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ISSUE HIGHLIGHTS

- From the Desk at NIH: NIH Sleep Disorders Research Plan
- Sleep Research Highlight: The Implications of a Circadian Metabolome
- New FAA Pilot Hours of Service Rule
Basics of Sleep Guide, second edition

The Basics of Sleep Guide, second edition is an invaluable tool for individuals studying for specialty exams in sleep medicine or as a resource for students at both the undergraduate and graduate level. Each of the 25 chapters is authored by esteemed experts, covering all fields of basic and applied sleep and circadian research. The Basics of Sleep Guide, second edition represents the most cutting edge information in the field of sleep and circadian rhythms.

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**SLEEP 2012 NETWORKING RECEPTION**

**Attention SLEEP 2012 Attendees:**

Make plans to attend this casual event to network with other SLEEP 2012 attendees and to support future research in the field (proceeds benefit the American Sleep Medicine Foundation and the Sleep Research Society Foundation).

**Your chance to exchange ideas with and meet new people who share your interests!**

**Sunday, June 10, 2012 | 6:00pm–7:30pm**

Grand Ballroom, Sheraton Hotel

Learn more and purchase tickets on the SLEEP 2012 website

[www.sleepmeeting.org](http://www.sleepmeeting.org)
Dear Colleagues,

It is my pleasure to provide you with my final update on the many activities our organization is involved in as we approach the high-point of the year for the SRS – the annual SLEEP Meeting.

SLEEP 2012 – 26th Meeting of the APSS

If the number of abstracts and session submissions is any indication, SLEEP 2012, which will be held June 9-13 in Boston, promises to be one of the most successful annual meetings in recent memory. This year there were a record 1,350 abstracts submitted for the meeting. Additionally, there were 140 session submissions, of which 79 were symposia, a reflection of the high level of scientific activity in our field.

Based on your feedback, several changes were made to the SLEEP Meeting. There will be two Keynote speeches during the Plenary Session on Monday, June 11. There will be a scientific Keynote given by Bob Stickgold, PhD and a Public Policy Keynote delivered by Mark Rosekind, PhD, both of whom are SRS Members. Additionally, Dr. Rosekind is one of five members of the National Transportation Safety Board.

Another significant change is that poster sessions on Monday, June 11 and Tuesday, June 12 will not conflict with scientific sessions during the meeting. The poster session on Monday and Tuesday will be held from 4:00 p.m. to 6:00 p.m. The poster session on Wednesday, June 13 will be held during the traditional viewing time of 10:15 a.m. to 12:15 p.m. to accommodate travel for those presenting posters.

The Sleep Research Society Foundation (SRSF) and the American Sleep Medicine Foundation (ASMF) will be co-hosting a networking reception on Sunday, June 10 in the Sheraton Hotel. This reception has been a huge success in the past and has been a great way to kick off the meeting by socializing with colleagues from around the country and world. If you are interested in attending the reception or if you need to register for the SLEEP meeting click here. Tickets for this reception are $50, and the proceeds benefit the SRSF and ASMF.

SRS Elections

Earlier this spring, the SRS held elections to fill the positions of President-Elect, three open seats 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 roles beginning in June:

**President-Elect**
Janet Mullington, PhD

**Directors-at-Large**
Christopher Drake, PhD
Jeanne Duffy, PhD
Paul Shaw, PhD

**Section Heads**
- Basic Sleep Research – Jonathan Wisor, PhD
- Sleep and Behavior Research – Wendy Troxel, PhD
- Circadian Rhythms Research – Diane Boivin, MD, PhD
- Sleep Disorders Research – David Gozal, MD

**Trainee Member-at-Large Elect**
Jared Saletin was selected as the Trainee Member-at-Large Elect. He will join the Board of Directors as the non-voting Trainee Member in 2013-2014.

Due to her election as President-Elect, Janet Mullington, PhD will not complete her term as the SRS Secretary/Treasurer. Therefore, I am pleased to announce that Sean P.A. Drummond, PhD has been appointed as the SRS Secretary/Treasurer and will serve in this role on the Board of Directors through June 2013.

**Career Development**
The Trainee Symposia Series is a unique opportunity for students from undergraduates to post doctoral fellows to hear from top scientists in the field of sleep and circadian research. The members of the Trainee Education Advisory Committee (TEAC) and its Trainee Subcommittee have assembled an outstanding program. The schedule for the Trainee Symposia Series has changed this year to help minimize the number of hotel nights for Trainees. The Trainee Symposia Series will commence on Saturday, June 9 with a Trainee DataBlitz followed by the Career Fair and Reception. The Trainee Symposia Series General Sessions and workshops will be held on Sunday, June 10 from 8:30 a.m. to 1:00 p.m. The Trainee Symposia Series program was shortened slightly this year to ensure Trainees could attend all of the SLEEP scientific sessions, which begin at 1:00 p.m. on Sunday, June 10.

**Professional Education**
The SRS will be presenting a half-day course, “Basic Science of Sleep for the Sleep Specialist,” October 11, 2012 in Baltimore, Maryland. This course will be held in conjunction with the American Academy of Sleep Medicine’s “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 Szymusiak, PhD in presenting this course.

The SRS is also in the planning stages to host a course focused on basic science and mechanisms in pediatric sleep that will be held in conjunction with an AASM course that focuses on the...
treatment of pediatric sleep disorders.

Look for more information on these courses in the near future on the SRS website and in the SRS Update.

NIH News
In early April, the National Institutes of Health (NIH) announced the appointment of Gary Gibbons, MD as the new Director of the National Heart, Lung, and Blood Institute (NHLBI), which administers the National Center on Sleep Disorders Research. Dr. Gibbons, who will begin in his role as NHLBI Director in July, will be leaving Morehouse School of Medicine, where he was founder and Director of the Cardiovascular Research Institute, an NIH-funded Research Center of Excellence. He is a nationally recognized clinician-scientist who directs research in the fields of vascular biology, genomic medicine, and the pathogenesis of vascular disease. In addition, his Institute at Morehouse is preeminent in discovery science related to the cardiovascular health of minority populations. Dr. Gibbons’ own laboratory works toward discovering novel mediators of vascular disease. His program is involved in collaborations to study the functional significance of epigenetic and genomic variation and its potential role in susceptibility to cardiovascular disease.

The SRS congratulates Dr. Gibbons on this appointment and looks forward to working with him on matters of mutual interest.

Congressional Briefing
The SRS will be hosting a Congressional Briefing on the new NIH Sleep Disorders Research Plan. This briefing is the culmination of work done by the SRS and its representatives in Washington over the past year. I am pleased to announce that Susan Shurin, MD, the current acting Director of NHLBI, will be participating in the briefing as will one of the sleep field’s biggest proponents on Capitol Hill, Congressman Mike Honda. In addition to Dr. Shurin and Congressman Honda, SRS member David Dinges, PhD will give a presentation on the link between sleep and public health problems as well as the link between inadequate sleep and safety.

All SRS members are invited to attend the briefing, which will take place in the U.S. Capitol Building in Room S-115 on Thursday, May 31, 2012 from 2:00 p.m. to 3:00 p.m. EDT.

Sleep Disorders Research Advisory Board (SDRAB)
The NIH’s Sleep Disorders Research Advisory Board (SDRAB) will hold a face-to-face meeting in Bethesda, Maryland on Wednesday, May 30 and Thursday, May 31, 2012. The agenda for this meeting will include strategies for implementing the new NIH Sleep Disorders Research Plan. Members of the SRS Board of Directors will be there to represent the interests of the sleep and circadian research community. Additionally, the SRS will provide a brief presentation to SDRAB about various issues in our field. Members of the SRS are encouraged to participate in the meeting by calling: 800-779-2692, access code 3088143#. A link to a web conference for the SDRAB meeting will be available on the following website closer to the date of the meeting: http://www.nhlbi.nih.gov/meetings/index.htm

Final Thoughts and Acknowledgements
My term as President of the SRS will conclude with the end of SLEEP 2012. I thank the many volunteers in the society who have spent considerable time and energy to strengthen our organization and our field. This year 10 members of standing committees concluded their terms. I extend my deepest gratitude to all of these volunteers for the efforts they have put forth over several years.

A special thank you is extended to Jim Walsh, PhD, as he concludes his service on the Board of Directors. Jim served as President last year and is concluding his term as SRS Past-President and President of the SRS Foundation. Jim’s contribution to the Board of Directors, especially his expertise in the realm of Government Relations, will be missed.

Two other members of the Board of Directors will also be completing their terms this year: Gina Poe, PhD and David Rye, MD, PhD. During her term on the board, Dr. Poe kept the lines of communication between the Board of Directors and various constituencies within the SRS open and served as the Board Liaison to the Membership and Communications Committee. Dr. Rye provided valuable insights to the board as both a practicing physician and an accomplished investigator.

I would also like to recognize Allison Brager, PhD, Trainee Member-at-Large for her service on the Board of Directors and for her extensive role in organizing the Trainee Symposia Series. Getting the perspective of trainees to the Board of Directors is valuable as the board makes decisions that affect them. Additionally, Alison received early career exposure to the workings of a professional organization.

As I close this, my final President’s Message, I cannot help but to be overwhelmed by the great honor it has been to serve as President. The trust and confidence bestowed upon me by my colleagues to lead our organization is truly humbling. I am confident that the SRS will continue to pursue the initiatives of collaborating with NIH and other organizations for the advancement of sleep and circadian research, and to promote sleep and circadian research on the national scene. I also wish Ron Szymusiai, PhD a very successful year as he begins his term as President of the SRS. Under his leadership, the SRS will further strengthen its mission to advance sleep and circadian research.

I look forward to seeing all of you in Boston for SLEEP 2012.

Yours truly,

Phyllis C. Zee, MD, PhD
SRS President
By Helen J. Burgess, PhD

Welcome to this issue of the Sleep Research Society’s Bulletin. Spring has finally arrived and we are likely all in the midst of preparing for the SLEEP 2012 meeting in the fine city of Boston. This issue contains a preview of different aspects of the upcoming meeting, including details of newly elected society positions in the President’s Message and details of the Trainee Symposia Series (A.K.A. Trainee Day) in the Trainee Corner. We also have our regular updates on the activities and initiatives from the Educational Program Committee and Research Committee, and the Basic Sleep Research and Sleep Disorders Research Sections.

As in each issue of the Bulletin, we highlight the research and training opportunities available at a particular domestic and international sleep research laboratory and provide a summary of a recent high profile report in our field – in this case the exciting report on the human circadian metabolome. This issue also contains our regular Skills for the Researcher column, this time by Jared Saletin, the Trainee Member-at-Large Elect who prepared a thoughtful review of email etiquette. We also include in this issue a peek “Behind the Scenes” with a profile of Annie Walker-Bright, Specialty Society Assistant. Finally, we are very grateful for a special report from Dr. Mark Rosekind on the FAA Pilot Hours of Service Rule, who will also give the Public Policy Keynote address at SLEEP 2012.

We also continue to report on our Society’s efforts to support funding for sleep and circadian research. As outlined in the report on the Sleep Research Society Foundation, the need for the pilot grants it funds continues to grow. The Society has also embarked on a number of important initiatives to advocate for continued sleep research funding, which is described in the President’s Message and the Funding Advocacy Update. How sleep and circadian grants are viewed at NIH is also critically important to our success, and I am extremely grateful for the report provided by Dr. Michael Twery and Dr. Aaron Laposky at NHLBI on the 2011 NIH Sleep Disorders Research Plan, and their efforts to maintain the ongoing communication between NIH and our membership.

I would also like to thank Nick Cekosh, the Sleep Research Society Coordinator, for his guidance and assistance in putting together this issue of the Bulletin, and of course I also give thanks to all who contributed to this issue (and kindly tolerated my persistent emails). 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 laboratory spotlights. Please email me at Helen_J_Burgess@rush.edu with all your ideas and suggestions. I look forward to seeing you at SLEEP 2012.
The 17th Annual William C. Dement Trainee Symposia Series at SLEEP 2012

The Trainee Education Advisory Committee (TEAC) have been working diligently these past few months to organize this year’s annual Trainee Symposia Series (TSS) which is historically held prior to APSS. The 2012 TSS is unique in that it will be the first TSS in honor of Dr. William C. Dement, MD, PhD, who is a pioneer of basic and clinical sleep research, and more importantly, has been a mentor for numerous trainees and their trainees over the past four decades (browsing Dr. Dement’s lineage of trainees on www.neurotree.org is just one of many examples of how much time Dr. Dement has invested in the career goals of trainees). Similar to last year, TSS will be held across two days in order to allow trainees to attend the scientific program of the APSS meeting on Sunday afternoon. To this end, the TSS will commence at 6 PM in the Hynes Convention Center on Saturday June 9th with a second annual DataBlitz, which will showcase the research of some of the trainees who received one of several merit-based travel awards provided by SRS to undergraduate, predoctoral, postdoctoral, and clinical trainees. The DataBlitz is unique and entertaining in that each speaker is limited to four slides and five minutes to craftily present their submitted abstract that would otherwise take 15-20 minutes during the oral presentations of the APSS program. A reception and career development fair will also take place during the evening of June 9th immediately prior to and following the DataBlitz. The career development fair has always been a well-received opportunity for trainees to find information about sleep and chronobiological graduate, postdoctoral, and clinical programs, to be available for on-the-spot interviews, and build one’s scientific network (see “Becoming Part of a Connector Hub at APSS” section below). TSS will resume on Sunday morning at 8:30 AM with a welcoming address by the President of SRS, Dr. Phyllis Zee, MD, PhD, and a keynote lecture by Dr. David Dinges, PhD who is widely popular for motivating trainees to be voracious, yet strategic about seeking federal and private research funding. Personally, Dr. Dinges has been the director of many successful groundbreaking and game-changing research projects that have allowed insufficient sleep to be viewed as a major public health concern. Following the keynote, trainees will attend three of 24 scientific and career development workshops that discuss novel technologies in basic and clinical sleep research, molecular and physiological mechanisms of sleep, causes of and treatment strategies for circadian misalignment and sleep pathology, networking, tackling the daunting trainee program or job interview, and establishing interdisciplinary collaborations, to name a few. At this time, I would like to thank members of TEAC as well as the predoctoral, postdoctoral, and clinical trainees on the subcommittee who have spent the past few months organizing a program that is bound to improve every trainee’s scientific knowledge and professional development skills.

Becoming Part of a Connector Hub at APSS

In his seminal work, The Tipping Point, Malcolm Gladwell credits the success of notable entrepreneurs, political figures, and artists and their historical contributions to society to their ability to introduce and bring together individuals from an array of professional, social, or cultural groups. He refers to these individuals as “connectors” and the people of whom they had met and inspired over the years as part of a “connector hub.” As a trainee, I recommend meeting many of the junior and senior investigators who are former trainees and regularly attend TSS and the APSS meeting and their current trainees in this framework. In other words, TSS and the APSS meeting present a wonderful opportunity for trainees to exchange research ideas, critically think and discuss science in a professional manner, land a future fellowship or job (my current postdoctoral position came about from having a poster next to my current mentor at SLEEP 2010), and start a research collaboration. And this all begins with networking. Where can these wonderful opportunities happen? At the trainee reception, during the career development fair, at the inaugural nighttime poster session which does not interfere with the daily symposia and activities at the exhibit hall, on a brisk morning or leisurely evening walk to and from the hotel and convention center, at one of the many restaurants around the convention center during lunchtime, at one of the institute/university-affiliated trainee receptions, or even, as predoctoral trainee Keith Summa provided insight on last month, in an elevator (see “Skills for the Researcher,” pg. 17, Winter Bulletin). One of the most fulfilling experiences of the SLEEP meeting for me every year is having the opportunity to reunite with dear friends from college, graduate school, and summer research programs and meet their current lab mates and colleagues. So become a part of a “connector hub” at this year’s meeting!

Allison Brager, PhD
Trainee Member-At-Large
Educational Program Committee Report
At last year’s SLEEP 2011 the Educational Program Committee (EPC) thanked exiting members for their excellent service during their three year tenure and welcomed several new members. Dr. Stephanie Crowley also was appointed the new Vice-Chair and I began my tenure as Chair. Although a quorum was not reached at SLEEP 2011, discussions started at that meeting have led to several productive phone-in meetings in the interim and the EPC is making progress on a number of projects. Building upon the success of last year’s Basics of Sleep Post-Graduate course the Committee concurred that presenting the course again at SLEEP 2012 would be beneficial. The course was accepted for presentation at the Boston meeting. Along with a number of core topics, this year’s course will cover several topics not covered in the previous year’s course. This year’s course features fewer speakers to allow time for question and answer periods which were not possible in the tightly scheduled course presented last year. The Basics of Sleep Postgraduate course will enhance the appeal of the APSS SLEEP 2012 meeting by providing the opportunity for clinicians and basic scientists new to the field of sleep disorders medicine and sleep medicine research to obtain a basic introduction to important knowledge and concepts that form the fundamental scientific scaffolding for understanding changes that occur as a result of disease states. The ever expanding audience of sleep disorders clinicians and researchers in attendance at the annual meeting makes SLEEP 2012 the ideal venue for presenting the Basics of Sleep postgraduate course once again this year.

The committee has also decided to develop a series of Online Learning Modules based upon the SRS Basics of Sleep Guide slide sets. These Powerpoint-based presentations will be scripted when at all possible by the original authors of each slide set, but read by a professional presenter. The modules will be available on the SRS website as streaming video presentations. The target audience is, in general, the same as for the book and slide set itself. So in addition to scientists new to the sleep research field, such as graduate students and postdocs, the aim is to capture the attention of residents that are preparing for the ACGME and sleep Fellowships who are looking for course material in a more digestible and web-based format than either the book or the slide set.

A third project the committee is developing is a course that will focus on Pediatric Sleep. Targeted at health care providers who work with a pediatric population the course is intended for individuals who seek a better understanding of sleep in the context of their work. Presentations will include topics relevant to infant, children, and adolescent sleep and will address development of sleep as well as the implications of insufficient sleep in this population. Common sleep disorders, behavioral issues, and treatment for these problems in children and adolescents will also be discussed.

In closing, I would like to thank the EPC membership, and the SRS support staff, in particular Nick Cekosh and Annie Walker-Bright for their hard work and excellent assistance over the last year. Through their continued efforts the EPC has had a very productive year.

James Shaffery, DPhil, Chair
Educational Program Committee

Research Committee Report
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 7 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 funding to facilitate established researchers in developing novel and innovative lines of research that differ from their previous areas of research by assisting them in developing pilot data that will support applications for NIH or other federal grants. Three years ago the SRS Foundation initiated a Young Investigator Award grants program as well. This year, the Committee received an excellent set of proposals which consisted of a total of 19 Gillin and Weitzman applications and 14 Young Investigator Award applications. Applications are reviewed by 3 committee members with expertise in the area relevant to each application. For applications where the committee members do not have the requisite expertise, reviewers who are not committee members are included in the review process. Through this review process the applications are ranked and these rankings are forwarded to the SRS Foundation for funding decisions. Through these activities the Research Committee aims to aid the SRS to achieve 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
Research Committee Chair
Basic Sleep Research Section Report

An update on last year’s report:

1. The Basic Sleep Research section has not yet been successful in securing funding for the proposed “Annual Allan Pack Trainee Awards” for best poster and best oral presentation at the Annual APSS meetings.

2. There is still no representation of the Basic Research Section on the SRS Board, despite the clear need for it.

3. I am stepping down as Section Head.

Marcos Frank, PhD
Basic Sleep Research Section Head

Sleep Disorders Research Section Report

No activity to report.

Ann E. Rogers, PhD
Sleep Disorders Research Section Head
In 2011, the following individuals (and projects) were selected to receive an SRSF research award

J. Christian Gillin, MD Research Grant: ($20,000.00 each)
Christi S. Ulmer, PhD; Durham VA Medical Center, Duke University Is Reduced Blood Pressure a Consequence of Improved Sleep Following a Behavioral Sleep Intervention for Adults with PTSD?
Subhabrata Sanyal, PhD; Emory University School of Medicine Genetic Modeling of Restless Legs Syndrome in Drosophila
Joanna E. MacLean, MD, PhD; University of Alberta A Follow-Up Study of Infants at High Risk of Sleep Disordered Breathing
Elliot D. Weitzman, MD Research Grant: ($20,000.00)
Marcos Frank, PhD; University of Pennsylvania Astrocytic Transducers of Sleep Propensity

The Sleep Research Society Foundation Needs Your Contributions
When considering your options for charitable giving in 2012, please do not forget about the Sleep Research Society Foundation (SRSF) which was established by SRS to receive donations in support of research. Because SRS is a professional society and part owner (along with AASM) of the Association of Professional Sleep Societies (APSS), which is a for-profit organization that organizes our meetings and runs the SLEEP journal, SRS is prohibited from receiving charitable contributions directly. SRS therefore incorporated the SRSF as a completely independent charitable organization, which can take in donations and make grants to deserving investigators. Although there are literally hundreds of other deserving charitable organizations which perform valuable services, this year, please consider supporting our field with a donation to SRSF!

Funds raised by the SRS (through courses and donations) which exceed those needed to meet our operating expenses are transferred to the SRSF and are used each year to fund research awards named after two preeminent sleep researchers, Drs. J. Christian Gillin and Elliott Weitzman. Historically we have raised enough money to fund 3-4 such grants, which help our members to gather preliminary data necessary to compete more favorably when applying for NIH, NSF, or foundation grant support. The Board of Directors of the SRS feels that providing funds to SRSF for this purpose maximally leverages the return on investment of our funds. Incidentally, the SRS Foundation and the SRS have the same Board of Directors, but the President of the SRS Foundation is the immediate Past President of the SRS.

With the selection of the 2011 grantees, since 2005 the SRSF has supported 25 Gillin Awards and five Weitzman Awards. Many of the Gillin recipients have gone on to receive federal support and have continued their career as an independent investigator. Similarly, the Weitzman awardees, all established investigators, have used these funds to assist in gaining future external research funding. The SRSF grants program has been a major and successful investment in the future of our field.

In the last few years, while more and more investigators have had difficulty meeting the very low pay lines for NIH grants, the number of applicants for Gillin and Weitzman grants has increased. This year, for example, we received 18 Gillin and 1 Weitzman Award applications, which is much more than we can fund. Each year the Research Committee of the SRS does the difficult job of evaluating these proposals, and prioritizing them for funding. The SRSF Board of Directors then approves funding for as many of these worthy applications as there are funds to support.

Clearly, we could do a better job if we had more money to distribute. The SRS Foundation is not adequately visible in the sleep research community. Please help the SRSF, and your colleagues, by making it your “favorite charity,” and asking friends and family and colleagues to make contributions. Remember that because the SRS provides the administrative support, 100% of every dollar donated to the SRSF goes to support sleep research, and is 100% tax deductible. It would take only 80 SRS members to donate $250 to enable an additional research grant. If every SRS member annually contributed $100, five research awards could be supported every year!

Thank you very much to past contributors who are recognized on the following page.

James K. Walsh, PhD
President, Sleep Research Society Foundation

Continued on the following page →
The Sleep Research Society Foundation wishes to acknowledge and thank the following organizations and individual sponsors for their contributions.

Organizations

Phillips Respironics-ISE
Sleep Research Society
Greater Boston Convention and Visitors Bureau

Individual Donations

June 1, 2011 through June 1, 2012

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Sonia Ancoli-Israel, PhD
Noah D. Andrews, RST
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Mary Carskadon, PhD
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Phyllis C. Zee, MD, PhD
The Neuroscience of Sleep and Circadian Biology Data Blitz occurred on Monday, November 14, 2011 in Washington, DC, as a satellite event associated with the annual meeting of the Society for Neuroscience. As in prior years, the event was attended by about 350 sleep and circadian rhythms neuroscientists and quite a few investigators representing related fields attracted to the event by scientific curiosity, friendship, humor and the great atmosphere of social interactions.

The key part of the event is a series of fast-paced presentation of 20 abstracts selected from a pool of over 400 posters related to sleep, circadian rhythms and crossover fields that are a part of the main meeting. The Program Committee selects the abstracts based on their scientific merit and novelty, while also aiming to achieve a broad representation of topics, methods and geographic origins. The presenters are challenged to summarize their work in one slide that can be displayed for one minute. Data Blitz is sponsored by the NIH Center on Sleep Disorders Research, directed by Dr. Michael Twery, with the on-site organization overseen on the behalf of the Center by Dr. Aaron D. Laposky. Dr. Mark R. Opp of the University of Washington served this year as a moderator, a.k.a. the Master of Ceremony, and did it with “humor, tact and … an iron fist when enforcing the time limits.” The role of the Honorary Plenary Speaker (2 minutes and 2 slides allowed) was graciously accepted by Dr. Bruce S. McEwen from the Rockefeller University whose presentation titled “What do we mean by stress?” visibly moved many in the audience.

Those inclined to see special meaning in numbers may want to know that Data Blitz-2011 was the 13th event of the series. So, we have successfully passed this potentially treacherous threshold. A unique part of the event was the presentation of Dr. Thomas Scammell with a commemorative plaque to mark his 10 years of service on the Data Blitz Committee, and of those five years as a Chair of this group. A tough example to follow! Thank you, Tom.

Generous support for Data Blitz-2011 was provided by the American Academy of Sleep Medicine, Sleep Research Society, Society for Research on Biological Rhythms, Philips-Respironics, Inc., and Cephalon, Inc. – thank you. The scientific contents was put together by the Committee that comprised Leszek Kubin – chair, University of Pennsylvania; Melinda Jackson, Washington State University, Spokane; Gary E. Pickard, University of Nebraska; Rebecca Prosser, University of Tennessee, Knoxville; Tom Scammell, Harvard Medical School, and Kenneth P. Wright Jr., University of Colorado, Boulder.

If you plan to attend the SFN meeting in New Orleans this year, be sure to put Data Blitz-2012 on your calendars for Monday, October 15 at 8 pm. See you there.

Leszek Kubin, PhD
2011 Updated NIH Sleep Disorders Research Plan

Advances in sleep and circadian research suggest an immense public health burden is associated with sleep deficiency, untreated sleep disorders, and circadian desynchrony. New avenues for sleep and circadian investigation are emerging across a spectrum of basic, clinical, translational, and applied research areas. In order to bring thematic focus to the emerging opportunities for sleep and circadian research, the National Center on Sleep Disorders Research, part of the NIH’s National Heart, Lung, and Blood Institute, updated the NIH Sleep Disorders Research Plan in 2011. (http://www.nhlbi.nih.gov/health/prof/sleep/sleep_splan.htm).

The updated research plan identifies five overarching scientific themes (goals) as opportunities for advances in sleep and circadian research (Table 1). The 2011 NIH Sleep Disorders Research Plan was developed through an open process with staff from the NIH and public representatives on the Sleep Disorders Research Advisory Board. The public, patients, health care professionals, and researchers also provided input. The plan establishes a common framework of thought within which the discussion of sleep and circadian research directions will continue and inform “strategic thinking”. In this respect, the 2011 plan is designed to address the critical questions “Why?” and “How?” does sleep and circadian research contribute to the overall scheme of NIH research priorities. By design, scientific opportunities outlined in the 2011 Sleep Research Plan reflect the NIH mission and the thought process underlying strategic planning within many Institutes and Centers. Specific objectives under each goal are selected examples of potential sleep and circadian scientific innovation across the breadth of scientific interests at the NIH. The examples are by no means an exhaustive list of research opportunities; indeed, many additional opportunities are worthy of scientific inquiry, and others may emerge with new research advances.

The combination of scientific goals, objectives and selected examples in the research plan provide a glimpse into the breadth of opportunities for innovative sleep and circadian research to impact the health of the nation. Advancing sleep and circadian science will require thinking strategically about how to move the discipline forward as a whole, which includes identifying the opportunities to do so within the context of how the NIH system works. The relationship between active sleep and circadian research grants and other scientific areas supported by the NIH can be explored using Web-based resources such as ProjectReporter and NIHmaps. These tools provide a snapshot of the connections and gaps between sleep and circadian research and all other NIH research domains. Grant data available from the NIH Research, Condition, and Disease Category (RCDC) database suggests that the overall pace of sleep and circadian research has remained virtually unchanged in recent years even as new sleep and circadian discoveries have expanded the scope of opportunity. During the period 2008 to 2012, total costs awarded to sleep and circadian research grants, in all categories, NIH-wide ranged from $225 to 250 million annually (includes American Recovery and Reinvestment Act-supported research). During this period, the overall success rate for sleep and circadian grant applications has remained comparable to the NIH average. The system of grant review does not impose limits on the scope or amount of research in any domain that may compete for funding. Success rates for the field as a whole are influenced by both the percentile merit ranking of individual applications by reviewers and the number of Center for Scientific Review (CSR) study sections in which sleep and circadian sciences can potentially compete. This is because the percentile is based on the ranking of impact scores within an individual study section. As a cross-cutting scientific discipline, numerous study sections may consider sleep and circadian scientific contributions, multiplying the number of highly meritorious percentile rankings potentially available across the breadth of the regular review process. The potential opportunity for funding is further multiplied by support for sleep and circadian studies, NIH-wide. Query tools in NIHmaps and ProjectReporter can be used to study the range of CSR study sections and Institutes where sleep and circadian grant applications have been funded.

Each sleep and circadian researcher has a contribution to make toward implementation of the updated NIH Sleep Disorders Research Plan. Broadening the research and training vision and understanding of NIH peer review, along with highly meritorious and innovative scientific proposals developed for the purpose of “merit competition”, are steps that everyone can follow to realize the vision embodied by the 2011 NIH Sleep Disorders Research Plan.

Aaron D. Laposky, PhD and Michael Twery, PhD
National Center on Sleep Disorders Research, National Heart, Lung, and Blood Institute, NIH

Table 1. Sleep Research Plan: Five Overarching Goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Scientific Focus</th>
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<tr>
<td>Goal 1</td>
<td>Basic mechanisms</td>
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<tr>
<td>Impute the understanding of sleep and circadian functions and of basic sleep and circadian mechanisms, in both the brain and the body, across the lifespan.</td>
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<td>Goal 2</td>
<td>Pathophysiology</td>
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<td>Identify genetic, pathophysiological, environmental, cultural, lifestyle factors and sex and gender differences contributing to the risk of sleep and circadian disorders and disturbances, and their role in the development and pathogenesis of co-morbid diseases, and disability.</td>
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<td>Goal 3</td>
<td>Prevention, diagnosis, treatment</td>
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<td>Improve prevention, diagnosis, and treatment of sleep and circadian disorders, chronic sleep deficiency, and circadian disruption, and evaluate the resulting impact on human health.</td>
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<td>Goal 4</td>
<td>Dissemination, implementation</td>
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<td>Enhance the translation and dissemination of sleep and circadian research findings and concepts to improve health care, inform public policy, and increase community awareness to enhance human health.</td>
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<td>Goal 5</td>
<td>Training, career development</td>
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<td>Enable sleep and circadian research training to inform science in cross-cutting domains, accelerate the pace of discovery, and the translation of enhanced therapies from bench to bedside to community.</td>
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The Sleep Research Society (SRS) recognizes the importance of sustained advocacy and grassroots efforts during this time of fiscal uncertainty and budget cuts. Working with the Health and Medicine Counsel of Washington (HMCW), SRS has been increasing efforts to educate members of Congress on the new National Sleep Disorders Research Plan, as well as advocating for research and awareness funding at the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC).

With the release of the President’s annual budget request to Congress on February 13th, the fiscal year 2013 (FY13) appropriations process has begun in earnest on Capitol Hill. The request outlined $3.8 trillion in federal spending. Of specific interest to SRS, the Administration’s budget recommends level funding of $30.7 billion for the NIH and $3.08 billion for the National Heart, Lung, and Blood Institute (NHLBI), which houses the National Center on Sleep Disorders Research.

The House and Senate Appropriations Committees have been moving forward with their efforts to craft the FY13 appropriations bills, including the Labor-Health and Human Services-Education (LHHS) Appropriations Subcommittee, which funds the NIH and CDC. Looming over this year’s appropriations process is the threat of sequestration, which was triggered by the Budget Control Act after last year’s Deficit Reduction Super Committee failed to reach agreement on a deficit reduction package. Sequestration will go into effect in January of 2013 unless legislators complete deficit reduction activities or take steps to avert or mitigate sequestration. Under sequestration, discretionary programs like NIH and CDC will be subject to an automatic across the board funding cut of around 8% of their budgets.

Amidst a 2013 appropriations process likely to be defined by further partisan positioning and all parties focused on reducing spending, it is critical to continue communicating the importance of research funding for sleep and sleep related disorders at NIH and CDC to members of Congress. Current SRS President Phyllis Zee, MD, PhD, and immediate past President, James Walsh, PhD have been working with HMCW to meet with numerous members of the House and Senate LHHS Appropriations Committees to ensure SRS’s priorities are communicated. During these meetings we underscored the importance of funding for research at NIH and the sleep program at CDC, and emphasized a better understanding of sleep and sleep disorders is important to the health and safety of their constituents.

In addition to the advocacy efforts focusing on funding for the NIH and CDC, HMCW and SRS have made a concerted effort to distribute the National Sleep Disorders Research Plan to all 535 congressional offices. As a result of this outreach, Congressman Mike Honda (D-CA-15) and Congressman Hank Johnson (D-GA-4) sent a joint letter to NIH Director Francis Collins, MD, requesting a briefing for congressional staff on the findings and recommendations of the plan. The letter highlighted their interest in the plan’s goal to enhance the translation and dissemination of sleep and circadian research findings and concepts to improve healthcare, inform public policy, and create community awareness to enhance human health. The letter was well received by NIH and passed to NHLBI leadership who have agreed to participate in a congressional briefing. Together with Congressman Honda’s office, HMCW and SRS are working on the logistics for a late May briefing that will educate congressional staffers on sleep disorders and the National Sleep Disorders Research Plan.

Dale P. Dirks and Meaghan Pilarcik
Health and Medicine Counsel of Washington
Message Received: E-Mail Etiquette in Academics and Professional Communication

We have all undoubtedly experienced an inbox of dozens (or hundreds) of new E-Mail messages during busy days, leading to some messages being overlooked in lieu of other, “easier”, messages. This, of course, creates delayed responses. I have found, after trial and error (actually, numerous errors), and from mentorship, that the following guidelines have assisted me in communicating digitally in a way that is not only time-efficient, but will also ensure that the delivery of my message is a sure guarantee of a reply.

Have A Proper Subject Line

The Subject Line, like the title to a research article, is a make or break moment. This title needs to be short enough to read quickly, and long enough to convey the information necessary for the reader to understand and predict the content of the message. Keep the Subject clear. Instead of writing: “A Question”, write: “Regarding the Inclusion of Participant 101”. Finally, restrain from sending an E-Mail without a subject.

Do Not Overwrite

Our faculty mentors are amazing resources not just for science and career advice, but also for professional communication. From each mentor I have had, the same advice has been repeated time and time again – do not overwrite your E-Mails. An E-Mail, whether it is a discussion with your primary advisor over data, or to an outside faculty, for instance a collaborator, is not the same as a face-to-face conversation, or even a substitute for a phone call. As such the letter should be distilled to its essence, allowing the receiver to quickly read, digest, comprehend, and respond accordingly. One rule of thumb that I’ve noted from my mentors is that a quick E-Mail request should not exceed 4 lines of text. These short, succinct communiqués, I have found, result in the most expedited reply possible.

Use Organization To Make Many Points Simple

The above “4 line” heuristic is great if your message is only 1 point, though we often write E-Mails with multiple threads, and points to make. These can quickly be overwhelming to the receiver. While it is important to remove points and statements that are either repetitive or superfluous, sometimes density of information cannot be avoided. In these circumstances organizational techniques, such as numbering, bullet points, or headings/subheadings can transform dense prose to clear, easy to digest content. As before, try and keep each single point as succinct and clear as possible. Similarly a multi-point E-Mail can often be responded “in line” using the built in “quoting” function of modern E-Mail clients to place responses to questions below the questions themselves, rather than above in a completely new message. These strategies often streamline the process of the reader.

Keep Focus, Especially With Data

Often when we write E-Mails, by the end of the message, we are discussing things far outside the scope of the Subject of the message. Nowhere is this more common then when data is presented in an E-Mail, and interpretations begin to go in unforeseen directions. I have found that E-Mail is a poor substitute for a meeting about data. As such I try to limit data in an E-Mail to one attached graph/plot/slide, with one short description in the message. Beyond that amount the reader often may miss aspects of the message and respond to only a portion of the E-Mail. If that happens in your E-Mails, it is often a good sign that you are including information beyond the main goal of the E-Mail.

Know Who You Are Writing To

Just as one discusses data in a lab meeting with a different formality and tone than one would in an oral presentation at SLEEP, E-Mails can be written in a wide variety of language. Knowing who you are writing to, and what from of relationship you have with that person or persons will guide whether you can to write informally (e.g. colloquial greetings/closings) or formally (greetings/closings, sentence structure, need for professional information in the signature). Especially if the party or parties you are E-Mailing are not close colleagues, the choice of informal or formal styles of writing can leave lasting impressions.

Proof, Proof, Proof

Regardless of whether you are writing a formal letter to a journal editor, or a quick note to a lab member, proofing is crucial. Many readers instantly lose interest when spelling and grammar mistakes are present. Beyond simple copy-editing, using the proofing process to address the points above, namely succinctness, clarity, and removal of superfluous information, will often lead to a much better message.

E-Mail Is Not The Same As Texting Or Instant Message

This final point is one I have been reflecting on for some time. Especially with the wide proliferation of smart phones and mobile broadband internet, the tendency emerges to treat E-Mail as a form of quick, “text message”-like form of communication. This often can lead the frustrating scenario of multiples of messages rapidly being sent back and forth often fast enough that chains of communication are confused and messages are sent while previous entries in the chain are not read yet. I have found that these scenarios and discussions are often better suited for phone calls or face-to-face communication.

These techniques are simply a few of many I have learned over time to strengthen the form of my digital communication. As many communication styles exist, I do not pretend that these recommendations are absolute. I hope they offer, however, ways for individuals to write clearer, more successful E-Mails, regardless of the situation.

Acknowledgements

I would like to thank my current and previous mentors: Matthew P. Walker, PhD, Michael T. Smith, PhD, and Mary A. Carskadon, PhD for years of mentoring and the patience to help me communicate more clearly. I would also like to acknowledge my lab mates in the Sleep and Neuroimaging Laboratory at UC Berkeley for their insights in forming this article.

Jared Saletin

Doctoral Candidate, Sleep and Neuroimaging Laboratory, Department of Psychology, University of California, Berkeley
Mammalian physiology is directed by a “circadian” biological clock seated in the suprachiasmatic nuclei of the hypothalamus (SCN), but possessing a cell-autonomous mechanism that is duplicated in most cells of the body. Although this clock regulates most aspects of physiology, including sleep-wake, the mechanism of this control has proven quite complex. Some aspects of physiology like hepatic detoxification are regulated by cascades of transcription factors controlled by peripheral clocks, and others are controlled systemically via hormones (e.g. hypothalamic-pituitary-adrenal axis activity) or indirect cues like feeding and body temperature, which are governed by sleep-wake cycles (1).

To understand this control, investigators have employed new technologies capable of characterizing complete sets of molecules within cells or tissues. First there was the transcriptome: roughly ten percent of all transcripts in mammals show diurnal rhythms of regulation in all tissues examined (2). Next came the proteome: although much harder to examine, about twenty percent of identified protein species in mouse liver showed circadian regulation (3). Finally, there was the metabolome: in mouse blood, about fifteen percent of all small-molecule metabolites showed circadian regulation (4). Although performed mostly in animal models because of requirements for tissue availability, these global studies have allowed investigators to draw important conclusions about the circadian regulation of physiology, ranging from unsuspected rhythms of protein oxidation and reduction in red blood cells (5), to clock control of stem cell regeneration and avoidance of cancer (6).

Nevertheless, there is an important caveat to these investigations. While they capture circadian gene expression under particular conditions, they do not demonstrate what proportion of physiology is controlled directly by the circadian clock regardless of environment and what proportion is controlled indirectly by cues like sleep-wake and feeding. In fact, recent research suggests that a considerable portion of circadian physiology could be controlled indirectly via activity or feeding patterns. For example, when mice were systematically sleep-deprived, only 391 out of 2032 rhythmic transcripts in the cortex still showed diurnal oscillations (7). An analogous pattern was detected during food deprivation: merely 368 out of 2997 transcripts in liver remained circadian (8).

To try to find out how much human “circadian” physiology is controlled directly and how much by indirect cues, our laboratories decided to use a human model system. Because human beings follow directions well, our subjects could follow a “constant routine” of immobile reclined posture (to remove influences of activity), constant dim light (to remove ocular effects), total sleep deprivation (to eliminate consequences of diurnal sleep-wake), and regular isocaloric meals (to remove effects of rhythmic meal-time). From pooled 4-hourly samples of blood and saliva, we then characterized the human circadian metabolome over 40 hours. We found that about 15% of all identified substances in both blood and saliva showed circadian oscillations, the same proportion as found in rodent studies (4). Moreover, we were able to identify nearly 300 discrete metabolites: whereas in blood, most circadian substances were fat-derived metabolites that reached peak levels in the afternoon, in saliva the largest class was amino acids that peaked at widely differing times of day. In addition, we found a few substances whose abundance increased or decreased monotonically with increasing time awake, and therefore might be markers of sleep pressure (9).

Practically speaking, our work has several implications. First, it says that in humans, a significant proportion of circadian physiology – at least as measured by metabolomics – is directly under clock control independent of indirect cues. Clearly, the story could be different directly in liver or in brain, but ethical considerations will likely preclude investigations in these human tissues. Given the preponderance of circadian fatty acid metabolites in blood, it also provides a possible explanation for the linkage between circadian disturbance and metabolic syndrome (10), and between extra-mealtime snacking and weight gain (11): either consumption of food outside mealtime or the elimination of a circadian timed response to meals might impair the ability of the body to scavenge harmful fatty acids in blood. Other physi-
ologically relevant conclusions will doubtless be drawn by future comparisons of metabolome and other “omic” data, and a new paper last month does exactly this in mouse models (12).

Secondly, circadian variation of multiple easy-to-measure metabolites in all clock phases holds the promise of convenient single-timepoint assays of clock phase, which could be medically useful for chronopharmacology (4). Given the number of substances found and the relative inter-subject variations in their overall levels, we doubt that such an assay would surpass existing technologies. It does, however, suggest an important limitation of using metabolites as biomarkers of disease: the circadian variation that we measured often exceeds variations postulated to be disease-linked, for example in diabetes or cardiometabolic disease (13, 14). Therefore, circadian time is likely a crucial overlooked variable in these studies, as suggested by the under-representation of rhythmic metabolites in genome-wide analysis of alleles associated with metabolic variation (13).

Thirdly, our work for the first time systematically identifies substances in easily-accessible matrices that might vary with sleep pressure – 34 in plasma and 27 in saliva. Some of the identified substances “make sense”: two are fragments of the C3 complement immune factor, and sleep deprivation has been linked to elevated immune function in general and C3 complement in particular in previous studies (15). Another candidate metabolite has been associated previously with a REM sleep feature (16). While further investigations are clearly required to verify whether these substances are indeed markers of sleep pressure, our findings could be both mechanistically interesting and potentially useful within society, given the impairment of cognitive function that follows sleep deprivation.

In conclusion, our study answered a simple outstanding question by showing that the human circadian metabolome remains rhythmic independently of indirect environmental cues, and that some metabolites may also vary with sleep pressure. While these results have multiple implications, they represent only a starting point in the understanding of the control of metabolism by sleep-wake and circadian influences.

Steven A. Brown1, Antoine U. Viola2, Leila Tarokh3, Christian Cajochen2 and Robert Dallmann1

1Chronobiology and Sleep Research Group, Institute of Pharmacology and Toxicology, University of Zurich, Zürich, Switzerland; 2Centre for Chronobiology, Psychiatric University Clinics, University of Basel, Basel, Switzerland

References
New FAA Pilot Hours of Service Rule: The Important Role of Sleep Science

Fatigue related to sleep loss, extended hours awake, circadian disruption, and sleep disorders is a well-established safety risk in transportation. Through its investigations, the National Transportation Safety Board (NTSB) has identified fatigue as a finding, probable cause, or contributing factor in accidents across all modes of transportation. Fatigue has been on the NTSB Most Wanted List of safety improvements since the list was first created in 1990 (http://www.ntsb.gov/safety/mwl.html). In response to its investigations, the Board has issued about 200 safety recommendations on fatigue, addressing diverse areas such as federal regulations, company scheduling policies, education and training, diagnosis and treatment of sleep disorders, technology, and fatigue management programs.

On December 21, 2011, the Federal Aviation Administration (FAA) published new regulations on “Flightcrew Member Duty and Rest Requirements” (FAR Part 117), the primary rule that controls pilots’ flight, duty, and rest limitations (https://www.federalregister.gov/articles/2012/01/04/2011-33078/flightcrew-member-duty-and-rest-requirements). The new FAA hours of service (HOS) rule represents the most significant change in flight, duty, and rest regulations in over 70 years and sleep science played a critical, central role in its development. The published rule is over 300 pages and addresses the broad range of issues that relate to fatigue. Clearly, an intensive and extensive review of the new regulation is beyond the scope of the SRS Bulletin. Instead, highlighting three areas that reflect the important role of sleep science in this new FAA regulation may interest the sleep community.

1. Acknowledging fatigue, sleep, and circadian factors as important safety issues

“Fatigue threatens aviation safety because it increases the risk of pilot error that could lead to an accident.” This appears in the summary to the new regulation: a direct, visible, and foundational statement about the role of fatigue in aviation safety. Also in the introductory summary, there is acknowledgement about the importance of circadian factors and sleep: “The rule provides different requirements based on the time of day, whether an individual is acclimated to a new time zone, and the likelihood of being able to sleep under different circumstances.” The “Overview of the Final Rule” includes: “The factors leading to fatigue are universal and addressing the risk to the flying public should be consistent across the different types of operations.” This statement addresses the fact that there are basic physiological principles that affect all humans, regardless of the flight operation. Also in the overview section: “The final rule recognizes the natural circadian rhythms experienced by most people that causes (sic) them to be naturally more tired at night than during the day.” In the summary and introductory sections, the new regulation clearly identifies the importance of fatigue, sleep, and circadian factors in addressing aviation safety.

In the “Background,” there is a section on the “Statement of the Problem” that identifies symptoms of fatigue and factors that can contribute to fatigue. The fatigue factors described include: time of day, amount of recent sleep, time awake, cumulative sleep debt, and individual variation. This section of the rule includes a very direct acknowledgement: “The FAA believes that its current regulations do not adequately address the risk of fatigue.” Another section addresses NTSB accident investigations and its safety recommendations issued to the FAA specifically. Other related activities are briefly discussed, including an aviation rulemaking committee; a congressional mandate to address flight, duty, rest requirements; and the FAA’s previously published Notice for Proposed Rulemaking that received 8,000 comments.

2. Sleep and circadian principles incorporated into the new regulation

Perhaps the most basic “fatigue management” strategy is to obtain optimal sleep. The regulation provides a new “rest” requirement: 10 hours (non-reducible) to include an 8-hour uninterrupted sleep opportunity (previously 8 hours away from the aircraft was a minimum). This represents a very significant change: acknowledging an 8-hour sleep need, that it should be uninterrupted, and that “sleep” is different from the allowed “rest” period. There also is a requirement to provide 30 consecutive hours free from all duty in any 168 consecutive hour period. Thirty consecutive hours can provide an opportunity for two uninterrupted sleep opportunities and (some) recovery from a potential cumulative sleep debt.

Flight duty periods are now capped and the specific length is dependent on scheduled time of duty start (circadian consideration) and the number of flight segments (workload issue). Again, this represents a very significant change that limits “time awake” and bases the calculation on circadian and workload factors. There are also hard limits for maximum flight time (i.e., hands on the controls) determined by report time (circadian consideration). There are cumulative limitations for flight time (28 and 365 day periods) and flight duty time (7 and 28 day periods) with no cumulative duty limitations.

3. Fatigue risk management plans (FRMP) and systems

All air carriers covered by the new regulation are required to implement a fatigue risk management plan that includes: 1) current flight time and duty period limitations; 2) a rest scheme that enables the management of fatigue and includes annual training to increase awareness of fatigue and fatigue countermeasures; and 3) the development and use of a methodology that continually assesses the effectiveness of the program.

Air carriers also can elect to implement a fatigue risk management system (FRMS): “an alternative regulatory approach to provide a means of monitoring and mitigating fatigue.” Under an FRMS, a certificate holder develops processes that manage and mitigate fatigue and meet an equivalent level of safety. Under proposed § 117.7, an FAA-approved FRMS would include: 1) a fatigue risk management policy; 2) an education and awareness training program; 3) a fatigue reporting system; 4) a system for monitoring flightcrew fatigue; 5) an incident reporting process; and 6) a performance evaluation.”

The FRMP and FRMS acknowledge the complexity of managing fatigue in real-world operational settings and identify activities beyond a prescriptive regulatory structure.

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Final Comments
In response to the new FAA HOS regulation, NTSB Chairman Deborah Hersman acknowledged the “long awaited science-based rule for flight and duty time” and applauded DOT and FAA leadership for bringing it to fruition (http://www.ntsb.gov/news/2011/111221_2.html). She also acknowledged some shortcomings, including the exclusion of cargo carriers from the new rule. In fact, the new “science based” regulation does not apply to cargo carriers or regional (Part 135) air carriers.

Through these few highlights, it is clear that sleep science has provided a significant foundation and guidance to the language, definitions, requirements, and approach incorporated into the FAA’s new HOS regulation. However, for all of the important advances reflected in the new rule, there are many areas that still require attention and action. In some areas, the new sleep science-based rules need to be extended to apply more broadly across aviation operations. In other areas, sleep science needs to provide more data and findings that can guide further evolution and innovation. For example, refining circadian and workload guidance, the use of technology and modeling tools, sleep disorders screening, diagnosis and treatment, and empirical evaluation of regulatory schemes and FRMS would all benefit from more operationally relevant science-based efforts. Building on the significant advances reflected in the FAA’s new HOS regulation, there remains much more for the sleep community to contribute to these vital transportation safety efforts.

Mark R. Rosekind, PhD
Board Member
National Transportation Safety Board
For their grant applications, PIs can enter scientific text from their grant application into LikeThis (the data remains confidential) and it will pull up funded grants similar to their application. The listed grants will include the name of the NIH funding Institute as well as list the study sections where these were reviewed. If a PI wants to locate similar grants using his or her likeThis graphic, click on the LikeThis link in the corresponding LikeThis column. Applications from fiscal year 2007 onwards appear on the list.

Steps for a PI to locate Institute and Study Section in similar grants:

1. Log in to eRA Commons: https://commons.era.nih.gov/commons/.
2. From the home page, click on the link for LikeThis that appears under Additional Links on the right side of the screen.
3. On the LikeThis screen that is displayed, click on the LikeThis graphic to enter the system.
4. You will see two tabs: My Scientific Text or My Applications.
5. On the Scientific Text tab, enter a title in Proposed Project Title. This field is optional.
6. Enter or paste scientific text into the Scientific Description/Scientific Aims text box.
7. Click Submit.
8. The system displays a listing of similar funded projects and publications, as well as scientific terms, on separate tabs.

If a PI wants to locate similar grants using his or her applications or grants:

1. On the My Applications tab, locate the application for which you want to view similar funded projects and publications. Select the LikeThis link in the corresponding LikeThis column. Applications from fiscal year 2007 onwards appear on the list.

Note that this is a sampling of the possibilities with this tool. To find out more, go to the Overview and FAQs. Also see pages 5 to 8 in the User Guide to see screenshots for the steps listed above.

SRS to Host a Congressional Briefing May 31

The SRS will be hosting a Congressional Briefing on the new NIH National Sleep Disorders Research Plan on Thursday, May 31, 2012 from 2:00 p.m. to 3:00 p.m. in room S-115 of the U.S. Capitol. All SRS members are welcome to attend.

The SRS is pleased to announce that Susan Shurin, MD, the current acting Director of NHLBI, will be participating in the briefing as will one of the sleep field’s biggest proponents on Capitol Hill, Congressman Mike Honda. In addition to Dr. Shurin and Congressman Honda, SRS member David Dinges, PhD has graciously agreed to give a presentation on the link between sleep and many of our nation’s major public health problems as well as the link between inadequate sleep and safety.

Attend the SLEEP 2012 Networking Reception

All SLEEP 2012 attendees and guests are invited to attend the SLEEP 2012 reception from 6:00 p.m.—7:30 p.m. on the evening of Sunday, June 10, 2012 in the Sheraton Boston, Grand Ballroom. The reception will provide participants with the opportunity to network with other attendees as well as provide needed support to sleep & circadian research. Tickets are $50 per person and include an extensive selection of hors d’oeuvres throughout the evening, two drink tickets and live music. Proceeds from the reception will support the Sleep Research Society Foundation (SRSF) and the American Sleep Medicine Foundation (ASMF).

Tickets can be purchased through the SLEEP 2012 registration website, by calling the APSS meeting department at (630) 737-9768, or you may purchase tickets on-site at SLEEP 2012.

Four New Conversations with Our Founders Videos Now Available

Four new videos in the SRS Conversations with our Founders Project are now available on the SRS Website. The founders interviewed in this round of videos include Sonia Ancoli-Israel, PhD, Alex Borbely, MD, Mary Carskadon, PhD, and Rosalind Cartwright, PhD. You may access the interviews via the following link:

http://www.sleepresearchsociety.org/ConversationsWithFounders.aspx

SDRAB Meeting May 30-31

The NIH’s Sleep Disorders Research Advisory Board (SDRAB) will hold a face-to-face meeting in Bethesda, Maryland on Wednesday, May 30 and Thursday, May 31, 2012. The agenda for this meeting will include strategies for implementing the new NIH Sleep Disorders Research Plan. Members of the SRS Board of Directors will be there to represent the interests of the sleep and circadian research community. Additionally, the SRS will provide a brief presentation to SDRAB about various issues in our field. Members of the SRS are encouraged to participate in the meeting by calling: 800-779-2692, access code 3088143#. A link to a web conference for the SDRAB meeting will be available on the following website closer to the date of the meeting:

http://www.nhlbi.nih.gov/meetings/index.htm

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SLEEP 2012 Abstracts Available Online

The SLEEP abstract supplement for SLEEP 2012, the 26th Annual Meeting of the Associated Professional Sleep Societies LLC (APSS), is available for download on the Journal SLEEP website and at www.sleepmeeting.org. This comprehensive resource contains all 1,333 research abstracts that will be presented at SLEEP 2012 in Boston next month. Of the abstracts, 196 will be presented as oral presentations and the remaining will be displayed in the poster viewing section of the SLEEP 2012 exhibit hall.

Reserve Your Table at the SRS Trainee Symposia Series

Career Development Fair, Saturday, June 9, 2012

The Career Development Fair offers trainees the opportunity to explore available positions in sleep research and sleep medicine and also provides those with open positions an ideal forum to recruit potential students and employees. Even if you do not currently have positions available, trainees will still benefit from learning more about your research programs and will become aware of future opportunities.

The Career Development Fair is scheduled from 6:30–8:00 p.m., June 9, 2012 immediately following the Trainee Datablitz. The Trainee Reception will run concurrent with the Career Development Fair. The format of the fair will include tables where representatives from each participating institution can display relevant publications, fliers, or posters, interact with the trainees, and even perform on-the-spot interviews.

If you would like to reserve a space at the Career Development Fair, please contact Allison Brager, PhD, the SRS Trainee Representative via e-mail at abrager@msm.edu. Space is limited and tables will be assigned on a first-come, first-served basis so we encourage you to reserve a table as soon as possible.

The training of new investigators is one of the most significant goals of the Sleep Research Society. The SRS looks forward to another successful event.

NIH Funding Opportunities

Exploratory/Development Clinical Research Grants in Obesity (R21)

The National Heart Lung and Blood Institute (NHLBI) and several other components of the NIH have issued a Funding Opportunity Announcement (FOA) for the development of obesity prevention programs. The FOA “Exploratory/Development Clinical Research Grants in Obesity (R21)” encourages grant applications from institutions that propose clinical studies that will accelerate the development of interventions for the prevention or treatment of overweight or obesity in adults and/or children. The open date for the funding opportunity is May 16.

Alcohol Abuse, Sleep Disorders and Circadian Rhythms (R01/R21)

This Funding Opportunity Announcement (FOA), issued by the National Institute on Alcohol Abuse and Alcoholism (NIAAA), encourages Research Project Grant (R01) and Exploratory/Developmental Research Grant Award (R21) applications proposing to conduct studies on the functional relationships between alcohol abuse, circadian rhythms and sleep disorders. Recent investigations in both humans and animal models have suggested possible connections between circadian processes and alcohol intake, with alcohol affecting the expression of ‘clock’ genes and polymorphisms in these genes influencing levels of ethanol intake.
Background
Our research group, part of the Vanderbilt University Department of Neurology, is focused on the relationship between sleep/circadian physiology and autism spectrum disorders across the lifespan. We are conducting a variety of investigations, ranging from observational studies to multi-center clinical trials of treatment for sleep disturbances. Our group encompasses a diverse group of investigators and collaborators from neurology, psychology, pediatrics, biology and circadian physiology, special education, biostatistics, and mass spectroscopy. Medical and pre-doctoral students, as well as post-doctoral fellows, are incorporated into our research. Talented project and program managers, research coordinators, and data analysts skilled in participant recruitment and retention, navigation of participants through the research process, data management, and regulatory issues complement the work of investigators and collaborators.

Current Research
1. Understanding the etiology of sleep and circadian disturbance in children, adolescents, and young adults with autism, including genetic, medical, and behavioral etiologies.

   **Team Leaders**
   Beth Malow, MD, MS (children) and Suzanne Goldman, PhD (adolescents and young adults)

   **Collaborators**
   Blythe Corbett, PhD (psychology, cortisol, and circadian physiology); Wade Calcutt, PhD and David Hachey, PhD (mass spectrometry of melatonin); Andre’ Diedrich, MD PhD (internal medicine, biomedical engineering); Franz Baudenbacher, PhD (biomedical engineering); Rachel Hundley, PhD (psychology); Carl Johnson, PhD (circadian rhythms and genetics); Lily Wang, PhD (biostatistics)

   Sleep and circadian disturbance in autism is common, affecting approximately two-thirds of individuals, and has a broad differential diagnosis, including (a) biological and genetic etiologies, (b) medical causes, and (c) behavioral contributors.

   We seek to understand the underlying causes and contributors using a variety of tools, ranging from questionnaires and sleep diaries to polysomnography, actigraphy, and cortisol and melatonin assays. We are also interested in autonomic measures of sleep disturbance in autism, including electrodermal activity and heart rate variability.

2. Relating sleep patterns in autism to family functioning

   **Team Leader**
   Suzanne Goldman, PhD

   **Collaborators**
   Beth Malow, MD, MS, Lily Wang, PhD
Family members of children with autism are often sleep-deprived themselves, which can take a toll on their ability to provide support to individuals with autism. In this research, we are studying the impact of sleep disorders on family functioning.

3. Behavioral and pharmacological treatment of sleep disturbance in autism

**Team Leaders**
Beth Malow, MD, MS

**Collaborators**
Suzanne Goldman, PhD, Niru Madduri, MD, Althea Robinson, MD, Dave Hachey, PhD, Wade Calcutt, PhD

A variety of treatments, ranging from parent behavioral sleep education to medications, are available for treating sleep disturbance in autism. We use actigraphy and parent questionnaires to quantify improvements. We are also performing pharmacokinetic studies of melatonin using mass spectrometry.

**Technical Capacities**
We have a two-bed research sleep core, housed within Vanderbilt’s clinical research center, which performs polysomnography and related studies. This sleep core also serves as a sleep reading center for multicenter studies, providing centralized scoring and data transfer and storage. Our sleep group also performs actigraphy analysis for local and multicenter studies.

**Training Opportunities**
A variety of training opportunities are available in conjunction with the Vanderbilt Brain Institute (http://braininstitute.vanderbilt.edu) and the Vanderbilt Kennedy Center for Human Development (http://kc.vanderbilt.edu/site/research).

**Recent publications include**


really does raise blood pressure in some people and respond to CPAP. More recently we have moved into other areas such as endothelial function, carotid atheroma, cardiac function, diabetes, diabetic retinopathy, and large vessel aneurysms.

A major academic link exists between the University of Zurich (Malcolm Kohler) and Oxford with several joint projects. Most successful of these has been the development of a CPAP withdrawal model to both explore the pathophysiology of OSA and to rapidly test new treatments. Another major collaboration is with Sophie West at Newcastle University with whom we are working on diabetic retinopathy in patients with OSA.

Current Research Focus

1. Cardiovascular complications of OSA

There is much cross sectional and epidemiological data to suggest that OSA is a vascular risk factor. However such studies are at best hypothesis-generating and there need to be robust, randomised and controlled CPAP interventional studies to prove causality. This has been applied in our unit to blood pressure, heart rate, cholesterol, inflammatory markers, catecholamine excretion, clotting factors, glucose metabolism and endothelial function (flow mediated dilation). Only some of these have improved with CPAP therapy, none spectacularly. The most recent trial (MOSAIC) in minimally symptomatic patients failed to find a blood pressure benefit but did show an improvement in endothelial function.

An alternative approach to exploring this area, rather than conventional randomised treatment trials, has been with Malcolm Kohler at Zurich. We have developed a model of two weeks of CPAP withdrawal in stable treated patients, and shown a rapid return of several adverse vascular markers, such as increasing BP, increasing heart rate and falling endothelial dysfunction. The mechanisms of this deterioration can now be probed with various blocking agents which then may allow alternative vascular risk reduction therapies for OSA in the asymptomatic patient intolerant of CPAP.

2. Diabetic retinopathy and OSA

The retina in diabetic eye disease exhibits a number of vascular abnormalities, especially excessive leakage of plasma. In addition, new fragile vessels grow in response to hyperglycaemia and hypoxia. Thus there is a reasonable hypothesis that OSA with its hypoxia and surges in BP might worsen diabetic retinopathy. Early work in our department showed that OSA was common in patients with diabetes and that retinopathy was generally worse in those with OSA. A proof of principle study suggested that CPAP for OSA in the presence of diabetic macular oedema might improve vision. As a consequence we are starting a randomised controlled trial of CPAP for OSA in patients with diabetic retinopathy with Sophie West in Newcastle.

3. Obesity Hypoventilation Syndrome

An unexplained clinical observation is that only some obese patients develop ventilatory failure, a major risk factor for their early death. There are many theories including: effects on lung mechanics, differing ventilatory drive, presence of...
obstructive sleep apnoea, specific patterns of fat distribution, to name but a few. We are exploring such factors in a cohort of obese individuals, with and without ventilatory failure, to help understand the causes of obesity hypoventilation syndrome better which may better inform potential treatments.

Technical Capabilities
The six Oxford sleep laboratories are mainly for clinical work, although full polysomnography and beat-to-beat blood pressure for research purposes can be done. This laboratory developed pulse transit time as a non-invasive way to monitor both sleep fragmentation and inspiratory effort. We also developed the non-EEG based behavioural version of the MWT (OSLER test).

Training Opportunities
As part of the respiratory service, all the rotating specialist registrars have the opportunity to work with the sleep unit, and learn the clinical and technical aspects of the care of patients with respiratory sleep disorders. We have a small number of MD/PhD students at any one time.

Representative publications
4. CPAP does not reduce blood pressure in non-sleepy hypertensive OSA patients GV Robinson, DM Smith, BA Langford, RJO Davies, JR Stradling. ERJ 2006; 27: 1-7
25. Most of the cardiovascular consequences of OSA are due to increased sympathetic activity. Kohler M, Stradling JR. J Physiol 2012;in press
Profile of Annie Walker-Bright, Specialty Society Assistant

What do you do?
Gosh, what don’t I do? My title is Specialty Society Assistant, which tells you absolutely nothing. Let me think - I’m the one who makes sure you all know and turn up for your committee meetings, Trainee Symposia Series speaker assignments, and am quite famous for my ‘gentle’ nudges, and then my ‘not so gentle’ shoves, and can generally be a bit of a pest. When needed, I do the mail; I assemble badges; I cover the front desk, answer the phone, scrub the floors (er…kidding), but you get my drift. In my spare time I sit quietly in the background of committee meetings/board meetings taking notes in ancient hieroglyphics, a.k.a. Pitman’s shorthand, and produce perfect Minutes for all to enjoy!

Best parts of job, worst parts of job?
Well, let’s get the bad part over and done with. The SRS and SRSF annually funds first time travel awards, merit based awards, undergraduate awards, young investigator awards, Gillin & Weitzman grants, and I really do not like sending the ‘we are sorry, but unfortunately…’ letters, and to those folks who have received them from me, my humble apologies! I don’t enjoy being the messenger of bad tidings - we all know what happens to that poor unfortunate person. However, on the other side of that coin is the best part - I send the congratulatory letters and sit back and wait for all the delighted and excited emails thanking the SRS for selecting him/her as an award recipient, and can’t wait to meet me at the annual meeting to thank me personally.

Something SRS members may not know about you?
As a single mom, my greatest accomplishment is my 3 children—a veterinarian, a lawyer, and an US Navy sub-mariner/engineer—and subsequently, 8 grandchildren ranging from 20 – 3 years, and now you know I ain’t no spring chicken. I worked for over 30 years in the local legal environment and from on the job training and experience eventually earned paralegal status. I like to garden, paint, knit, sew, but my main passion is theatre. I have acted in numerous shows, directed 9 shows and am in the throes of directing Sherlock Holmes – The Final Adventure, which will be a huge challenge, and I will either be hailed a hero or go down in a fiery blaze! And, oh, by the way, I’m 100% Irish with a cockney English accent.
NEW MEMBERS

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

Nicola L. Barclay, PhD  Northumbria University, Newcastle upon Tyne, Tyne & Wear, United Kingdom
Cary A. Brown, PhD  University of Alberta, Edmonton, AB Canada
Paul R. Carney, MD  University of Florida, Gainesville, FL
Diane L. Carroll, PhD, RN  Massachusetts General Hospital, Boston, MA
Lawrence P. Carter, PhD  Bloomington, IN
Jose Marcondes De Jesus  Sonomed, Aracaju Brazil
Gabriella Gobbi, MD, PhD  McGill University, Montreal, QC Canada
Anne C. Hart, DPhil  Brown University, Providence, RI
Esther Yuet Ying Lau, DPhil  The University of Hong Kong, Hong Kong
Andrew Liu, PhD  Massachusetts Institute of Technology, Cambridge, MA
David C. Mack, PhD  WellAWARE Systems, Inc, Glen Allen, VA
Madalina Macrea, MD  Roanoke, VA
Robert Mark, PhD  Merck & Co, Inc, Whitehouse Station, NJ
Annette J. McDonough, PhD  Tewksbury, MA
Jennifer J. McGrath, PhD  Concordia University, Montreal, QC Canada
Philippe Mourrain, PhD  Stanford University, Stanford, CA
Benjamin H. Natelson, MD  Department of Pain Medicine & Palliative Care, New York, NY
Valerie E. Rogers, PhD, RN  University of Maryland School of Nursing, Baltimore, MD
Heidi L. Roth, MD  University of North Carolina, Chapel Hill, NC
Lewis K. Shin, MD  Stanford University, Stanford, CA
Marie Pierre St Onge, PhD  New York Obesity Nutrition Research Center, New York, NY
Douglas M. Wallace, MD  University of Miami, Miami, FL
Mark R. Zellmer, PhD, PA  Mayo Clinic, Rochester, MN

ASSOCIATE MEMBERS

Kate Randell  University of Glasgow, Glasgow, United Kingdom

POST DOCTORAL FELLOWS

Ajibola M. Adedayo, MBBS  SUNY Downstate Medical Center, Brooklyn, NY
Huiyan Huang, PhD  Brown University, Providence, RI
Scott E. Johnson, MD  Wisconsin Sleep, Madison, WI
Lorena Jung, PhD  Herndon, VA
Danielle M. Novick, PhD  University of Michigan, Ann Arbor, MI
Victoria M. Pak, PhD  University of Pennsylvania, Philadelphia, PA
Lisa J. Rogers, DPhil  Brooklyn, NY
Anne Venner, PhD  BIDMC, Boston, MA
Wei Wang, MD, PhD  Brookline, MA

PREDOCCTORAL STUDENTS

John A. Albers  Saint Louis, MO
Bengi Baran  University of Massachusetts-Amherst, Amherst, MA
Ashten L. Bartz  Bethel, CT
Heather L. Bennett  Brown University, Providence, RI
Kelly A. Bennion  Boston College-Psychology Department, Chestnut Hill, MA
Dominik C. Benz  Winterthur, Zurich Switzerland
Ryan M. Bottary  Hull, MA
Carolina Campanella  Decatur, GA
Sarah Cecil, APN  Associates in Neurology, Lexington, KY
Nicola Cellini  University of Padova, Padova, PD Italy
Sarah Crosby  Williamstown, MA

Continued on the following page →
NEW MEMBERS

Ryan D. Davidson  
University of Arizona, Tucson, AZ

Lauren R. Dean  
Tucson, AZ

Caitlin C. Estes  
Ossipee, NH

Liisa Hantsoo  
Chicago, IL

Aubree Hoepner  
Sleep for Science Research Lab, Providence, RI

Tony Ip  
CQ University, Rockhampton, QLD Australia

Christina S. Khou  
Chicago, IL

Allison Kong  
Rush Sleep Disorders Service and Research Center, Chicago, IL

Jacqueline Koshorek  
Henry Ford Health System, Detroit, MI

Laura Kurdziel  
University of Massachusetts-Amherst, Amherst, MA

Linden Lalley-Chareczko  
Philadelphia, PA

Nicolette Leto  
Worcester, MA

Piotr W. Mankowski  
B Brigham & Women’s Hospital, Boston, MA

Hunter L. Mathews  
The Woodlands, TX

Shakir McLean  
The Warren Alpert Medical School of Brown University, Providence, RI

Kelsey K. Meekins  
Virginia Beach, VA

Melissa A. Michaels, NP  
El Paso, TX

Marie-Pier Normand  
Sherbrooke, QC Canada

Gloria H. Park  
Philadelphia, PA

Kristina M. Puzino  
Philadelphia, PA

Sylvia Radzikowski  
University of Michigan, Ann Arbor, MI

Andrew R. Rivera  
Boston, MA

Iona V. Ross  
Portsmouth, RI

Karan Paul  
Sanghera University of Toronto, Markham, ON Canada

Johanna F. Schwarz  
Stockholm University, Stockholm Sweden

Stephanie M. Sherman  
Austin, TX

Kristy Shoji  
University of Alabama, Tuscaloosa, AL

Akshata Sonni  
University of Massachusetts, Amherst, MA

David A. Stanley  
Gainesville, FL

Sara S. Tan  
Singapore, Singapore

Zoltan Torontali  
University of Toronto, Toronto, ON Canada

Erica Wager  
Tucson, AZ

Kristine A. Wilckens  
University of Pittsburgh, Pittsburgh, PA

Helena C. Yardley  
Longmont, CO

An-Yun Yeh  
Ann Arbor, MI

UNDERGRADUATE STUDENTS

Emmanuel Aguero  
Baytown, TX

Matthew P. Bellefleur  
University of Michigan Health System, Ann Arbor, MI

Mary Catherine A. Bender  
University of Michigan, Ann Arbor, MI

Elliott K. Berkowitz  
Sturgis Philadelphia, PA

Courtney Birchall  
Stonehill College, Easton, MA

Daniel W. Brodmerkel  
Roxbury Crossing, MA

Lauren Chin  
Worcester, MA

Abram Davidov  
University of Michigan, Ann Arbor, MI

Rachael Donnelly  
Stonehill College, Easton, MA

Kyra R. Edson  
Philadelphia, PA

Maura Ferrarini  
Stonehill College, Easton, MA

Shalini G. Goklan  
Boston, MA

David D. Gray  
Charlotte, NC

Shayla D. Kranovich  
Reno, NV

Selma Lekkerkerker  
Oegstgeest, Zuid-Holland Netherlands

Lisa Lombardini  
Stonehill College, Easton, MA

Michael E. Maiden  
Boston, MA

Elie S. Majdalani  
Pawtucket, RI

Andrea I. Montero  
Brown University, Providence, RI

Continued on the following page →
NEW MEMBERS

Matthew O’Malley  Sleep and Cognitive Neuroscience Laboratory at Boston University School of Medicine, Boston, MA
Emily Palmisano  Stonehill College, Easton, MA
Ashley Proctor  Stonehill College, Easton, MA
David T. Sanford  Ann Arbor, MI
Christina D. Stavrakas  South Kingstown, RI
Erin C. Swor  Beverly Hills, MI
Angeli Thawani  Boston, MA
Gabriela A. Velazquez  Chicago, IL
Qian We  Gettysburg College, Gettysburg, PA