



Sleep for Science

Brown University

Bradley Hospital

William C. Dement
Sleep and Chronobiology Behavioral
Science Research Apprenticeship

Retreat Colloquium

22-24 August 2005

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

Monday	Event	Speaker	Topic
1200	Lunch		
1315		Daniel J. Taylor, Ph.D., Young Investigator	Sleep and Sleep Disorders as Risk Factors for Health and Academic Problems in College Students
1415	Break		
1445		Edward Huntley	Sleep and Immune Function
1500		Whitney Mostafiz	From ZZZ's to A's: Sleep Deprivation & School
1515		Amanda Tow	Sleep Deprivation and Residency
1530		Christine Tang	Sleep Paralysis
1545	Break		

Monday	Event	Speaker	Topic
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1615



Jenne Breslin

Sleep, Insight, and Creative
Problem Solving

1630



Caity Hager

Sleepiness and Driving

1645



Paul Krueger

Lucid Dreaming: Branching
Scientific and Buddhist Traditions

1700



Anita Batra

Obstructive Sleep Apnea and the
Obesity Epidemic

1730

Hors d'oeuvres

1800

Dinner

1930
**Special
Event**



William C.
Dement, M.D.,
Ph.D.

Walla Walla, Washington to
Stanford University: How I Got
Started in Sleep Research

Tuesday	Event	Speaker	Topic
0800	Breakfast		
0915		Lisa J. Meltzer, Ph.D., Young Investigator	Impact of Sleep Disruptions on Children with Chronic Illnesses and Their Caregivers
1030	Break		
1045		Vian Yousify	Sleep and Epilepsy
1100		Nate Parker	Behavioral and Cognitive Therapies for Insomniacs
1115		Rona Kertesz	Insomnia: A Neurocognitive Perspective
1130		April Whiting	Sleep and Pregnancy
1145		Alana O'Malley	Sleep Disturbance in Children with Autism
1200	Lunch		
Tuesday	Event	Speaker	Topic

1315		Melissa M. Burnham, Ph.D., Young Investigator	Sleep is Sleep...or Is It? Examining the Role of Environmental Context in Sleep Development
1430	Break		
1445		Emily Stephen	Circadian Rhythms in Blind People
1500		Henry Arantes	REM sleep Learning Memory and Alpha Activity
1515	Break		
1530	Special Event	All	Woodland Chat with Faculty (Return by 1630 to prep for F&G)
1640	Fun & Games	All	Meet in the Field in “Play Clothes”
1800	Dinner		
1930	FUN NIGHT	All	Conference room off-limits until 1930.

Wednesday	Event	Speaker	Topic
0800	Breakfast		
0915		Sat Bir S. Khalsa, Ph.D., Young Investigator	An Evaluation of Yoga as a Treatment for Chronic Insomnia
1015	Break		
1030		Stephanie Crowley	Adolescent Weekend Sleep Behavior: Implications for Weekday Circadian Timing and Daytime Function
1100		Tracy L. Rupp	Performance and Sleepiness on Late Nights With and Without Alcohol
1130		Eliza Van Reen	Sleep in Patients with Breast Cancer
1145		Mary A. Carskadon, Ph.D.	Farewell
1200	Lunch		

Young Investigator Presentations

Daniel J. Taylor, Ph.D., Assistant Professor, Department of Psychology, University of North Texas, Denton, TX

Sleep and Sleep Disorders as Risk Factors for Health and Academic Problems in College Students

The transition from high school to college presents many challenges, including: leaving home in many cases, changing peer groups, social issues, becoming more independent, all the while maintaining academic performance. Sleep and sleep habits also undergo significant changes during this time due to both psychosocial and biological factors. These sleep changes have been associated with decreased academic functioning. However, we know little about the prevalence of sleep disorders in a college population or the long-term risk these sleep disorders pose for (a) academic performance (b) psychiatric and medical problems, (c) healthcare utilization, and (d) high risk health behaviors. Moreover, to our knowledge, nothing is known about the effect pre-college summer sleep schedules have on the above factors (a-d). Our primary hypothesis is that individuals with diagnosable sleep disorders at baseline and those with a significantly delayed sleep phase during the summer, will be at increased risk for decreased academic performance, increased psychiatric and medical disorders, increased health care utilization, and increased high risk health behaviors, after controlling for baseline medical and mental disorders.

Lisa J. Meltzer, Ph.D., Clinical Psychologist, The Sleep Center, Division of Pulmonary Medicine, The Children's Hospital of Philadelphia, Philadelphia, PA

Impact of Sleep Disruptions on Children with Chronic Illnesses and Their Caregivers

While children with chronic illnesses and their caregivers have been found to have higher rates of anxiety and depression, and poorer coping and adjustment compared to healthy controls, few studies have looked at the role of sleep in the daytime functioning of these populations. As most children and caregivers were functioning normally prior to diagnosis, we are examining a non-pathological explanation for these differences, namely the impact of sleep disruptions on daytime functioning for children with chronic illnesses and their caregivers. I will present the findings from two studies that have examined this theory. In the first study, we examined sleep patterns in 26 female adolescents with chronic musculoskeletal pain syndromes, finding significant differences in terms of sleep patterns (i.e., sleep onset latency, night wakings, morning wake time, daytime sleepiness) compared to a healthy normative population. In addition, a relationship was found between reported pain and total sleep time, with increased sleep related to lower pain ratings. In the second study, we interviewed 106 caregivers of children with chronic illnesses and 48 caregivers of healthy children. Significant differences in sleep patterns were found, including morning wake time and total sleep time. In addition, caregivers of children with chronic illnesses reported poorer quality sleep and more sleep disruptions. Finally, I will discuss the development of a new method to assess sleep patterns used in both studies, increasing the reliability and validity of self-reported sleep patterns.

Melissa M. Burnham, Ph.D., Assistant Professor of Child Development & Early Childhood Education, Department of Human Development & Family Studies, University of Nevada, Reno, Reno, NV

Sleep is Sleep...or Is It? Examining the Role of Environmental Context in Sleep Development

The seminal work of Urie Bronfenbrenner in 1979 provoked developmental psychologists to consider the role of interactions and multiple environmental contexts in the study of human development. Indeed, Bronfenbrenner (1979) purported that development cannot be studied out of context and duly noted that, “much of developmental psychology...is the science of the strange behavior of children in strange situations with strange adults for the briefest possible periods of time” (pp. 18-19). Much of the extant data on sleep development were derived from similar strange situations: one night of sleep measurement in the laboratory, a few hours of polysomnography in the hospital, and the like. Individual differences are often ignored in favor of examining group means; reasons behind individual differences are thus overlooked. These differences can be attributed, at least partly, to the rich differences in context that individuals experience. Researchers are just beginning to examine the role of different environmental contexts on the development of sleep, and there are more questions than answers at this early stage of inquiry. The research presented in this talk represents a small initial step in the attempt to examine the effects of different contexts on the sleep of infants and young children. Pilot data will be presented on the potential impact of the proximal sleep environment (in this case, bed-sharing versus solitary sleeping) on the early development of diurnal rhythmicity in human infants. Then, a different set of data will be presented on the potential impact of the quality of a child care setting on preschool-aged children’s sleep. It is the goal of this presentation to illustrate the importance, or potential importance, of examining the contexts in which sleep occurs in order to begin to fully understand this fascinating aspect of human development.

Sat Bir S. Khalsa, Ph.D., Instructor in Medicine, Harvard Medical School, Sleep Disorders Program, Division of Sleep Medicine, Brigham and Women's Hospital, Boston, MA

An Evaluation of Yoga as a Treatment for Chronic Insomnia

There is good evidence for cognitive and physiological arousal in chronic insomnia. Yoga is a multicomponent practice known to be effective in reducing arousal, although it has not been well evaluated as a treatment for insomnia. In this preliminary study, a simple daily yoga treatment was evaluated in a chronic insomnia population consisting of sleep-onset and/or sleep-maintenance insomnia and primary or secondary insomnia. Subjects maintained sleep-wake diaries during a pre-treatment 2-week baseline and a subsequent 8-week intervention, in which they practiced the treatment on their own following a single in-person training session with subsequent brief in-person and telephone followups. Sleep efficiency (SE), total sleep time (TST), total wake time (TWT), sleep onset latency (SOL), wake time after sleep onset (WASO), number of awakenings, and sleep quality measures were derived from sleep-wake diary entries and were averaged in 2-week intervals. For 20 subjects completing the protocol, statistically significant improvements were observed in SE, TST, TWT, SOL and WASO at end-treatment as compared with pre-treatment values. In a subset of 10 subjects, significant reductions in levels of 24-hour urinary cortisol and catecholamines were also observed, suggesting that the yoga treatment may exert its effect through a reduction in physiological arousal.

2005 William C. Dement Fellows

Anita Batra

Rising Senior, Brown University

Jennifer H. Breslin

Graduate Student, University of Arizona

Caity Hager

2005 Graduate, Bates College

Edward Huntley

Graduate Student, American University

Rona Kertez

Graduate Student, Brock University

Paul Krueger

Rising Junior, Brown University

Whitney Mostafiz

Rising Sophomore, Brown University

Alana O'Malley

Rising Senior, Brown University

Nathan Parker

Rising Junior, Johns Hopkins University

Emily Stephen

Rising Junior, Brown University

Christine Tang

2004 Graduate, Cornell University

Amanda Tow

Rising Junior, Brown University

April Whiting (Senior Fellow)

Rising senior, Smith College

Vian Yousify

Rising Senior, Washington State University

2005 William C. Dement Fellows

APPRENTICESHIP FACULTY

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Psychiatry and Human Behavior**

Christine Acebo, Ph.D.
Mary A. Carskadon, Ph.D., Apprenticeship
Director
Gahan Fallone, Ph.D., Associate
Apprenticeship Director
Ron Seifer, Ph.D.

**Valencia Community College, Department of
Communications**

Kathleen Perri, M.A.

TEACHING ASSISTANTS

Brown University, Department of Psychology

Stephanie Crowley
Eliza Van Reen

RETREAT VISITING FACULTY

Brown University, Department of Psychology

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Brown University, Human Development Center

Monique LeBourgeois, Ph.D.

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Elizabeth Forbes, M.D.
Judith Owens, M.D.

Brown Medical School, Department of Medicine

Michael L. Stanchina, M.D.

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Heather Pelletier, Research Assistant
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