



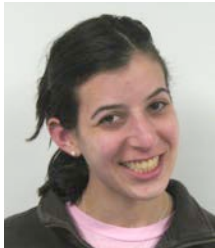
WILLIAM C. DEMENT
SLEEP AND CHRONOBIOLOGY
BEHAVIORAL SCIENCE
RESEARCH APPRENTICESHIP

Retreat Colloquium

20-22 August 2012

Whispering Pines Conference Center
URI Alton Jones Campus, West Greenwich, RI

Summer Sleep Retreat, 2012

Monday	Event	Speaker	Topic
1200	Lunch		
1330		Allison Brager, PhD, Young Investigator	Of Mice, Sleep, and Disease
1430	Break		
1500		Leanna Garb, Dement Fellow	Drowsy Driving and Obstructive Sleep Apnea
1515		Ryan Davidson, Dement Fellow	Intimate Partner Violence and Sleep in Children
1530		Erica Wager, Dement Fellow	Insufficient Sleep in Adolescents: Trouble Paying Attention
1545	Break		
1615		Elie Majdalani, Dement Fellow	The Association Between Sleep and General Anxiety Disorder

Summer Sleep Retreat, 2012

Monday	Event	Speaker	Topic
1630		Ashten Bartz, Dement Fellow	Sleep-Dependent Memory Consolidation and Dreams
1645		Nicolette Leto, Dement Fellow	The Effects of Sleep Loss on Regulating Inflammation and Type 2 Diabetes
1715	Hors d'oeuvres		
1800	Dinner		
1930		William C. Dement, MD, PhD	An Evening with Dr. Dement-- Reminiscences from 60 Years of Sleep: Science, Medicine, Politics—just ask...
2100	Camp Fire		
2230	Lights Out		

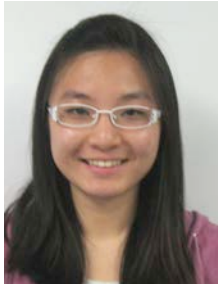
Summer Sleep Retreat, 2012

Tuesday	Event	Speaker	Topic
0900		Michael Grandner, PhD, Young Investigator	Sleep as a Health Behavior: Contextual Determinants and Cardiometabolic Outcomes
1000		Robert Daly, MA	ADHD in Children: The Evolution of a Chemoreflex- Driven Severe Arousal
1030	Break		
1100		Ryan Bottary, Dement Fellow	Sleeping on (and off) The Job: Sleep Loss, Shift Work, and Cognitive Performance
1115		Christina Stavrakas, Dement Fellow	Autism and Sleep
1130		Iona Ross, Dement Fellow	Individual Differences in Cognitive Performance After Sleep Loss
1200	Lunch		

Summer Sleep Retreat, 2012

Tuesday	Event	Speaker	Topic
1330		Brady Riedner PhD, Young Investigator	High-Density EEG imaging in sleep
1430	Break		Change into 'Play Clothes'
1445	Walk in the Woods	Assemble in Groups as Instructed	Small Group Conversations about Graduate/Medical School, Careers, etc.
1600	Assemble at Playground	Games!	[Please return from the Walk in the Woods promptly]
1715	Hors d'oeuvres		
1800	Dinner		
1930	Fun Night	Dement Fellows and Others Arrive at 1930	Faculty, Young Investigators, Staff: Assemble in Conference Center at ~ 1915 to Set Up
2130	Camp Fire		
2300	Lights Out		

Summer Sleep Retreat, 2012

Wednesday	Event	Speaker	Topic
0930		Erin Evans, PhD ALM RPSGT, Young Investigator	Sleep duration, disruption, hypnotic use and circadian misalignment among space shuttle astronauts
1030	Break		
1100		Qian Grace Wei, Dement Fellow	Sleep Disturbance and Treatment in Depressed Patients
1115		Sarah Crosky, Dement Fellow	Adaptive Properties of Sleep and Social Consequences
1130		Andrea Montero, Dement Fellow	Down Syndrome and Sleep
1145		Mary A. Carskadon, PhD, Program Director	Thanks and Farewell
1200	Lunch		

Summer Sleep Retreat, 2012

Young Investigator Presentations

**Allison Brager, PhD, Postdoctoral Fellow, Neuroscience Institute,
Morehouse School of Medicine, Atlanta, GA**

Of Mice, Sleep, and Disease

My research aims to understand sleep and circadian processes in mice at behavioral, physiological, and genetic levels. In recent years, the mouse has become a useful tool to study sleep and circadian processes and disease states at a pre-clinical level because gene expression can be conditionally changed before birth or in adulthood and surgical and pharmacological manipulation can be undertaken. To date, I have studied how disruption of the circadian clock genes *Per2* and *Bmal1* contribute to increased daily drug (alcohol and cocaine) intake and differential muscle metabolism manifest from changes in daily rhythms and amounts of sleep and wakefulness. Of greatest interest, my laboratory has produced a mouse line that allows us to alter *Bmal1* expression in specific tissues, including the brain and skeletal muscle. This has permitted us to identify a physiological regulator of sleep and wakefulness that lies outside the central nervous system. So far, we have found that mice that have unique *Bmal1* expression specific to the skeletal muscle have reductions in sleep intensity and impaired recovery from short-term sleep loss. There are also complementary differences in levels of neuronal activity in brain areas regulating sleep/wake as well as differences in glucose metabolism and myofilament makeup in the skeletal muscle of these *Bmal1* mice compared with controls. Overall, this suggests a brain-skeletal muscle axis influence on sleep and wakefulness.

**Michael A. Grandner, PhD, Research Associate, Division of Sleep
Medicine, Department of Medicine, University of Pennsylvania,
Philadelphia, PA**

Sleep as a Health Behavior: Contextual Determinants and Cardiometabolic Outcomes

Sleep duration and/or quality are associated with weight gain and obesity, cardiovascular disease, stroke, diabetes, depression, substance use, auto accidents, and cognitive impairments. This may explain why sleep duration is associated with mortality. Like diet and exercise, sleep is a key part of health, and community-based interventions for improving sleep are needed. But before these approaches can be designed and implemented, several steps need to be taken. First, we need to better understand what the relevant clinical endpoints for an intervention would be—What are the health variables that are impacted by habitual sleep patterns (and might be modifiable with intervention)? Second, we need to better understand what the relevant targets and risk groups for an intervention would be—What are the contextual factors that predispose or lead to impaired sleep? Results from several studies will be presented, addressing these questions. Specifically, data from the 2006 BRFSS (regarding sleep disturbance and daytime fatigue), 2009 BRFSS (regarding sleep duration and insufficiency), and 2007-2008 NHANES (regarding sleep duration and symptoms) will be presented, both in terms of contextual determinants and cardiometabolic outcomes. Ongoing studies, blending epidemiologic, clinical, and laboratory methods, will also be described and preliminary results will be presented.

Summer Sleep Retreat, 2012

Brady A. Riedner, PhD, Assistant Scientist, University of Wisconsin-Madison Department of Psychiatry, Madison, WI

High-Density EEG imaging in sleep

Sleep is an intriguing focus of neuroscientific study for at least two reasons: 1) the function of sleep is still unknown despite its pervasiveness in the animal kingdom and its power as a biological need; 2) sleep offers a unique view of the spontaneous activity of the brain unconfounded by individual differences in attention level, motivation, or cognitive capacity. Until recently, however, most studies of sleep in humans have focused on characterizing sleep architecture using just a few electroencephalographic (EEG) channels. My research capitalizes on the particular advantages of high-density (256 channels) EEG imaging to demonstrate how the spatial and temporal dynamics of characteristic sleep events, such as slow waves and spindles, can be used as sensitive indicators of local and/or global alterations in brain function. Using hd-EEG as a tool to explore sleep in a range of clinical and healthy populations promises to inform not only our understanding of sleep, but also normal and atypical brain development and plasticity.

Erin Evans, PhD, ALM, RPSGT, Research Fellow, Division of Sleep Medicine, Harvard Medical School Brigham and Women's Hospital, Boston, MA

Sleep duration, disruption, hypnotic use and circadian misalignment among space shuttle astronauts

The success of current and future manned spaceflight demands that astronauts maintain peak levels of alertness and performance throughout mission operations; however, astronauts are often required to perform while under acute and chronic sleep deprivation at sub-optimal times of day. Insufficient sleep is associated with cognitive impairment and decreased vigilance, which are critical to the success of mission operations. Prior research has found that sleep in space tends to be shorter than sleep on the ground and that use of sleep medications is widespread. Several factors, such as circadian misalignment, noise, temperature and urine voids have been identified as causing disruption to sleep in space.

Summer Sleep Retreat, 2012

2012 William C. Dement Fellows

Ashten Bartz

Rising senior , Vassar College

Ryan Bottary

Rising senior, University of Massachusetts Amherst

Sarah Crosky

Rising senior, Brown University

Ryan Davidson

1st year grad student, University of Arizona

Leanna Garb

Rising senior, University of Arizona

Nicolette Leto

2012 graduate, College of the Holy Cross

Elie Majdalani

Rising sophomore, University of Rhode Island

Andrea Montero

Rising 2nd semester junior, Brown University

Iona Ross

Rising junior, University of Rhode Island

Christina Stavrakas

Rising senior, University of Rhode Island

Erica Wager

1st year grad student, University of Arizona

Grace Qian Wei

Rising senior, Gettysburg College

Summer Sleep Retreat, 2012

Research Apprenticeship Faculty, Staff, & Trainees

APPRENTICESHIP FACULTY

**Alpert Medical School of Brown University,
Department of Psychiatry and Human
Behavior**

Mary A. Carskadon, PhD, Director

John McGeary, PhD

Brandy Roane, PhD

Ron Seifer, PhD

Eliza Van Reen, PhD

**Alpert Medical School of Brown University,
Department of Medicine**

Katherine M. Sharkey, MD, PhD

**Valencia College, Department of
Communications**

Kathleen Perri, MA

Periodic Breathing Foundation

Robert Daly, MBA

POSTDOCTORAL TRAINEES

Brown University

Kathryn Orzech, PhD

RETREAT VISITING FACULTY

Brown University

Rachel Herz, PhD

Alpert Medical School of Brown University

Christine Acebo, PhD

Thomas F. Anders, MD

Willoughby Britton, PhD

SLEEP LAB RESEARCH STAFF, E.P. BRADLEY HOSPITAL

David Bushnell, Sr. Research Assistant

Erin Campopiano, Research Assistant

Marcy D'Uva, Research PSG Technologist

Sharon Driscoll, Research Assistant

Max Elliott, Administrative Secretary

Katie Esterline, Research PSG Technologist

Ellyn Ferriter, Sr. Research PSG
Technologist

Maya Gibbes, Data Entry Specialist

Caroline Gredvig-Ardito, Data Manager &
IRB Coordinator

Lauren Hill, Research PSG Technologist

Michelle Loxley, Programmer

Allyson Schumacher, Research PSG
Technologist

PERINATAL SLEEP RESEARCH STAFF, RI HOSPITAL

Aubree Hoepper, Research Assistant

Ijeoma Iko, Brown Medical Student

ACKNOWLEDGEMENTS

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