounts vary year to year, depending on the number and quality of applications.

**Undergraduate Award Program:** This award program is brand-new this year. It was started with the recognition that there are outstanding undergraduates out there (you know who you are) who are just beginning their career in sleep, but already demonstrate exceptional promise. Applicants are required to submit an abstract, but may do so later than the standard December 15 deadline with the recognition that undergraduates who begin a research project in the fall semester might not yet have reportable findings by the December deadline. Applications will be due in February and will be judged by criteria similar to those for the First Time Travel Award, including research activities and productivity to date, overall promise as a sleep researcher, and a letter of recommendation from a mentor who is a SRS member. This award is intended to cover the majority of travel expenses to the meeting, up to a maximum amount. In addition, the recipient of this award will have the chance to meet members of the TEAC committee and to participate in other unique activities during the TSS.

Historically, the SRS has been extraordinarily generous in funding these awards, and many past and present trainees have benefited. We encourage you to apply; after all, that’s the only way to get an award!

**Acknowledgements**

The Trainee Education Advisory Committee is instrumental in the planning of the Trainee Day Symposia Series and managing the trainee award programs. Thank you to members of TEAC: Jennifer Martin, PhD (Chair), Philip Gehrman, PhD (Vice-Chair), Jeanne Duffy, PhD, Monique LeBourgeois, PhD, David Raizen, PhD, Mark Mahowald, MD, FAASM, Rachel Manber, PhD, Jonathan Wisor, PhD, Lisa Meltzer, 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: Allison Brager (Trainee Member-At-Large Elect), Jared Saletin, Tina Burke, S. Justin Thomas, Kay Orzech, PhD, Jean Humphries, Felicia Jefferson, Daniel Kay, Sinziana Seicean, PhD, Lori-McGee-Koch, Jennifer Goldschmied, Christine Gagnon, and Katherine Newman-Smith. A special thank you goes to Nick Cekosh, Annie Walker-Bright, and Anna Qunitanilla for their administrative support.

**Brant P. Hasler, PhD**

Trainee Member-At-Large
This report briefly summarizes the financial status of our organization. The financial condition of the SRS has improved throughout 2010.

As of October 31, 2010, the unaudited financials for 2010 show total assets of $3,073,871, as compared to $2,787,042 at this same time in 2009. The increase in assets of $286,830 is due to continued fiscal discipline, conservative budgeting and an increase in the value of the Society’s investment portfolio. The SRS has experienced an overall decrease in expenses, year-to-date, compared to 2009. The SRS received significant revenue due to the success of the two ½ day courses the Society hosted in conjunction with the AASM Sleep Medicine Board Review Courses in August and September 2010. The SRS Board of Directors made a donation to the Sleep Research Society Foundation (SRSF) in December, consisting of the proceeds from the two ½ day courses.

Although the financial situation of the Society has improved in 2010 in comparison to 2008 and 2009, the continued slow economy gives cause for concern. Additionally, there are two other items that will impact the finances of the SRS in the short and long-term that members should know about. First, the SRS recently hired a Washington, D.C.-based lobbyist to advocate for our organization. The hiring of a lobbyist has the long-term potential to provide for increased funding opportunities in all areas of basic and clinical sleep research. The lobbyist will also work directly with SRS members to enhance our ongoing government affairs initiatives. Although this is an investment in our future, it will have an impact on society expenses over the next two years. The second problem facing the SRS is a decline in membership over the past two years. Membership dues are a major source of operating revenue for the SRS and continued decrease in membership will have a significant negative impact on our balance sheet. Aside from the financial impact, the decline in membership means there are fewer individuals serving on committees and in leadership positions which leads to a less dynamic organization. Furthermore, a decline in the number of SRS members attending the annual SLEEP meeting has a negative impact on the revenues generated for the Society from the meeting.

With that being said, I strongly encourage you to renew your membership in the SRS as soon as possible and to encourage your colleagues to join the SRS. Taking an active role in the SRS by recruiting a colleague can have an immense impact on our organization. Encourage your SRS colleagues to submit abstracts and attend the annual meeting. If you need membership applications, informational brochures, or if a colleague needs information on joining the SRS please contact the SRS national office at ncekosh@srsnet.org.

The SRS Board of Directors continues to work to secure the financial future of the SRS. In addition to identifying additional savings in the organizational budget, the Board of Directors will continue working to identify sources of revenue independent of the APSS, LLC partnership. Diversification of the revenue stream for the SRS and increasing society membership remain high priorities vital to the long-term financial health of our Society.

This is my final report as the SRS Secretary-Treasurer as I rotate off of the Board of Directors in June 2011. I extend my heartfelt thanks and appreciation to the members of the SRS for putting their trust in me and allowing me the opportunity to serve the organization over the past three years.

Respectfully submitted,

Ronald Szymusiak, PhD
Secretary/Treasurer
Committee Reports

MEMBERSHIP AND COMMUNICATIONS COMMITTEE REPORT

In June of 2010 due to the increased overlap in activities the SRS Membership Committee and the SRS Communications Committee were combined into a single committee and renamed the Membership and Communications Committee.

Some exciting new projects are already underway. As a way to improve communications with society members and recruit new members the Membership and Communications Committee has been given board approval to create a Sleep Research Society (SRS) page on Facebook. We believe that social networking sites such as Facebook present a great opportunity to expand the presence of the SRS beyond the current online website format. In conjunction with this proposed Facebook page we are making updates to the current SRS website to encourage visits to the website and to provide new and useful information to our members. These updates will also provide content for the weekly Facebook updates. We also hope to collaborate with other committees, sections and members to provide updates and content for both the website and Facebook page.

The Membership and Communications committee meets several times a year to review and/or create innovative ways of communicating with members and for recruiting and retaining members to the society. If you have any suggestions or comments that may improve the activities of the committee feel free to contact me (email srsmembership@srsnet.org) and your comments can be raised at committee meetings for discussion.

Don’t forget, the renewal period is currently underway so I encourage all members to renew and to reach out to potential new members to join the society. Members can join or renew their membership online at www.sleepresearchsociety.org.

Kathryn J. Reid, PhD
Chair, Membership and Communications Committee

GOVERNMENT RELATIONS COMMITTEE REPORT

As many of you are aware, during my presidency last year, I wanted to focus the SRS on its mission of raising the level of funding for sleep and circadian research. During the last five years, the NIH Institutes had seen an unprecedented period of pressure to show results in treatments of their primary diseases. While this is important to satisfy the public about the primary missions of the institutes, it has led to a lack of enthusiasm for interdisciplinary work, and many of our members have complained that they have been told by various institutes that their work could not be funded unless it addressed the “primary” missions of those institutes.

Because sleep and circadian research is fundamentally interdisciplinary, the SRS leadership felt that we had to address this problem at multiple levels, including 1.) working with NIH leadership to recognize the role of sleep and circadian research in their primary missions and reinvigorating the trans-NIH program in sleep and circadian research which has in the past supported interdisciplinary efforts; and 2.) working with Congress to raise the consciousness of individual members about these issues, as their input to the Institutes (and other federal agencies that support sleep and circadian research, such as NASA, the Department of Transportation, the Department of Defense, and many others) is critical in formulating their missions.

As a result, the SRS created a Government Liaison Committee, chaired by Fred Turek, which oversees two working groups. One group consists of volunteer members from the SRS who are charged with visiting their elected representatives or senators in their home office (where you have more chance to connect personally with the representative). This group met for the first time at the APSS meeting in June, and we felt that it would be better to wait until after the election, when we have a better idea of who will be in congress, and who will be on which appropriations committees, before initiating our coordinated activities. Meanwhile, the SRS Board of Directors has voted to hire a lobbying firm, who will work with the members of the Congressional Liaison Working Group, and help them organize their activities. More on this after the new congress takes office, but we expect that 2011 will be a very busy year for working with the new Congress, and we need as many members as possible to help.

The second Working Group consisted of about 11 senior members of the SRS who have had long histories of funding from, and good relationships with the leadership of, specific NIH institutes. This group visited the NIH on October 14, on behalf of the SRS, and we had a series of very successful meetings with leaders from the NHLBI, NIMH, NINDS, NIA, NINR, NIDA, NIDDK, NCI, NCRR, NICHD, and NIGMS. We are looking forward to reinvigorating the trans-NIH group, and perhaps enlarging its membership to include other institutes. We are grateful to Jim Walsh, Phyllis Zee, Allan Pack, Susan Redline, Ruth Benca, Emmanuel Mignot, Eve van Cauter, Dan Buysse, Terri Weaver, and David Dinges for participating in the meetings this year.

I am very grateful to Fred Turek for taking on the assignment of leading our Government Relations Committee, and to Jim Walsh and Phyllis Zee, my successors as SRS President, for giving high enough priority to this process to participate in it themselves. It will require a sustained effort, of both our leaders and our membership, for many years to bear fruit. However, I cannot think of any single issue that is so critical to the health of our field.

Clif Saper, MD, PhD
Chair, NIH Liaison Group
SRS Past President
CIRCADIAN RHYTHMS RESEARCH SECTION REPORT

The Sleep Research Society Circadian Rhythms Research section met in San Antonio, Texas on Wednesday June 9th, 2010. At the meeting, outgoing Section Head Derk-Jan Dijk reviewed the past year’s section activities, and encouraged section members to submit proposals for symposia and workshops for the 2011 meeting. We also had a short “data blitz”, where section members were given an opportunity to do a 1-minute overview of their recent findings. Thanks to section members Kelly Glazer Baron, Diane Boivin, Ted Silva, and Jamie Zeitzer for presenting their recent work during the data blitz.

Respectfully submitted,

Jeanne Duffy, PhD
Section Head

SLEEP AND BEHAVIOR RESEARCH SECTION REPORT

The meeting of the Sleep and Behavior Section at the San Antonio SLEEP meeting included presentation of some of the excellent trainee behavioral sleep research from Trainee day and a discussion of how Sleep and Behavior Section members could have increased participation in SRS activities. If you would like to have a greater role in SRS or know another member who could add expertise and commitment to society activities, please do (or strongly encourage your fellow member to do) the following:

1. Log onto the SRS website (www.sleepresearchsociety.org).
2. Find the “Membership” dropdown at the top of the page and choose “Volunteers”.
3. Fill out the form and include one of the 5 specified areas of interest. Hit the “submit” button at the bottom of the page.
4. If you send me an email (bonnetmichael@yahoo.com) when you finish the form, I will also include you on my list of Sleep and Behavior Section members to discuss as specific candidates when the Section Heads meet with the President to choose new committee members early in 2011.

Michael Bonnet, PhD
Section Head
SLEEP AND CIRCADIAN SCIENTISTS AND CLINICIANS TO GATHER IN KYOTO, JAPAN, FOR WORLDSleep2011

The Sixth Quadrennial Congress of the World Sleep Federation (WSF), WorldSleep2011, will be held in October, 2011 in Kyoto, Japan. (http://www.worldsleep2011.jp/contents/invitation.html) WorldSleep is the principal venue of the WSF (The World Federation of Sleep Research and Sleep Medicine Societies), an alliance of seven national and international sleep research and sleep medicine societies (http://www.wfsrsms.org/index.aspx). The WSF seeks to: facilitate international collaborations and cooperation among professional sleep societies around the world; promote sleep health as a world-wide public health priority; disseminate globally professional information on sleep medicine and sleep science; foster awareness of the importance of sleep research and the impact of sleep disorders; support international training in clinical sleep medicine and sleep research; and sponsor international congresses on state-of-the-art developments in sleep research and sleep medicine.

The WSF Quadrennial Congresses bring together all who have a passion for sleep research and care of patients with sleep disorders into one venue to share the latest research and clinical data and network ideas and opinions. The WSF’s member societies share many challenges in promoting and funding sleep research and ensuring our governments and education systems prioritise sleep medicine. The Kyoto Congress will help meet these challenges through shared experiences and the development of new ideas and plans. As the Congress theme, “New Horizons for Sleep Research for Our Planet” boldly states, the goal of this meeting is to raise new and exciting possibilities for our field.

WSF congresses are held every 4 years because they are special - a truly global meeting in a wonderful historical venue with a special atmosphere of a shared fascination with the world of sleep. Previous meetings, such as WorldSleep2007, held in Cairns, Australia have been great successes, bringing the best of sleep research and sleep medicine together in an exciting venue to exchange ideas and develop new projects, programs and collaborations. There is no doubt that WorldSleep2011 will be another in this line of successful world congresses.

The WorldSleep2011 venue, Kyoto, proudly reigned as capital of Japan for 1200 years. Kyoto provides a spectacular setting for the congress and delegates will hopefully have time to appreciate the ancient capital of Japan and its surrounding areas. The history and heritage of this ancient capital lives on in a modern city of 1.5 million. Kyoto is home to seventeen UNESCO World Cultural Heritage Sites in a cityscape dominated by 2000 temples and shrines. Japan is renowned for its beauty and the compactness of Kyoto makes for wonderful strolling. The city offers you endless opportunities to gain meaningful hands-on experience of Japanese culture and the rich historical traditions of Kyoto. (see: http://www.worldsleep2011.jp/contents/venue.html)

The host society, the Asian Sleep Research Society, and the local organising committee are hard at work creating the mix of science and social events to ensure that the Kyoto Congress is a wonderful experience. This is the first WSF Congress in Asia and brings the WSF to the fastest growing region in sleep research and sleep medicine.

In addition to the usual call for abstracts, which will be made in January of 2011, the WorldSleep2011 Program Committee is breaking the mould somewhat as far as what has typically been considered the standard types of scientific congress sessions. They recently issued an invitation for submission of “Abstract Symposia” to be included in the program. WorldSleep2011 will include approximately 36 Abstract Symposia, each a 2 hour session. The composition of these sessions will be 1 organizer/chair with 4-5 speakers. Of these speakers, two will be chosen by the proposer and the remaining two or three will be chosen by the Program Committee from the poster sessions. This rather novel format should add a bit of spice to the program.

WorldSleep2011 promises to be another exciting and successful WSF Quadrennial Congress. Watch for the call for abstracts in January, and hope to see you all in Kyoto!

Michael Vitiello, PhD
SRS Representative, International Scientific Program Committee, WorldSleep2011
Professor, Psychiatry & Behavioral Sciences, Gerontology & Geriatric Medicine, and Biobehavioral Nursing, University of Washington
CONFERENCE SUMMARY

On September 21 and 22, 2010, approximately 130 attendees participated in the conference “Finding a Research Path for the Identification of Biomarkers of Sleepiness” which was organized by the Division of Sleep Medicine at Harvard Medical School. The conference was supported by educational grants from Cephalon and Phillips Health Care as well as through a conference grant from the National Heart, Lung and Blood Institute (HL 104874).

Sleep disorders and sleep deprivation are important causes of morbidity, mortality and economic loss worldwide. Thus, sleep problems have a significant effect on public health and economic productivity. A major barrier to reducing this impact is the failure to recognize on a societal and personal level the major consequence of sleep deprivation, sleepiness. The objectives of this conference were to:

1. Provide an overview of the utility of current instruments to detect and quantify levels of sleepiness including both subjective and objective tools or techniques;
2. Present current research on the use of genomic, proteomic and molecular approaches to assess sleepiness with the emphasis on how such techniques might be used clinically or for clinical research;
3. Stimulate research into the development of clinically useful biomarkers of sleepiness by formulating a research pathway for investigators to follow.

After an introductory keynote address by Dr. Charles Czeisler, Baldino Professor of Sleep Medicine at Harvard Medical School, who emphasized the public safety importance of identifying sleepy individuals and the challenges of discovering a sleepiness biomarker, the conference then proceeded in three sections. In the first section, there were 2 presentations on the use of biomarkers in other chronic conditions. Dr. Michelle Alpert, Assistant Professor of Medicine at Harvard Medical School, discussed the Institute of Medicine’s framework for evaluation of biomarkers for chronic disease risk. This was followed by a presentation by Dr. Robin Farias-Eisner, Professor of Obstetrics and Gynecology at UCLA School of Medicine, who presented work on how biomarkers are useful in the evaluation and treatment of ovarian cancer.

The second section was a series of talks about current biomarkers of sleepiness. Dr. Thomas Balkin from the Walter Reed Army Institute of Research discussed the utility of behavioral biomarkers of sleepiness. He suggested that “subjective measures of sleepiness are of limited value because humans become subjectively inured to sleepiness, probably as a function of their recent sleep history”. He indicated that new instruments needed to focus on performance measures that reflected what is unique about the sleepy brain. The next presentation was by Dr. James Krueger from Washington State University who spoke on electrophysiologic measures of sleepiness. He focused on correlates with EEG delta power and concluded that it was unlikely that a single EEG measure would be a reliable measure of sleepiness. This section of the conference was concluded by a presentation by Dr. Namini Goel from the University of Pennsylvania who showed data demonstrating that there are considerable inter-individual differences in response to sleep deprivation as reflected in PVT outcomes. She further presented data indicating that the presence of DQB1*0602 explained some of this variation.

The third section of the conference consisted of presentations on potentially novel approaches to identifying a sleep biomarker. First, Dr. Paul Shaw from Washington University School of Medicine discussed how gene expression studies in Drosophila might be useful in identifying a sleep biomarker in humans. His presentation was followed by Dr. Niranjini Naidoo from the University of Pennsylvania who reviewed various proteomic approaches. In addition, she shared with the attendees the protocol for an ongoing pilot study exploring the plasma proteome for a sleepiness biomarker. Dr. Michelle Miller from the University of Warwick then presented work on the association of various inflammatory markers such as IL-6 and CRP and sleepiness. This was followed by a discussion by Dr. Edward Haeggstrom from the University of Helsinki on the novel use of a balancing device to identify individuals who are sleepy. Dr. James Krueger gave a 2nd presentation on the biochemical regulation of sleep, and finally Dr. George Church from Harvard Medical School discussed how the
Personal Genome Project might have implications on discovering a sleep biomarker.

There were two panel discussions during the conference. The 1st on the “Current Status of Measuring Sleepiness” was chaired by Dr. Janet Mullington from Harvard Medical School and included Drs. Czeisler, Goel, Krueger, Balkin and Murray Johns from Melbourne, Australia. The 2nd on “Can there be a biomarker for sleepiness?” was chaired by Dr. Stuart Quan from Harvard Medical School. Although there was no firm consensus on the optimum pathway for future research, attendees and panelists agreed that a biomarker for sleepiness would be important in 2 general areas: 1) for identifying individuals with an increase in sleep propensity who might be at risk for an adverse sleepiness event, and 2) as a indicator of chronically reduced sleep with its consequent adverse metabolic and physiologic impacts. They also suggested that there needed to be future conferences to discuss progress in both of these areas.

Abstracts of the conference presentations are available at http://sleep.med.harvard.edu/what-we-do/biomarkers-conference/abstracts.

Publication of the proceedings is planned for the spring of 2011.

Prepared by
Stuart F. Quan, MD
Training and education are a cornerstone of the National Institutes of Health (NIH) mission and a priority within the National Center on Sleep Disorders Research (NCSDR) and the National Heart Lung and Blood Institute. Approaches to advance training and education opportunities in sleep and circadian biology will figure prominently in the development of the NCSDR Research Plan slated to be released in 2011. Goals for training and education include the following: integrating concepts of sleep and circadian science at all levels of research training (i.e., pre-baccalaureate to post doctoral) and disciplines (e.g. basic science, social and biological science); increasing the number of research scientists entering the field; and stimulating the translation of sleep and circadian concepts in clinical and public health sector research. Future success hinges on sleep and circadian researchers and trainees working individually or in multi-disciplinary collaborations to develop scientifically innovative and competitive NIH grant applications. Numerous opportunities exist for the sleep and circadian community to innovatively address gaps and pressing needs for training and education through grants, workshops and symposia.

NIH supports an array of grant mechanisms facilitating every level, domain, and career path for academic research training (see Figure 1). Notably, three new opportunities for sleep and circadian biology education and training are proposed for release in 2011. 1) A new NHLBI and NICHD initiative (R25) has been proposed and would support the development of sleep and circadian biology education strategies and platforms. Educational research is needed to develop innovative, efficient, and effective strategies that will deliver advances in sleep and circadian biology research to significant audiences such as academia, medical care providers, and public health sectors. 2) The Basic Behavioral and Social Science Opportunity Network (OppNet) supports K18 applications for mentored mid- and senior-career investigators who propose to pursue focused training in Basic Behavioral and Social Science research. 3) A new NHBLI Short-Term Institutional Training Grants in Pediatric Respiratory Hematology/Transfusion Medicine or Sleep Research initiative will assist physician trainees seeking brief mentored experiences in supported scientific domains.

Because of sleep and circadian biology science cuts across multiple disciplines and scientific fields it is also important to consider training opportunities that do not explicitly identify sleep or circadian research as a priority. Dr. Hal Gordon, a program officer representing sleep at NIDA has said that ‘some sleep researchers are actually addictions researchers, they just don’t know it yet’, and this message is also true in many other areas of science.

Many ongoing initiatives across the NIH support education and training. Some highlights include the National Cancer
Institute Education Research initiative (R25); the NIDDK Education Research initiative (R25), and the National Center on Research Resources, Science Education Partnership Award. These training opportunities are open to any researcher proposing responsive training and education plans (Table 1).

New education and training funding opportunities emerge each year. Selected funding opportunities and other Federal Agency announcements relevant to sleep and circadian biology are informally posted on a public listserv—(https://list.nih.gov/cgi-bin/wa.exe?A0=SLEEPRFA-L). Contact the program staff of appropriate NIH Institutes and Centers or NCSDR to ask questions or obtain feedback on your grant application plans, Institute funding priorities, or the details of a specific initiative.

The pursuit of research training opportunities, the development of innovative research training and education programs, and the integration of sleep and circadian biology concepts in connected areas of research are potentially important measures of progress for the field. The forthcoming NCSDR strategic plan will highlight directions for training, education, and research on which to move forward.

Danny Lewin, PhD; Michael Twery, PhD; Aaron Laposky, PhD; Peyvand Ghofrani, BS
National Center on Sleep Disorders Research, Division of Lung Diseases, National Heart Lung and Blood Institute.
Sleep Research Networks:
Necessary for Advances in Sleep Medicine

This is an exciting time for patient-oriented research in sleep and its disorders. Studies have identified associations between obstructive sleep apnea and cardiovascular disease as well as diabetes. In addition, associations have been shown between short sleep duration and insulin resistance and obesity. These findings call for future randomized intervention studies to clarify the nature of these relationships. Moreover, all common sleep disorders such as insomnia, obstructive sleep apnea, restless legs syndrome and parasomnias are heritable. New approaches to identifying gene variants conferring risk for disorders such as genome-wide association studies and exome sequencing make studying genetics of sleep disorders a very tractable problem.

But both intervention studies and genetic studies require large sample sizes. Moreover, there is a need to do such studies in different ethnic groups. These types of studies, and indeed other aspects of patient-oriented research including research to inform public policy and comparative effectiveness research, are facilitated by multi-institutional research networks with appropriate infrastructure. The Institute of Medicine Report—Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem (2006)—envisaged the development of comprehensive sleep and circadian centers in our major academic institutions, and based on these centers the formation of a research network to facilitate the patient-oriented research necessary to advance preventative and personalized medicine.

Currently there is no sleep research network supported by the National Institutes of Health (NIH). There are networks with NIH support in other areas such as asthma and congestive heart failure. The Australian Medical Research Council has supported development of a clinical trials network for sleep disorders in Australia that also has sites in India and China. The Medical Research Council of Canada has recently established a program of centers in Canada for sleep and circadian research, and four centers have received funding.

Given the need for a sleep research network to take patient-oriented research in sleep and circadian disorders, and ultimately patient care, to a new level, a Sleep Research Network (SRN) has been formed by sleep researchers involved with their institution's Clinical and Translational Science Centers and other academic institutions. The SRN is self-organized with the group at the University of Pittsburgh acting as secretariat and providing excellent administrative support (Jeanine Knox-Houstinger). A small amount of direct support for the SRN is provided by an NIH R13 grant to support an annual conference (Principal Investigator is Dr. David Kupfer, University of Pittsburgh). The support of the R13 grant is supplemented by funds from the Clinical Translational Science Award (CTSA) at the University of Pittsburgh and from the American Academy of Sleep Medicine.

When the SRN was conceived a decision was made to begin with the Clinical Translational Science Award (CTSA) program as an initial, manageable group of institutions. There are currently 34 of these programs nationally that have a sleep research component. Each such institution was asked to name a faculty member to represent them. A Steering Committee was elected and the members are: Drs. Ruth Benca, Charles Czeisler, David Gozal, Allan Pack, Susan Redline, Virend Somers and Patrick Strollo. Drs. David Kupfer and James Walsh (current President of the Sleep Research Society) are ex-officio members. I was selected as the initial Chair of the Steering Committee to serve for 2 years and Dr. Susan Redline becomes Chair on January 1, 2011.

The Sleep Research Network has held three annual conferences—the first in Pittsburgh and the last two in Washington. The Washington location facilitates NIH program staff attending the conference. Early during the evolution of SRN the group made two important decisions: 1) the primary focus should be the development of multi-center research projects that lead to development of infrastructure, rather than focus on infrastructure per se; 2) we should act in both a “bottom up” and “top down” fashion. Bottom-up refers to the ability of any member of the Network to propose a multi-center project. Top-down was implemented through the establishment of working groups to develop specific projects.

Currently there are four working groups:
1. Clinical Trials and Outcomes (chaired by R. Benca and S. Redline)
2. Genetics and Genomics (chaired by E. Mignot and A. Pack)
3. Research to Inform Public Policy (chaired by C. Czeisler and P. Strollo)
4. Pediatric Sleep Disorders (chaired by R. Amin and D. Gozal)

Each working group has been charged with developing at least one multi-center project and one initiative in research training. Currently the groups are developing the following projects (responsible person(s) in parentheses):

Clinical Trials and Outcomes
- Trial of different insomnia therapies in older adults (K. Stone)
- Treatment of sleep-disordered breathing in pregnancy (L. O’Brien and J. Louis)

Genetics and Genomics
- Genetic determinants of the electroencephalogram (E. Mignot)
- Multi-institutional training grant for genetics/genomic approaches to sleep and circadian disorder (A. Pack)

Research to Inform Public Policy
- Impact of different scheduling strategies for residents (C. Czeisler and C. Landrigan)

Pediatric Sleep Disorders
- Identification of narcolepsy in children and adolescents (N. Simakajornboon and K. Spruyt)

The Sleep Research Network website continues to be developed (http://www.sleepresearchnetwork.com/). Currently it contains information on institutions involved, faculty and resources.
available for multi-center studies. Reports of SRN annual conferences and updates about working groups are also on the website.

Ultimately the success of this effort will depend on demonstrating that we can obtain funding for one or more multi-center studies. It is, of course, challenging to develop this type of effort based on volunteer effort with minimal available resources. It is a testament to the commitment of the participating researchers in the field that the SRN has been organized and is actively pursuing its mission of advancing patient-oriented research despite such limited resources.

The SRN maintains good relationships with another entity that has been developed during a similar time frame—the Academic Alliance for Sleep Research (AASR). AASR consists of the sleep research programs of four institutions: Harvard, Penn, Stanford and Wisconsin. It is supported by a grant from the Respironics Foundation. Dr. James Walsh acts as Executive Director of the AASR. All members of the AASR are involved in the Sleep Research Network, and there is a commitment to share tools developed by the AASR more broadly. The involvement of Dr. James Walsh on the SRN Steering Committee ensures close collaboration of the two groups. Recently, Stanford, acting as the lead AASR institution for this initiative, was successful in obtaining a grant from the Agency for Healthcare Research and Quality to develop an informatics platform for comparative effectiveness research (the COMET study). The Principal Investigator for this grant is Dr. Clete Kushida (Stanford). The details of the COMET project were presented at the recent SRN conference and the informatics platform will be available in the future to support other multi-center studies as well as other grant applications.

Through the development of the SRN and AASR (and perhaps other initiatives), patient-oriented research in sleep and its disorders will be moving increasingly to multi-center studies, as dictated by scientific needs and opportunities. Such studies will be essential if the goals and objectives of the revised NIH Sleep Disorders Research Plan currently under development are to be realized. Ultimately, this will be possible only if resources are obtained to sustain a multi-institutional sleep research network, such as the fledgling Sleep Research Network, to perform the interventional, genetic, and comparative effectiveness research necessary for advances in patient care.

Allan I. Pack, PhD, MBChB
Skills for the Researcher

A TALE OF TWO BUDGETS: A SIMPLE WAY TO PREPARE A NIH BUDGET

The deadline is fast approaching. You have been working non-stop on your proposal. You have the methodology, statistics and you are ready for the final review and the ultimate submission. You have been so focused on your research, you left the budget as the last task, as it really is not difficult to put together a budget—right? Panic sets in, as you realize you have no idea how to put together a budget. You try to call your colleagues, and no one is returning your call. The minutes are ticking away and you know if you do not complete this aspect of your grant, you cannot go forward. Does this sound familiar? This article will review the basic components and concepts for developing a NIH budget and should provide enough detail to guide you with this important task.

Two Budgets: There are now two types of NIH budgets included in application packets. Historically, applications were submitted with detailed budgets delineating the direct costs needed for salaries, equipment, supplies, travel and other specific costs necessary to complete the research. To simplify the process, the National Institutes of Health (NIH) introduced the Modular Budget. The Modular Budget is very simple as the only elements included are total direct costs and facilities and administrative costs (F&A—formerly known as indirect costs). The amount of direct cost is based on how much you determine you need to complete the project. These modules or building blocks are $25,000 each; with a maximum value of $250,000. For budgets with direct costs in excess of $250,000, a detailed budget must be submitted. Various funding opportunities may also require a detailed budget.

The budget is a product of the study design, scope of work and the specific aims of the research and what costs are necessary and reasonable to complete your project. The key to building a successful budget is going backwards. In other words, the Principal Investigator and the study team have to work backwards from the scope of work and the specific aims of the project to determine how much it will cost to perform the research. One point to consider is inflation for ongoing grants. While this is not an exact science, NIH will generally allow up to a three percent escalation factor for recurring costs each year. Regardless of the appropriate budget template, a detailed budget must be developed to insure adequate funds are requested. An Excel worksheet designed to follow the detailed budget template is a reasonable format to aid in this process.

Typically, personnel costs are the largest research expense. Key personnel must be identified and include all individuals responsible for the design and conduct of the research. Questions to ask include: How much time will each of those individuals need to devote to the project to insure success? Given any budgetary restraints, will they be paid from the grant for their time? Once the key personnel have been added to the budget, other personnel necessary for the conduct of the study must also be identified. Their effort need to be determined to calculate the amount of funding needed. All institutions have a unique fringe benefit rate (or multiple rates depending on their employee population). The fringe benefit rate used is based on a federally negotiated agreement between the institution and the United States Department of Health and Human Services (DHHS) or other government assigned agencies. The unique appropriate rate needs to be applied to all personnel costs.

Other costs to be considered when building your budget are outside consultant costs and capital equipment (defined as an item or property with an acquisition cost of $5000 or more and an expected service life of more than one year). Supplies are almost always necessary for the conduct of the research. These costs are tangible and can be allocated directly to the research. Examples include laboratory supplies, supplies for research subjects and animals purchased. Other costs that are intangible often include stipends for research subjects, maintenance cost, advertising and publishing costs.

Many projects benefit from presentations at conferences and your budget should reflect such travel. The travel should be justified and include the destination, dates and duration of travel. All of these costs should be included in the direct cost budget. Remember, entertainment costs are not allowed under federal grants.

The National Institute of Health encourages collaborative research, such as Consortium/Sub award agreements with other institutions. However, the direct costs of the collaborative institution count against budgetary restraints. Therefore, you need to factor in all sub award direct costs when calculating the total direct costs. Facilities and administrative costs for the consortium do not count towards this constraint. For example, you are preparing a modular budget and you need $200,000 per year to complete your part of the project. You are collaborating with The University of XYZ and they present a budget of $75,000 ($50,000 direct costs and $25,000 F&A costs). Your total direct costs before the consortium F&A is $250,000, so you can submit a modular budget. Remember, if you are using a detailed budget format, for each consortium an independent budget along with budget justification must be completed. Make sure you have this information before you commence work on your budget.

Once the budget has been prepared, it has to be transferred to the appropriate budget template in the SF424 grant application. If this is to be a modular budget, the modular amount would be the direct cost budgets total for all years, divided by the number of years of the project. That amount should be rounded up to the next modular unit and that number should be the modular budget for each year, unless otherwise instructed. The F&A costs should be calculated based on the modular budget. The budget justification is attached to the cumulative budget page. It includes only personnel justification and is for both key personnel and other personnel. The justification lists the personnel, their role, how he/she will contribute to the project and the effort devoted to the project. If someone is included in the key personnel page, remember to list this person on the budget justification.
If the budget in the SF424 application is in the detailed format, the translation from the Excel spreadsheet to the SF424 is quick and easy. The budget justification is attached to the last page of the first budget year. Care must be taken to demonstrate consistency between key personnel; the detailed budget and the budget justification. If someone was included in the key personnel page, that person should also be in the budget detail and the budget justification. Since the detailed budget pages include the level of effort for each individual, the justification should agree with that amount. All personnel included in the detailed budget should also be included in the justification. In the new shorter grant form, the budget justification allows for brief elaboration about your logic in proposing the budget costs. It is important to make a compelling argument in justifying personnel costs as well as any other expense. The narrative must be comprehensive for each significant budget item but in a terse, yet thoughtful fashion. Materials and supplies that vary by year should be spelled out and traceable back to the budget pages. Here, there should be a level of detail that enables the reviewers to make a determination that the expenses requested are necessary to the conduct of the project.

Developing a budget is often a daunting task. To ensure the development of a successful budget, take the time to re-review the funding agency requirements. If working with a consortium, obtain the relevant collaborative documents prior to your grant deadline. If your University has a grants department, determine if they have a mechanism to review your budget. If so, take advantage of this process, as it can decrease any fatal flaws. Take a deep breath and enjoy. Once your project is submitted, you should take satisfaction in your accomplishment. Also, if someone in your grants office was a big help, let them know. Funding success takes a village and you want your village looking forward to helping you with your next submission.

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Endnotes
1. For additional information, see PHS398 Modular Budget Component, FAQ Prepare Application, from the Centers of Disease Control and Prevention, http://www.cdc.gov/od/pgo/funding/grants/faq_prepare_app.shtm, last visited on 11/22/10.
5. Consortium/ Sub award;
6. Direct cost (DC÷all years of project, rounded up to next modular budget)=modular budget for each year.

Childhood obesity is a major public health concern. Today, nearly one in five children are obese and one in three are overweight, reflecting a dramatic increase in prevalence over the last three decades.1-4 Childhood obesity is associated with type 2 diabetes, asthma, hypertension, and emotional distress.5-8 Obese children are likely to be obese as adults,9,10 experience morbidity from cardiovascular disease, high blood pressure and stroke,11,12 and incur higher health care costs.13,14 Together, these problems highlight an urgent need for new preventive strategies.

A small, but growing, body of evidence is accumulating from cross-sectional population studies to support a robust contemporaneous relationship between shortened sleep duration and unhealthy weight status in children and youth.15-17 However, few studies have assessed prospective associations and it is unknown whether the relationship is truly causal. Evidence from the few available longitudinal studies suggests that shortened sleep duration in early life is associated with subsequent unhealthy weight status.18-20 In this work, sleep was measured in infancy or at approximately age three and weight status anywhere from three to six years later. Population-based, prospective evidence in large U.S. cohorts is lacking. Moreover, no longitudinal studies to date have examined the independent effects of day-time and night-time sleep, which may serve different physiological functions with distinct effects on subsequent obesity.21,22,23

In a recent longitudinal analysis published in Archives of Pediatric and Adolescent Medicine24 we examined data collected in 1997 and again in 2002 for youth in the Panel Survey of Income Dynamics Child Development Supplement.25 The sample included 822 children 0 to 59 months (younger cohort) and 1,108 60 to 154 months (older cohort) at baseline measurement (1997). Age 5 years was chosen as the sample cut-point for assignment to the younger versus older cohort to account for differences in sleep patterns between pre-school and school-age children. By age 5 most children do not take naps.26 Specific aims tested: 1) whether poor sleep in early life has lasting effects on obesity measured five years later; 2) whether day-time and night-time sleep have independent effects on subsequent obesity; and 3) whether the relations between sleep and obesity differ for adolescents and pre-adolescents.

The dependent variable was body mass index (BMI) in 2002, converted to age- and sex-specific z-scores using the 2000 growth charts published by the Centers for Disease Control and Prevention27 and dichotomized based on established cut-points: normal weight (BMI < 85th percentile), overweight (BMI ≥ 85th and < 95th percentile) or obese (BMI ≥ 95th percentile). Short day-time and short night-time sleep duration (<25th percentile of age-normalized sleep scores28) were modeled with binary indicators. Covariates included the child’s age, gender, race/ethnicity, birth order, family income, maternal education, parents’ BMI and hours per day of physical activity were controlled for the older cohort. Ordered logistic regression29 was used to model BMI classification as a function of short day-time and night-time sleep at baseline controlling for all covariates. The assumption of proportional odds was tested formally and sampling weights were used to account for the complex sampling design and allow inferences valid for the population.

At follow-up, 33% of the younger cohort and 36% of older cohort were overweight or obese. On average, the younger cohort slept approximately 10 hours per night in 1997 and 2002 and napped for about an hour each day at baseline. Sleep duration in the older cohort averaged 9.7 hours/night at baseline, 9.2 hours/night at follow-up and only 12 minutes of day-time sleep at baseline.

In the younger cohort, short duration of night-time sleep at baseline was associated with increased odds of shifting from normal weight to overweight or from overweight to obese five years later (OR = 1.8; 95% CI: 1.2, 2.8). For older children (ages 5 - 13 years), baseline sleep was not associated with subsequent weight status; however, contemporaneous sleep was inversely associated. Day-time sleep had little effect on subsequent obesity in either group.

Sleep duration is a modifiable risk factor with potentially important implications for obesity prevention and treatment. Our findings suggest that there is a critical window prior to age five years when night-time sleep may be important for subsequent obesity status. Insufficient night-time sleep among infants and pre-school children appears to be a lasting risk-factor for subsequent obesity while contemporaneous sleep appears important to weight status in youth.

Our results also suggest that napping is not a substitute for night-time sleep given that day-time sleep had little effect on subsequent obesity at any age. There is some evidence that night-time sleep and naps serve different physiological functions. Naps may reduce day-time psychosocial stress, increase attention span and increase alertness for learning, while nocturnal sleep involves complex biological, psychosocial and restorative functions.30,31,32 Problem napping and disruptive behaviors are associated with higher cortisol levels and shorter nap duration.33 Interpretation of our study findings is subject to limitations including conservative bias introduced by reliance on sleep mea-
ures collected via time diaries for only two days in a year and insufficient data available to measure important confounders of associations of sleep and obesity such as diet and physical activity. Future prospective studies with these measures are needed in large, population-based cohorts. Further research is also needed to examine the mechanisms through which sleep might operate to influence the balance between energy intake and expenditure in children. The hypothalamic mechanisms that regulate body weight and metabolism via key hormones such as leptin and ghrelin may play an important role. In adults, hunger and appetite increase with lower leptin levels and higher ghrelin levels, and both low leptin and high ghrelin have been linked to short sleep duration. Such research is needed in children and youth as are prospective studies of sleep problem interventions that include weight status as outcomes.

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References
**Call for Applications – SRS Young Investigator Award**

The Sleep Research Society Young Investigator Award recognizes an outstanding research effort by a new investigator in the field of sleep research. The basis for evaluation of candidates is a single publication in a refereed journal. The candidate should be the first author and the article must be published or officially accepted for publication by the application deadline. On the application deadline, the candidate must be within 7 years of obtaining a terminal degree. Exceptions to this criterion will be considered for those applicants who feel that extenuating circumstances warrant such consideration. A letter detailing these considerations must be included with the application.

The award consists of a plaque and a travel honorarium to be applied toward travel to SLEEP 2011. The plaque will be presented at a ceremony at SLEEP 2011.

To apply for the SRS Young Investigator Award, candidates must submit a copy of the paper, a CV, documentation of the date of receipt of terminal degree and, if applicable, a letter outlining extenuating circumstances in a single PDF or MS Word file to Nick Cekosh, SRS Coordinator, at ncekosh@srsnet.org. If a paper is in press at the time of application, a copy of the written notification of the paper’s acceptance for publication must also be included. Applicants should provide the name of a senior investigator who will provide a letter of recommendation. The senior investigator does not need to be an author on the paper or abstract, but should be familiar with the candidate’s role on the research project. The candidate is responsible for ensuring that the letter of recommendation from the senior investigator arrives by the application deadline. In addition, a candidate must be a member in good standing of the SRS or must include a completed application for membership and fee with the award application. Repeat applications from unsuccessful applicants from previous years are encouraged.

Candidates are welcome to apply for both the Young Investigator Award and the Sleep Research Society Trainee Award Based on Scientific Merit, but in the event the candidate receives the Young Investigator Award, he/she will receive only this award. Multiple awards may be recognized, dependent on the quality of applications.

The deadline for receipt of the Young Investigator Award is Friday, January 28, 2011.

**Call for Committee Volunteers**

The Sleep Research Society invites members to participate on a standing committee. Volunteer committee members provide an invaluable service to the organization and members by contributing to initiatives and projects that are critical to the continued development of the field and also gain professional enrichment through the diverse activities of a committee.

The five standing committees engage in diverse activities such as organizing the Trainee Symposia Series, strengthening membership within the organization and developing educational materials and programs. To view the mandate for each committee, visit the Committee Page on the SRS Website at: http://www.sleepresearchsociety.org/Committees.aspx.

Please note that service on a committee is a three-year appointment. All committee terms take effect in June at SLEEP 2011, the 25th Annual Meeting of the Associated Professional Sleep Societies.

Members interested in serving on one of the SRS standing committees should complete the Committee Volunteer Interest Form, which is available at http://www.sleepresearchsociety.org/PDFs/CommVolInterestForm.pdf

The SRS has a conflict of interest policy with which all committee members must comply. Interested applicants should review the Conflict of Interest Policy and complete the Conflict of Interest Disclosure Form. These documents are available at http://www.sleepresearchsociety.org/PDFs/COIDisclosurePolicy.pdf

Please submit the Committee Volunteer Interest Form, the Conflict of Interest Disclosure Form and a CV summary, no longer than two pages, to Nick Cekosh via e-mail at ncekosh@srsnet.org or fax to (630) 737-9790 by January 28, 2011. Materials may also be sent via postal mail to:

Sleep Research Society
Attn: Nick Cekosh
2510 North Frontage Road
Darien, IL 60561

**A Tool to Better Understand Scientific Review and Funding Patterns at the NIH**

Sleep scientists may benefit from being able to better understand the landscape of scientific review and funding at the National Institutes of Health. Although the research portfolios for each Institute/Center (I/C) are too large to be able to understand easily, NIH has created practical mapping tools that can help working scientists navigate this bewildering landscape. At http://www.nihmaps.org/index.php NIH presents a highly-interactive mapping system based on publicly available collections of funded scientific grants from the NIH (source: CRISP). After connecting to the site, select “Browse the Maps!” and then “Show Topic Browser” to review how various research topics map to NIH review panels and funding patterns for each I/C.

**NCCAM Clinical Digest Focuses on Sleep and Complementary & Alternative Medicine**

The December 2010 issue of the NCCAM Clinical Digest summarizes what is known about some of the complementary and alternative medicine (CAM) approaches that people use for insomnia, including herbs, melatonin and related supplements, and other CAM approaches. It notes that research on CAM and insomnia has produced promising results for some CAM thera-
pies. However, evidence of effectiveness is still limited for most therapies, and additional research is needed.

NCCAM Clinical Digest is a monthly e-newsletter from the National Center for Complementary and Alternative Medicine (NCCAM) at the National Institutes of Health. Each issue summarizes the state of the science on CAM and a health condition, including clinical guidelines, literature searches, research highlights, and information for patients.

**Third Interview of the Conversations with Our Founders Project Posted on the SRS Website**

The SRS is proud to present a series of interviews with pioneers in the field of sleep research. The purpose of these interviews is to document the rich history of our field and to commemorate the 50th Anniversary of our organization. Several of these interviews were recorded at SLEEP 2010 in San Antonio Texas, where we celebrated our 50th meeting.

The “Conversation” with René Drucker-Colin, MD, PhD is now available on the website. Dr. Drucker-Colin is interviewed by Howard P Roffwarg, MD. Click here to access the interview.

Conversations with our Founders interviews can now be accessed via iPhone, iPad or other mobile devices that use Adobe Flash Player or HTML5 to stream video. This recent upgrade to our website will make it easier for members to access the interviews with founding members of the SRS and will be used for future projects. The upgrade also allows you to easily skip ahead or back in the videos.

Each month a new interview will be posted to the SRS website.

**Call for proposals WASM/CSS 2011 Sleep Congress, Quebec City, September 10-15, 2011**

Dear Colleague:

We are writing to invite you to participate and contribute content for the next meeting of the World Association of Sleep Medicine (WASM), which will be held jointly with the Canadian Sleep Society (CSS) in Quebec City from September 10-15, 2011.

The program will include 6 keynote lectures, 18 symposia, 3 debates on hot topics, and several oral paper and poster sessions on cutting-edge topics in sleep research and clinical sleep medicine. A two-day pre-congress program will offer several courses on topics of interest to clinicians and researchers. There will also be a student/trainee day and a program for technologists that will run concurrently with the main scientific program.

At this time, you are invited to submit symposia proposals, which should include a chairperson and a maximum of four speakers. The deadline for submission is December 20, 2010. Abstracts for papers and posters are also welcomed and the deadline to submit these proposals is March 1, 2011. All proposals should be submitted online on the WASM2011 website www.WASM2011.org. Proposals will be reviewed by the scientific program committee and a response will be provided in January for symposia and April for papers/posters.

Quebec City is a beautiful and romantic city that is ranked among the top 5 destinations in America (www.bonjourquebec.com). We are planning an exciting social program to complement the educational and scientific activities. Please mark your calendar for this international event and check our website for further information on how to submit abstracts and for registration. We look forward to seeing you in Quebec.

Best regards,

Charles M. Morin, PhD
Richard Allen, PhD
WASM/CSS 2011
Program Co-Chairs

**Collaborative Studies on the Central Nervous System and Glycemia (R01)**

The purpose of this FOA is to promote new interdisciplinary collaborations between researchers in neuroscience and diabetes/metabolism to further understanding of the mechanisms in CNS regulation of glucose levels and in CNS responses to both high and low glucose levels. The CNS plays vital roles in homeostatic regulation of systemic glucose levels. CNS regulation of glycemic control has been demonstrated in basic studies of the hypothalamus, and in clinical studies of iatrogenic hypoglycemia in type 1 and diabetes, and glucose management in the intensive care setting. Needs assessments for this area of biomedical science have called for the development of research teams to work at the interface between neuroscience and diabetes/metabolism, stimulation of cutting edge neuroscience and metabolism research on hypoglycemia in diabetes, and stimulation of research on hyperglycemia in such conditions as diabetes, stroke and trauma.

For more information on this funding opportunity, please visit the following website: http://grants.nih.gov/grants/guide/pa-777.html

**4th Annual NIH Conference on the Science of Dissemination & Implementation**


There is a recognized need to close the gap between research evidence and clinical and public health practice and policy. How is this best accomplished? Dissemination and implementation research in health seeks to answer this question, and is gaining momentum as a field of scientific inquiry. The goal of the annual NIH Conference on the Science of Dissemination and Implementation is to facilitate growth in the research base by providing a forum for communicating and networking about the science of dissemination and implementation.

Researchers, evaluators and implementers who are interested in identifying opportunities and strategies for overcoming obstacles for dissemination and implementation research/evaluation are encouraged to attend this meeting. The goal is to engage in dialog, exchange ideas, explore contemporary topics and challenge one another to identify and test research approaches that will advance dissemination and implementation science.

There is no fee to register for this conference. Please note: this year’s conference will NOT be available for viewing online. Conference registration deadline: 11:59 PM Eastern Time on February 18, 2011.

For more information or to register for the conference click on the following link: http://conferences.thehillgroup.com/obssr/D12011/index.html
EARLY EXPLORERS OFTEN DIDN’T KNOW WHAT LAY BEYOND THE HORIZON...

Like those early explorers, the scientists of today don’t always know what lays ahead, but their pursuit of knowledge drives them ever closer to new, profound discoveries every day.

Like explorers of the past, the scientists of today need more than knowledge, skills, and a dream. That is why your tax-deductible contribution to the Sleep Research Society Foundation is so important. Your investment in the Sleep Research Society Foundation will help fund grants for scientists just beginning their journey or who need a little extra wind in their sails.

THE DISCOVERIES OF TOMORROW DEPEND UPON THE INVESTMENTS OF TODAY.

For more information on the Sleep Research Society Foundation and how you can contribute to tomorrow’s discoveries today, please visit www.sleepresearchsociety.org/foundation.
**Behavioral Sleep Medicine Program**

The field of Behavioral Sleep Medicine (BSM) is a rapidly growing area of research, education, and clinical treatment. Under the direction of Michael Perlis, PhD, the BSM Program at Penn is at the vanguard of the field, conducting research on the etiology and treatment of insomnia and other sleep disorders, offering behavioral treatment of sleep disorders through the Penn Sleep Centers, and training the next generation of BSM providers. The Behavioral Sleep Medicine Program is located in the Science Center district of the University of Pennsylvania. We are based within the Department of Psychiatry and the Division of Sleep Medicine. Research-related polysomnography is completed at the Clinical Research Center for Sleep, located in the Hospital at the University of Pennsylvania.

**Research Interests**

BSM involves the integration of cognitive and behavioral principles into the investigation and treatment of sleep disorders, though our primary focus is insomnia disorder.

**Training Opportunities**

One of the primary missions of the Penn Behavioral Sleep Medicine Program is to train researchers and clinicians. Major facets of our training opportunities include:

- 2-3 year post doctoral fellowship (housed within the Penn Sleep Center).
- One-week mini-fellowships that allow trainees to observe in our clinic.
- Annual 3-day seminar in Cognitive Behavior Therapy for Insomnia.
- Telephone consultation
- Case consultation weekly webinar

The University of Pennsylvania BSM Program is one of only nine training programs accredited by the American Academy of Sleep Medicine, and is one of the only programs that offers combined pediatric and adult clinical training. The fellowship spans the Penn Sleep Center, Children’s Hospital Sleep Center, and Philadelphia VA Medical Center Sleep Center.

**Current Research**

We have several ongoing studies related to the etiology and treatment of insomnia and other sleep disorders.

- A stress reactivity study that is examining how individuals with insomnia respond to an experimental stressor compared to good sleepers.
- A study of sleep-related attention bias in individuals with primary insomnia, insomnia comorbid with depression, and good sleepers. This study is being conducted in collaboration with Dr Colin Espie and the University of Glasgow.
- A partial reinforcement study in which we are trying to determine if individuals with insomnia can be successfully treated with hypnotics in a paradigm where placebos are utilized as conditioned stimuli.
- A study of insomnia and fatigue in cancer survivors who are being treated with a brief form of CBT-I with and without modafinil.
- A randomized controlled trial of Imagery Rehearsal treatment (in conjunction with the Philadelphia VA Medical Center) for nightmares in veterans of the wars in Iraq and Afghanistan with PTSD.

On the clinical side, Cognitive Behavioral Therapy for Insomnia is provided at two locations. Patients are seen at both the Penn Sleep Center at 3624 Market Street in Philadelphia and in a northwestern suburb of Philly, at Penn Sleep Center at Penn Medicine at Radnor.

**Representative Publications Include**


International Laboratory Spotlight

Name of the Research Center: Sleep Lab/Neurophysiology Service
Institution: Hospital Santo António/Centro Hospitalar do Porto
Post Code: 4099-001 Porto, Portugal
Staff: António Martins da Silva MD, PhD; António Viana Pinheiro MD; João Lopes MD; João Ramalheira MD; Teresa Coelho MD; Isaías Paiva, Technician (Tech); Helena Rodrigues Tech; Aires Azevedo Tech; Mónica Quintas Tech; Cristina Moreira Tech; 3 MDs training in Neurophysiology; 2 MDs Neurology Residents in Training

Secretariat: Cristina Paiva and José Baldaia; Aide: Fernanda Lima

GROUP PHOTO, FROM LEFT TO RIGHT:
First Row: António Martins da Silva; Cristina Paiva; Mónica Quintas; João Lopes; Teresa Coelho; Cristina Moreira
Second Row: Isaías Paiva; João Ramalheira; António Viana Pinheiro; José Baldaia

INDIVIDUAL PHOTOS, FROM TOP TO BOTTOM:
Helena Rodrigues; Aires Azevedo; Fernanda Lima

Sleep Lab/Neurophysiology Service

Historical and Current Clinical Work

Sleep studies started in Porto, Portugal in 1983. Analysis of sleep/epilepsy interactions were the first studies performed and followed previous work carried out in cooperation with Dutch groups (1, 2). The enthusiasm of medical doctors and technicians trained in clinical neurophysiology encourage diverse specialists to join a program for sleep studies (3). The starting of the Outpatient Clinic for Sleep at the Hospital Santo António was in 1987. It was as it is now: a Sleep Clinic interconnected with the Sleep Lab, both belonging to the Neurophysiology Service - Department of Neurological Disorders. The Sleep Lab is now enrolling more than 600 full night sleep records per year (3 sleep recording rooms available) plus full week programs of long term video-EEG monitoring. OSAS and other sleep pathologies (Ex. Insomnia, Hypersomnia, Narcolepsy, PLMS); Sleep/Epilepsy interactions and events characterization; or sleep studies in neurological disorders (Parkinson or others) (7, 12) are the most frequent pathologies studied. The clinical work is still involving a large group of medical specialists (Neurophysiology, ENT, Respiratory and Nutrition Specialists, Psychiatrists), neurophysiology technicians and biomedical researchers.

Historical and Current Clinical Research

Translational research is our main domain. EEG and other signals were analysed during sleep studies within a collaborative work with bioengineers from Universities of Aveiro and Porto (Portugal), La Coruña (Spain) and Gainesville (Florida). Systems were developed to classify and analyse events (microanalysis of spindles, K Complexes, delta bursts, eye movements) and to score sleep macrostructure (sleep staging) (5, 6). Also with the studies of sleep-epilepsy interactions these were our very first research lines. The progressive involvement of people from biomedical research improves genetic approach to sleep pathology (4, 8, 9, 10). Current research is still in these last areas: sleep and epilepsy interactions - seizures disrupting sleep or sleep promoting seizures; relationship between parasomnias and epileptic events, and of antiepileptic drugs and sleep interactions were reported (11, 13). Studies of genetic determinants of Narcolepsy or Hypersomnia progress. As a consequence of our previous results, the study of genetic markers for OSAS also progressed and a project was granted (first results reported in refs. 14, 15, 16).

Educational Facilities at the Sleep Lab/Neurophysiology Service

The Sleep Lab/Neurophysiology Service is one of the country's Clinical Departments in which official training in neurophysiology and sleep is credited by Health authorities: residence for neurologists, training for specialists from diverse specialized medical or scientific areas – postgraduate education - from Hospitals and University programs (for example the Neuroscience PhD program of University of Porto). It is also a teaching department in undergraduate medical training (from Medical Programme of ICBAS/University of Porto) and a technicians education (diverse Health Schools). Current international collaboration involve researchers from Netherlands, France, USA, Italy, Spain, Germany and Brasil.
References (ordered by date)

Selected historical


More recent reports


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).

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