

Orfeu M. Buxton, Ph.D.
Curriculum Vitae

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Place of Birth: Madison, Wisconsin

Education

1991	B.S.	Behavioral Neuroscience	University of Pittsburgh Pittsburgh, PA
2000	Ph.D.	Neuroscience, Mentors: Eve Van Cauter, Fred Turek	Northwestern University Evanston, IL

Postdoctoral Training

2000-2003	Post-Doctoral Fellow, mentor Eve Van Cauter	Section of Endocrinology, Department of Medicine	University of Chicago Chicago, IL
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Faculty Academic Appointments

2003-2011	Instructor	Medicine	Harvard Medical School Boston, MA
2011-2014	Assistant Professor	Medicine	Harvard Medical School Boston, MA
2013-2014	Assistant Professor	Social and Behavioral Sciences	Harvard School of Public Health, Boston, MA
2013-2018	Associate Professor	Biobehavioral Health	Pennsylvania State University, University Park, PA
2014-	Lecturer	Medicine	Harvard Medical School Boston, MA
2014-	Adjunct Associate Professor	Social and Behavioral Sciences	Harvard Chan School of Public Health, Boston, MA

2018-	Professor	Biobehavioral Health	Pennsylvania State University, University Park, PA
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Appointments at Hospitals/Affiliated Institutions

2003-present	Associate Neuroscientist	Sleep Health Institute, Division of Sleep and Circadian Disorders, Departments of Medicine and Neurology	Brigham and Women's Hospital, Boston, MA
2011-present	Affiliated faculty and member	Harvard Center for Population and Development Studies	Harvard Chan School of Public Health, Cambridge MA
2013-present	Affiliated faculty	Graduate Program in Neuroscience	Pennsylvania State University, University Park, PA
2014-present	Affiliated faculty	Population Research Institute	Pennsylvania State University, University Park, PA
2014-present	Affiliated faculty	Integrated Graduate Degree Program (IGDP) in Physiology	Pennsylvania State University, University Park, PA
2016-present	Affiliated faculty; Chair, Admissions Committee	Faculty mentor Big Data (BD2K) Training Grant	Pennsylvania State University, University Park, PA

Committee Service

Local

2004-2013	Education Committee	Harvard Medical School / Division of Sleep Medicine
2004-2013	Chair	
2010-present	Advisory Board	Center for Work, Health, and Well-being, Harvard School of Public Health member
2011-2016	Steering Committee of the Training Program in Sleep, Circadian and Respiratory Neurobiology	Brigham & Women's Hospital and Harvard Medical School
2011-2016	Associate Preceptor	
2012-2013	Administrative Core Advisory Committee	Division of Sleep Medicine, Department of Medicine, Brigham & Women's Hospital member
2014-2016	Department Head Advisory Committee	Department of Biobehavioral Health, Pennsylvania State University

2014-2016	Steering Committee	Social Science Research Institute, Pennsylvania State University
2014-present	Integrated Graduate Degree Program in Neuroscience (Penn State T-32)	Faculty mentor
2014-present	Integrated Graduate Degree Program in Physiology (Penn State T-32)	Faculty mentor
2016-present	“Biomedical Big Data to Knowledge (B2D2K)” (Penn State Predoctoral T-32)	Faculty mentor; Chair, Admissions Committee
2016-present	Steering Committee, Clinical Research Center, Clinical and Translational Science Institute, Pennsylvania State University	Chair

National and International

2000-2001	Post-doctoral Association Survey Committee	University of Chicago
	2000-2001	Member
2001-2003	Post-doctoral Association Executive Board	University of Chicago
	2001-2003	Chair
2002-2003	Post-doctoral Advisory Committee	Univ. of Chicago, Biological Sciences Div
	2002-2003	Co-chair
2004-2014		Fayerweather Street School, Cambridge MA
2004-2011	Finance Committee	Member
2009-2014	Board of Directors	Member
2010-2013	Board of Directors	Vice-President
2009-2012	Nominations Committee	member
2011-2012	Nominations Committee	Chair
2006- 2010	Society for Neuroscience Datablitz Program & Organizing Committee	National Center for Sleep Disorders Research (NHLBI) & Society for Neuroscience
		Member
2009-present	Steering Committee	Work, Family, and Health Network
	2009-present	Member
	2013-present	Co-Chair
Peer review	(NIH/NSF grants)	
2015	NIH/NIA Special Emphasis Panel, <i>Harmonizing the Health and Retirement Study (HRS)</i>	Invited peer reviewer
2016	NIH Special Emphasis Panel, 2016/05 ZRG1 BCMB-A (51), R - RFA-RM15- 005: Transformative Research	Invited peer reviewer

2016	P01 review [ZAG1 ZIJ-4 (O1)] and representative at "second stage review" [ZAG ZIJ-7 (O2)]	Invited peer reviewer
2016	NSF Phase II SBIR/STTR: Advanced Instrumentation Panel (PANEL ID: P161543)	Invited peer reviewer
2017	NIH/NHLBI Mentored Patient Oriented Research (K23/K24/K25) Special Emphasis Panel/Scientific Review Group 2017/05 MPOR (MA) 1	Invited peer reviewer
2018	Nursing and Related Clinical Sciences (NRCS) Special Emphasis Panel (SEP) ZRG-1 NRCS V 08	Invited peer reviewer
2018	NIH/NIA ZAG1 ZIJ-7 (O1) Second Stage Review	Invited peer reviewer

Professional Societies

1993-2004	Society for Research of Biological Rhythms	
	2001-2004	Chair, Ad hoc Trainee Committee
1998-	Sleep Research Society	
	2005-2008	Member, Educational Programs Committee
	2006-2008	Vice-Chair, Educ. Programs Committee
	2011-2016	Member, Research Committee
	2014-2015	Vice-Chair, Research Committee
	2015-2016	Chair, Scientific Review Committee (formerly, "Research Committee")
2000-2004	American Physiological Society	Member
2001-2016	Endocrine Society	Member
2002-	National Postdoctoral Association	Member
	2002-2003	Co-founder, Steering Committee
	2002-2003	Member, Steering Committee
	2003-2004	Member, Executive Committee
	2003-2004	Chair, Publications Committee
	2003-2004	Editor, nationalpostdoc.org
2013-2016	Work & Family Research Network	Member
	2013-2016 Program Committee	Member

Editorial Activities

Editorial Board member, SLEEP, May 2014- present
Editorial Board member, SLEEP HEALTH, October 2014- present
Associate Editor, SLEEP HEALTH, July 2015- present

Ad Hoc Reviewer:

Journal of Biological Rhythms
American Journal of Physiology
Sleep
Journal of Applied Physiology
Child Development
Archives of Internal Medicine
Chronobiology International
American Journal of Epidemiology
Journal of Clinical Sleep Medicine
Sleep Medicine
PLoS One
The Primary Care Companion
Social Science & Medicine
American Journal of Clinical Nutrition
Women's Health Issues
Annals of Internal Medicine
Diabetic Medicine
Behavioral Sleep Medicine
Journal of Occupational Health Psychology
Group Dynamics
Bipolar Disorders
Journal of Environmental and Public Health
Work & Stress
Mind, Brain and Education
Hypertension Research
Preventive Medicine
Journal of Sleep Research
BMJ Open
American Journal of Industrial Medicine
JAMA
Science and Nature of Sleep
Journal of Physiology
CHEST
Critical Care
Clinica Chimica Acta
The Lancet Diabetes & Endocrinology
Journal of Clinical Endocrinology and Metabolism
Nutritional Neuroscience
Sleep Health
Economics and Human Biology
Demography
Journal of Hospital Medicine
Proceedings of the National Academy of Sciences (PNAS)
Circulation
Nature Communications

Honors and Prizes

1986-1990	Chancellor's Scholarship	University of Pittsburgh	4-year merit award
1990	National Honor Award	Golden Key	Academic merit
1993	Graduate Fellowship	Northwestern University Institute for Neuroscience	
1999	First Prize, Poster Presentation	University of Chicago Neuroscience Day	
2001	National Research Service Award	National Heart, Lung, and Blood Institute of the National Institutes of Health	<i>Postdoctoral F32 fellowship declined for overlap</i>
2001	Pickwick Post-Doctoral Fellowship	National Sleep Foundation	2-yr competitive award
2010	Harvard University Certificate of Distinction in Teaching	Harvard University	
2011	Harvard University Certificate of Distinction in Teaching	Harvard University	

Report of Funded and Unfunded Projects

Funding Information

Past

- 2003-2004 Effects of extended work hours on ICU patient safety.
Investigator-initiated grant (NIH)
Co-Investigator
- 2004-2005 A 12 Week, Randomized, Double Blind, Placebo Controlled, Parallel Group Study to
Evaluate the Efficacy and Safety of CEP 10953 (150 mg) as Treatment for Adults With
Excessive Sleepiness Associated With Chronic Shift Work Sleep Disorder.
Sponsor-initiated Phase IIIB clinical trial (Cephalon Inc)
Project Leader
Goal: The purpose of this trial was to evaluate efficacy and safety of modafinil for a new
indication.
- 2004-2006 Effects of Tiagabine on Growth Hormone and Sleep in Older Persons
Investigator initiated research project (Cephalon Inc)
PI (\$350,000)
The purpose of this study was to test the hypothesis that increasing the depth of sleep in
older persons increases the amount of growth hormone secretion
- 2004-2007 Sleep Restriction, Impaired Glucose Metabolism, and Performance: The effects of
modafinil to counteract the adverse metabolic consequences of sleep restriction
Investigator-initiated clinical trial (Cephalon Inc)
PI (\$604,000)
The purpose of this study was to determine the effects of sleep restriction, with and without
modafinil treatment, on insulin sensitivity in healthy men 20-35 years of age.

- 2005-2007 Sleep and Stress as Mediators of the Socioeconomic Status and Body Mass Index (SES-BMI) Gradient among Adults
Investigator-initiated pilot research project (HSPH/RWJ Foundation)
Co-PI (\$30,000)
This pilot study tests the hypothesis that short sleep and chronic stress in part mediate the documented association of lower socioeconomic status and higher weight.
- 2005-2008 The effects of eszopiclone treatment (3mg for two months) to counteract the adverse metabolic consequences of primary insomnia
Investigator initiated individual research project (ESRC-0004, Sepracor, Inc.)
Project Leader; co-PI (\$506,610)
This investigator-initiated project examines the reversibility of the effects of chronic primary insomnia on metabolic function.
- 2006-2007 Development of a Behavioral Measure of Supervisor Support for Work and Families
Investigator-initiated pilot grant (NIH/NIOSH)
subcontract Principal Investigator (\$17,446)
The purpose of this Work-Family-Health Network pilot project was to determine specific measures and collection feasibility for workplace measures of Supervisor Support.
- 2006-2007 Comparison of different methods for measuring HbA1c in epidemiologic studies
Investigator-initiated pilot grant (NIH/NIA via the USC/UCLA Center on Biodemography and Population Health, 5P30AG017265-099002)
Principal Investigator (\$15,769)
The goal of this pilot project was to determine adequate post-collection handling and storage conditions for glycosylated hemoglobin determinations in large-scale studies.
- 2006-2008 Interaction of Chronic Sleep restriction and Circadian Misalignment on Sleep and neuro-cognitive performance: developing a new model of sleep homeostasis
Investigator-initiated grant (AFOSR)
Investigator
The goals of the project are (1) to determine the interaction of chronic sleep restriction and circadian misalignment on sleep and neurocognitive performance; (2) incorporate results into a mathematical model of human circadian rhythms and neurobehavioral performance.
- 2007-2008 Family-Responsive Workplace Policies & Practice in Small Businesses with Low-Wage and Racially/Ethnically Diverse Workers
Consortium (NIH: NIA/NICHD; NIOSH, CDC)
Subcontract Principal Investigator (\$37,769)
The goal of our interdisciplinary research network is to identify workplace practices and policies that impact the health of low-wage employees and their families and dependents so as to design effective work-based interventions to improve health outcomes.
- 2007-2008 Evidence Based Design Meets Evidence Based Medicine: Human Studies for Validating New Acoustic Guidelines for Healthcare Facilities Using a Collaborative and Trans-Disciplinary Approach for Improving Patient Outcomes
Investigator-initiated grant from
Health Design/C.H.E.R.
subcontract PI (\$50,155)
The purpose of this project is to test the hypothesis that exposure to an acoustic environment adhering to evidence-based acoustical guidelines will evoke fewer physiologic arousal responses and be more conducive to improved sleep.

- 2007-2008 Evidence Based Design Meets Evidence Based Medicine: Human Studies for Validating New Acoustic Guidelines for Healthcare Facilities Using a Collaborative and Trans-Disciplinary Approach for Improving Patient Outcomes
Investigator-initiated grant from the Facilities Guidelines Institute (FGI)
subcontract PI (\$25,055)
The desired outcome of our second research phase of this investigator-initiated research program is the implementation of a virtual soundscape environment for experiments on human subjects to demonstrate effects of the standard hospital room environment.
- 2008-2011 Effects of daytime eszopiclone administration in shift workers on overnight wakefulness during a subsequent simulated nightshift
Investigator initiated individual research project (ESRC-0997, Sepracor, Inc.)
PI (\$599,000)
- 2009-2010 The goal of this project is to determine whether improving daytime sleep quality in shiftworkers improves subsequent nighttime wakefulness and neurobehavioral performance.
NIH/NCRR UL1 RR025758 from the Harvard Catalyst (Harvard College and Harvard Medical School Foundation)
Co-Investigator
The goal of this pilot project was to determine the impact of genetic variants of *MTNR1B* on circadian, metabolic and sleep variables and to help explain the increased risk for the development of diabetes in carriers of a diabetes risk SNP.
- 2010 Project VIVA substudy: Children's Sleep sub-study
Investigator-initiated grant (RWJ Foundation)
Co-Investigator
The goal of this pilot project was to validate a parental report of child sleep versus actigraphy and diary measures of sleep
- 2009-2011 Overall Project Title: "HSPH Center for Excellence to Promote a Healthier Workforce"
Sub-project Title: "Integrated approaches to improving the health and safety of health care workers: Competitive Revision to incorporate objective physiologic markers of health"

CDC/NIOSH 5U19OH008861-02
Co-Investigator; subcontract PI (BWH); member, Internal Advisory Board (\$94,965)
- 2010-2012 Impact of *MTNR1B* and *CRY2* Variants on Sleep, Circadian Physiology and Metabolism
NIH/NIDDK R21 DK089378
Co-Investigator
The goal of this project is to determine the impact of genetic variants of *MTNR1B* and *CRY2* on circadian, metabolic and sleep variables and to help explain the increased risk for the development of diabetes in carriers of the risk SNP.
- 2011-2013 "*Quantifying Change in Cardiometabolic Disease Risk*"
Robert Wood Johnson Foundation / Harvard School of Public Health
The goal of this study is to integrate novel biostatistical and epidemiological methods with cardiometabolic expertise to develop and evaluate a cumulative cardiometabolic risk score optimized on modifiable risk factors so as to detect intervention or experimental effects.
Role: Co-Investigator (M. Marino, PI) \$10,000
- 2006-2013 "Sleep, Aging, and Circadian Rhythm Disorders"
Project 3: Metabolic aging: endocrine and cardiovascular consequences of sleep restriction
NIH/NIA P01 AG009975 Program Project
Project 2 Leader (sub-project PI); (\$729,541)

- 2009-2013 Mechanisms underlying adverse health consequences of shift work
NIH/NHLBI R01 HL094806
Co-Investigator
- 2012-2014 “Quantifying Change in Cardiometabolic Disease Risk”
Harvard School of Public Health / Robert Wood Johnson Foundation pilot grant (\$10,000)
Co-investigator
- 2008-2015 Evaluating the Health Benefits of Workplace Policies and Practices - Phase II
NIH/NIA Phase II (5186989-01 NIH)
subcontract PI; member, Steering Committee (\$857,374)
Although the prevalence of “family-friendly” policies in US workplaces has increased dramatically, few have been studied using scientifically sound designs. To address this, NIH and CDC formed the Work, Family, and Health Network (WFHN). During Phase 1, the WFHN designed and conducted multiple pilot and feasibility studies. For Phase 2, the WFHN has been called upon to implement an innovative intervention based on Phase 1 pilot studies that is designed to increase family-supportive supervisor behaviors and employee control over work, and to evaluate the intervention using a group randomized experimental design.
- 2013-2015 “Archiving the occupational cohorts in the Work, Family, and Health Network”
NIH/NIA R03 AG046393-01 (\$102,079)
Role: Co-Investigator (Berkman, PI)
The Work, Family and Health Study is an ongoing, randomized, controlled trial of an innovative workplace intervention to improve employee health in two key industries, information technology and long-term care facilities. The key objectives of this project are to make WFH study data and intervention materials accessible and provide core research resources to support interdisciplinary research on the intersections between work, family and health.
- 2013-2015 "Social Determinants of Black-White Disparities in Sleep by Occupational Class"
Harvard School of Public Health, Robert Wood Johnson Foundation seed grant
Co-investigator; PI: Chandra L. Jackson, PhD, MS (Alonzo Smythe Yerby Postdoctoral Research Fellow Harvard University School of Public Health, Nutrition Department)
This project – focused on racial/ethnic and socioeconomic sleep disparities – uses a sequential, mixed methods design (deductive/quantitative research-phase I and inductive/qualitative research-phase II) to expand and deepen our understanding of potential social determinants of racial and socioeconomic sleep disparities within levels of occupational class.
- 2011-2016 Evaluating cardiometabolic and sleep health benefits of a workplace intervention
R01HL107240 (\$1,285,021)
PI; co-chair, Steering Committee
Few longitudinal experiments have evaluated the effects of work-family interventions on employee health outcomes. The Work, Family and Health Study is a randomized, controlled trial of an innovative workplace intervention to improve employee health. This Ancillary Study added objective health outcomes in mid-level managers, a focus of the intervention, to evaluate the effects of this workplace intervention on managers' cardiometabolic and sleep health, and represents a unique opportunity to study the multi-level factors influencing health in the workplace.

- 2015-2016 “Complex interactions of behavior, genes, and environment in the multi-system characterization of the effects of sleep loss on health, cardio-metabolic disease risk, cognition, and the epigenome” (\$78,000)
Penn State University, Clinical and Translational Science Institute (CTSI)
Role: Co-Investigator (Chang, PI)
- 2014-2017 “Female growth and development study 30-year follow up”
Social Science Research Institute, Penn State, Pilot (\$13,492)
Role: Co-Investigator (Noll, PI)
The lack of prospective longitudinal study has severely limited knowledge about specific mechanisms by which sexual abuse impinges on development over the life course. Studies of victims rarely span multiple developmental stages making it difficult to discern optimal intervention windows and developmental discordances that can impact adulthood competencies. This study will focus on timepoints 7-8 which extend into the participants 30s and 40s and test the relative impact of early maldevelopment on adult functioning.
- 2015-2017 “Establishing the Feasibility of a Parent-Based Intervention for 2-Year College Students” (\$5,000)
Penn State University, Social Sciences Research Institute (SSRI); M. Cleveland, PI
The primary objective of this project is to collect pilot data that will guide the implementation of an established parent-based intervention (PBI) to reduce high-risk drinking among 2-year college students. These data will examine novel mediating processes, such as sleep deprivation due to heightened work and family obligations that may influence two-year college students’ high-risk alcohol and other substance use. In addition, we will examine how neurocognitive factors, such as executive cognitive functioning and reward sensitivity, may account for links between sleep deprivation and substance use in this vulnerable and understudied population.
Role: co-Investigator
- 2016-2017 “The use of wrist-worn devices and auditory stimulation for evaluating sleep”
National Science Foundation (#1622766) to Mobile Sleep Technologies, Gartenberg, PI)
\$135,000 subcontract to Penn State, site of data collection
The goal of this study is to validate a new algorithm for detecting sleep stages using actigraphy, heart rate, and acoustic stimulation compared against polysomnography (gold standard).
Role: Subcontract Principal Investigator

Current Funding

- 2013-2019 “Sleep, Aging, and Circadian Sleep Disorders”
NIH/NIA P01 AG009975-16 (~\$12 M)
Role: initial Project leader (Project 2); now co-I with institution change, Co-Investigator (Projects 1 and 2)
Project 1: “Recurrent circadian disruption & pancreatic β -cell responsiveness in older people”
This Project will contribute to understanding the distinct metabolic risks from circadian disruption, laying the groundwork for research designed to develop therapies targeted to reduce the risk of obesity, metabolic syndrome and diabetes, and enhance the health and

quality of life of older Americans whose circadian rhythms are disrupted by age-related changes, irregular schedules, and/or night shift work.

Project 2: “Adverse metabolic impact of sleep loss in older adults: insulin resistance”

This Project will contribute to understanding the mechanisms by which sleep loss impairs metabolism in older adults, contributing to future research to reduce the risk of diabetes, improve existing therapies, and enhance the health and quality of life of older Americans whose sleep is insufficient.

- 2013-2019 “Biopsychosocial determinants of sleep and wellbeing for teens in Fragile Families”
NIH/NICHD R01 HD073352, Lauren Hale, PI (\$747,214 total subcontract to Penn State)
This study investigates the biopsychosocial and genetic determinants of adolescent sleep, and the extent to which differential sleep patterns and behaviors during childhood contribute to differences in obesity and cardiometabolic risk using the Fragile Families Study (FFS). The FFS is a national birth cohort study of health and development of children, with data collected at birth and ages 1, 3, 5, and 9, and, with recent NIH funding to locate and interview youths and mothers when the adolescents are age 15 (n~3,600). As an ancillary study to the parent FFS age 15 survey, this study collected adolescent physical activity and sleep and social/contextual predictors of these behaviors.
Role: Subcontract Principal Investigator
- 2015-2020 “Lifestyle & medication management to lower diabetes risk in severe mental illness”
(\$260,843 subcontract to Penn State)
NIH/NIDDK 1R01DK103663 - 01A1 (Wagner, PI)
Serious mental illness (SMI), including chronic depression and post-traumatic stress disorder, are known risk factors for type 2 diabetes. The overarching goal of this study is to test the relative effects of lifestyle, medication management, and collaborative care interventions on diabetes risk in persons with SMI and significant health disparities.
Role: Subcontract Principal Investigator
- 2015-2020 “Everyday Stress Response Targets in the Science of Behavior Change” (\$1,666,000)
NIH/NIA (Almeida, Smyth, mPIs)
The overarching goal of this project is to use an experimental medicine approach to develop an efficient, ecologically valid, within-person approach to measuring and intervening on the deleterious effects of everyday stress on meeting recommended levels of two health behaviors: physical activity and sleep patterns.
Role: Co-Investigator
- 2015-2020 “Parenting, Children's Sleep, and School Adjustment Across the Kindergarten Year”
NIH/NICHD R01HD087266 (Teti, PI) (\$1,274,296, current cycle)
This study will use an innovative measurement-burst design to assess child sleep (quality, duration, and lability), parenting, and co-parenting and personal distress as predictors of child sleep characteristics, with assessments obtained before kindergarten begins and three times across the school year. Children’s learning engagement, academic progress, socio-emotional functioning, executive functioning, and literacy skills will be assessed at all time points.
Role: Co-Investigator
- 2016-2020 1 T32 LM012415-01 (Ritchie, Honavar, Li)
(\$1,339,139)

- Social Science Research Institute (SSRI), Pennsylvania State University
 “Biomedical Big Data to Knowledge (B2D2K) Predoctoral Training Grant”
 The Biomedical Big Data to Knowledge (B2D2K) Training Program at The Pennsylvania State University will bring together Data Science researchers and educators to create a truly transformative multi-disciplinary predoctoral training environment.
 Role: Senior/Key Personnel; Faculty mentor; Chair, Admissions Committee
- 2016-2020 Pennsylvania State University Hershey Medical Center
 “Penn State Clinical and Translational Science Institute” (\$7,007,926 current cycle)
 1UL1TR002014-01 (Sinoway)
 Advancing clinical and translational science to improve health and defeat disease requires a unique set of expertise and supports—ranging from capacity for effective multidisciplinary team science, to a cohesive infrastructure of research IT and data sharing, novel approaches to training a new and diverse workforce, and strengths in building partnerships with the varied communities we serve. We propose to build on the foundation we have established at Penn State, to further expand our capacity to motivate and support multidisciplinary translational research that reaches across our University and to other institutions, and educates a new generation of the workforce to achieve rigorous, high impact, clinical and translational science.
 I co-led the writing of the Training (T) component.
 Role: Chair, Steering Committee, Clinical Research Committee
- 2016- "Effects of Sleep and Stress on Energy Balance and Parent Feeding Practices in Postpartum Mothers" (\$4,712)
 Childhood Obesity Prevention Training Program (COPT) Pennsylvania State University, Seed grant (Jennifer Savage-Williams, PI)
 Role: Co-Investigator
- 2017-2019 “Non-pharmacological improvement of sleep structure in midlife and older adults”
 1R43AG056250 - 01 (Gartenberg)
 NIH/NIA SBIR (\$230,000 subcontract to Penn State, site of data collection)
 Goal: The overall objective of this research is to develop a non-pharmacological means to address sleep deficiencies and wellbeing in older midlife adults.
 Role: Subcontract Principal Investigator
- 2018-2023 “Sleep and Cardiometabolic Health Disparities at the US/Mexico Border: The Nogales Cardiometabolic Health and Sleep (NoCHeS) Study”
 R01MD011600 (Grandner, M)
 The major goals of this project are to determine the role of acculturation in sleep disturbances among Mexican-Americans at the US-Mexico border, and examining the role of sleep in cardiometabolic health disparities.
 Role: Co-Investigator (subcontract PI)

- 2018-2023 “Preventing Obesity through Intervention during Infancy”
2R01DK88244 -07 (Paul, I)
This renewal application seeks to follow participants in the Intervention Nurses Start Infants Growing on Healthy Trajectories (INSIGHT) study from age 3 years into middle childhood. INSIGHT is a randomized, controlled trial evaluating a responsive parenting (RP) intervention designed to prevent rapid infant weight gain and childhood obesity among first-born infants.
Role: Co-investigator
- 2018-2023 “Multilevel Antecedents of Sleep in Latino Youth”
1 K01 HL140283-01A1 (Nguyen-Rodriguez, S)
Role: Co-investigator, Mentor

Report of Local Teaching and Training

Teaching of Students in Courses

2003-2013 MCB-186 Course

- | | |
|------|---|
| 2003 | Sleep and endocrine physiology, Harvard undergraduates (MCB-186), 8 hours preparation
Harvard University |
| 2006 | The health impact of sleep loss and sleep disorders, Harvard undergraduates (MCB-186), 4 hours preparation
Harvard University |
| 2007 | Adequate Sleep Duration and Quality, A Positive Health Behavior Impacting Chronic Disease Risk, Harvard undergraduates (MCB-186), 3 hours preparation
Harvard University |
| 2008 | Circadian Entrainment in Humans, Harvard undergraduates (MCB-186), 3 hours preparation
Harvard University |
| 2011 | Impact of chronic circadian disruption and sleep restriction on metabolism (MCB-186), 4 hours preparation
Harvard University |
| 2012 | "Impact of chronic circadian disruption and sleep restriction on metabolism" (MCB-186), 4 hours preparation
Harvard University |
| 2013 | "Impact of chronic circadian disruption and sleep restriction on metabolism" (MCB-186), 3 hours preparation
Harvard University |

2009-2010 Science B-23, The Human Organism

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|------|---|---|
| 2009 | Section entitled “Sleep, Health and Success”
Harvard University undergraduates | Harvard University, Cambridge MA
10 hours preparation each of 9 sessions |
| 2010 | Section entitled “Sleep, Health and Success”
Harvard University undergraduates | Harvard University, Cambridge MA
~6 hours preparation each of 9 sessions |

<u>2011-2013</u>	<u>SCI-LIVSYS 17, Science of Living Systems</u>	<u>Formerly designated “Science B-23, The Human Organism”</u>
2011	Section entitled “Sleep, Health and Success” Harvard University undergraduates	Harvard University, Cambridge MA ~ 8 hrs preparation each of 9 sessions
2012	Section entitled “Sleep, Health and Success” Harvard University undergraduates	Harvard University, Cambridge MA ~ 8 hrs preparation each of 9 sessions
2013	Section entitled “Sleep, Health and Success” Harvard University undergraduates	Harvard University, Cambridge MA ~ 5 hrs preparation each of 9 sessions
<u>2012-2014</u>	<u>SHDH 221: Psychosocial Theories for Health Behavior</u>	
2012	Lecture entitled “Causes and consequences of sleep deficiency: Usefulness of conceptual frameworks” HSPH graduate students	Harvard School of Public Health, ~ 6 hrs preparation, 1 hour contact time
2013	Lecture entitled “Causes and consequences of sleep deficiency: Usefulness of conceptual frameworks” HSPH graduate students	Harvard School of Public Health ~ 5 hrs preparation, 1.5 hour contact time
Apr 18 th , 2014	Lecture entitled “Causes and consequences of sleep deficiency: Usefulness of conceptual frameworks” HSPH graduate students	Harvard School of Public Health ~ 5 hrs preparation, 1.5 hour contact time
	<u>BBH 502 (Sheila West, Director)</u>	Biobehavioral Health Department
2014-09-03	Lecture entitled “Causes and consequences of sleep deficiency”	Pennsylvania State University, 8 hours preparation
	<u>Neuroscience 501 (Ping Li, Director)</u>	Neuroscience Program
2014-09-09	Lecture entitled “Causes and consequences of sleep deficiency”	Pennsylvania State University, 6 hours preparation
	<u>BBH 501 (Laura Klein & Liz Susman, Directors)</u>	Biobehavioral Health Department
2014-09-30	Lecture entitled “Causes and consequences of sleep deficiency”	Pennsylvania State University, 6 hours preparation
	<u>Biobehavioral Health (BBH) 101 (Orfeu Buxton)</u>	Biobehavioral Health Department, Pennsylvania State University
2015	Winter/Spring term, sole instructor	209 undergraduates
2016	Winter/Spring term, sole instructor	260 undergraduates
	<u>Physiology of Adaptation to Stress (PHYSIO 510, Donna Korzick, Director)</u>	Physiology Program
2015-02-03	Lecture entitled “Sleep and Cardiometabolic Risk: Biomarkers in the Lab and the Field”	Pennsylvania State University, 8 hours preparation
2017-04-11	Lecture entitled: “Circadian Rhythms & Sleep)	Pennsylvania State University, 4 hours preparation

<u>Biobehavioral Aspects of Stress (BBH 432)</u> <u>Sheila West & Idan Shalev, Directors)</u>		Biobehavioral Health Department
2015-03-16	Lecture entitled "Sleep"	Pennsylvania State University, 8 hours preparation
<u>Systems Neuroscience</u> <u>(NEURO 521, Kevin Alloway, Director)</u>		Neuroscience Program
2015-03-17	Lecture entitled "Disrupted circadian clocks and sleep loss"	Pennsylvania State University, 6 hours preparation
2015-03-19	Lecture entitled "Sleep deprivation and food desire (fMRI)"	Pennsylvania State University, 6 hours preparation
2015-03-24	Lecture entitled "Sleep and the glymphatic system"	Pennsylvania State University, 6 hours preparation
2015-03-26	Lecture entitled "Deep, slow-wave sleep centers in the brain"	Pennsylvania State University, 6 hours preparation
2016-02-09	Lecture entitled "Disrupted circadian clocks and sleep loss"	Pennsylvania State University, 3 hours preparation
2016-02-11	Lecture entitled "Sleep deprivation and food desire (fMRI)"	Pennsylvania State University, 3 hours preparation
2016-02-16	Lecture entitled "Sleep and the glymphatic system"	Pennsylvania State University, 3 hours preparation
2016-02-18	Lecture entitled "Deep, slow-wave sleep centers in the brain"	Pennsylvania State University, 3 hours preparation
2017-03-16	Lecture entitled "Disrupted circadian clocks and sleep loss"	Pennsylvania State University, 2 hours preparation
2017-03-21	Lecture entitled "Sleep deprivation and food desire (fMRI)"	Pennsylvania State University, 2 hours preparation
2017-03-23	Lecture entitled "Sleep and the glymphatic system"	Pennsylvania State University, 2 hours preparation
2017-03-28	Lecture entitled "Deep, slow-wave sleep centers in the brain"	Pennsylvania State University, 2 hours preparation
<u>Functional and Integrative Neuroscience</u> <u>(BBH 470, Helen Kamens, Director)</u>		
2015-03-31	Lecture entitled "Neuroscience of Sleep")	Pennsylvania State University, 6 hours preparation
<u>Health Education (Heather Shakley, Teacher)</u>		
2015-04-10	4 lectures/discussions for high school students entitled "Sleep & Health" co-presented with Dr. Anne-Marie Chang	State College Area High School, 5 hours preparation

2015-04-21	<u>Immigrant Health Issues</u> (BBH 497, Professor Amy Snipes) “Reducing Health Disparities: The Role of Sleep Deficiency and Sleep Disorders”	Pennsylvania State University, 6 hours preparation
2015-10-06	<u>Issues in translational medicine</u> (NUTR 597, Professor Greg Shearer) “The arc of a translational research program: Causes and Consequences of Sleep Deficiency”	Pennsylvania State University, 6 hours preparation
2016-11-02	Biobehavioral Health (Honors) (BBH 101H, Professor Sonia Cavagelli) “Sleep”	Pennsylvania State University, 3 hours preparation
2017-03-21	Biobehavioral Health 504 (Professor Patricia Kock) “Usefulness of conceptual frameworks in interdisciplinary research: Causes and consequences of sleep deficiency”	Pennsylvania State University, 4 hours preparation
2017-04-27	<u>Functional and Integrative Neuroscience</u> (BBH 470, David Vanderbergh, Director) Lecture entitled “Neuroscience of Sleep”)	Pennsylvania State University, 6 hours preparation

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

2006-2007	With or without normal sleep Fellows and physicians	Brigham and Women’s Hospital 10 hours preparation
2007	Individual Development Plans and Peer Mentorship	Brigham and Women’s Hospital
	Postdoc and clinical fellows	6 hours preparation
2008	A BWH/Harvard Individual Development Plan for postdoc mentoring / presented to postdoctoral scholars, faculty, and administrators	The Children’s Hospital, Boston

Laboratory and Other Research Supervisory and Training Responsibilities

1997	Supervision of undergraduate student	5 hours supervision per week
1999	Supervision of summer medical student research	5 hours supervision per week
2000	Supervision of summer medical student research	5 hours supervision per week

2001	Supervision of summer medical student research	5 hours supervision per week
2003-2004	Supervision of Master's Student	5 hours supervision per week
2005-2007	Supervision of undergraduate student	3 hours supervision per week
2006-2007	Supervision of undergraduate student	3 hours supervision per week
2008-2009	Supervision of undergraduate student	3 hours supervision per week
2009-2010	Supervision of undergraduate student	3 hours supervision per week
2010-2011	Supervision of undergraduate student	3 hours supervision per week
2011-2012	Supervision of undergraduate student	3 hours supervision per week

Formally Supervised Trainees

2003-2004	Megan Kunz, MS. MD/ Surgeon, Lahey Clinic, Lexington, MA Supervised master's thesis research to successful completion; student matriculated to Medical School.
2009	Julian Thomas / medical student HMS Co-mentored with Steven Shea; Julian Thomas completed a literature review and participated in some data collection under my supervision, ultimately presenting the results of his summer in the lab and submitting a paper to his HMS program.
2010-2011	Katrine Byrne / undergraduate student with the SBMS program, University of Surrey, UK. Accepted 2012 to Bioentrepreneurship masters program, Karolinska Institute, Sweden. Supervision of this student towards her undergraduate thesis involves regular meetings and direct supervision of a data analysis project and writing that may lead to co-authorship on an original report.
2011-2014	Cassandra Okechukwu, MSN, ScD / Assistant Professor of Society, Human Development and Health, Harvard School of Public Health Co-mentor as postdoctoral scholar on funded diversity supplement to NIA U01 AG5186989, specifically regarding career development and scientifically on role of sleep for population and individual health; co-authored multiple publications
2011-2015	Tori Crain, Graduate degree candidate in Applied Psychology, Portland State University, <i>"The crossover effects of supervisor work-family positive spillover on employee sleep: moderating effects of family supportive supervisor behavior"</i> Thesis committee member; co-authored multiple original reports as lead/senior author; accepted faculty position Colorado State University (2015)
2012	Shakir McLean / medical student at Brown University Medical School Summer minority medical student (NHLBI T-32 training grant-support) supervised on a project examining the validity of cardiometabolic risk biomarkers from dried blood spots
2011-2012	Miguel Marino, PhD. Assistant Professor, Department of Family Medicine. Department of Public Health and Preventive Medicine, Division of Biostatistics, Oregon Health and Science University Mentored while Yerby postdoctoral fellow, Harvard School of Public Health; co-authored multiple original reports as lead/senior author; assisted with first successful grant (RWJF)
2012	Alexa Zahl /Harvard undergraduate student thesis (Global Health and Health Policy 91r) Thesis completed 12/2012 entitled <i>"Insufficient Sleep, Obesity and Diabetes: A Synthesis of Epidemiological and Laboratory Research"</i>
2013-2015	David Hurtado, PhD. / postdoctoral scholar, Dept of Social and Behavioral Sciences, Harvard School of Public Health

- Co-mentored successful application for a prestigious Yerby Fellowship (2013-2015), Harvard School of Public Health; accepted faculty position 2015 Oregon Health Sciences University, Portland OR
- 2013-2015 Angela Bermúdez-Millán, Ph.D., M.P.H. / Research Instructor, Division of Behavioral, Sciences and Community Health, School of Dental Medicine, University of Connecticut Health Center
Co-mentored; helped develop and submit a NIH/NHLBI Mentored Career Development Award to Promote Faculty Diversity K01 application (*not awarded*) entitled: “*Latina Research Career Development: Food Insecurity and Cardio-Metabolic Risk*”.
Current position: Research Associate, University of Connecticut Health Center.
- 2013- Nina Vujovic, PhD pending but completed; /appointed as postdoc on T-32
Co-mentored successful application to T-32 as postdoctoral scholar; working on NIA P01 study; assisted with submission of NIA F-32 Project (*funded/completed*) entitled: “*Effects of sleep restriction and circadian disruption in aging*”.
- 2014-2016 Brooke Borlie, undergraduate independent study student, Biobehavioral Health, Pennsylvania State University
- 2014- Mike Strayer, Huck Neuroscience graduate student, Pennsylvania State University
Dissertation committee chair and Co-mentor (with Charles Geier, HDFS, Penn State); awarded prestigious University Graduate Fellowship, Pennsylvania State University.
NRSA (F31) application submitted 2017.
- 2014-2015 Nancy Sin, PhD, postdoctoral scholar, Department of Biobehavioral Health and Center for Healthy Aging, Pennsylvania State University
Co-mentored (with David Almeida, HDFS); received F-32 (NIH/NIA) entitled “*The Role of Daily Well-Being in Inflammatory Processes and Diurnal Cortisol Rhythms*”; accepted tenure-track faculty position for summer 2017, University of British Columbia, Vancouver BC.
- 2014- Kelly Ness, Integrated Graduate Degree Program in Physiology, Pennsylvania State University
dissertation committee chair and co-mentor (with Greg Shearer, Nutrition); awarded 2015 graduate student position in “Physiologic Adaptations to Stress” (T-32; Korzick, PI), Pennsylvania State University.
AHA fellowship and NRSA (F31) applications submitted 2017.
- 2015-2017 Nicole DePasquale, graduate student, Human Development and family Studies (HDFS), Pennsylvania State University
Co-mentored (with David Almeida, HDFS, primary mentor); received F-31 (NIH/NIA) entitled “Family Caregiving Transitions and Sleep Among Double- and Triple-Duty Caregivers”. Accepted junior faculty position August 2017, Duke University.
- 2015 Sebastian Tapia, undergraduate independent study student, Biobehavioral Health, Pennsylvania State University
- 2015-2018 Soomi Lee, PhD, Research Associate, Biobehavioral Health, Pennsylvania State University
Primary Mentor as postdoctoral scholar (2015-2017) and Research Associate from 2017-2018. Tenure-track assistant professor (8/2018), University of South Florida.
- 2015- Chandra Jackson, Research Associate, Harvard Catalyst | Clinical and Translational Science Center, Harvard School of Public Health
Primary mentor, Program to Increase Diversity in Behavioral Medicine and Sleep Disorders Research (PRIDE) at SUNY Downstate Medical Center and New York University, School of Medicine.

- Accepted tenure-track role at NIH: Earl Stadtman Investigator at National Institute of Environmental Health Sciences, NIEHS.
- 2015- Selena Nguyen-Jackson, PhD, Assistant Professor, University of California Long Beach
Primary mentor, Program to Increase Diversity in Behavioral Medicine and Sleep Disorders Research (PRIDE) at SUNY Downstate Medical Center and New York University, School of Medicine.
K01 application submitted June 2017: “*Multilevel antecedents of sleep duration in Latino youth*” awarded 2018.
- 2015-2017 Margeaux Gray, graduate student, Department of Psychology, West Virginia University
Dissertation Committee member. “*Effects of Systematic Sleep Fragmentation on Tolerance and Threshold in a Pressure Pain Task: Associations with Sustained Attention.*”
Recruited to postdoctoral scholar position, see below.
- 2015-2017 Danica Slavish, graduate student, Biobehavioral Health, Pennsylvania State University
Dissertation Committee member. Successfully defended dissertation spring 2017 entitled: “The role of neuroticism in daily experiences, affect, and nightly sleep quality.”
Accepted postdoctoral scholar position in sleep research with Dr. Daniel Taylor, University of North Texas (July 2017).
- 2015-2017 Xiaoyu Li, graduate student, Department of Social and Behavioral Sciences, Harvard Chan School of Public Health
Dissertation Committee member and co-mentor; dissertation entitled: “*Social and Behavioral Determinants of Sleep*” successfully defended dissertation in Spring 2016.
Accepted postdoctoral scholar position (July 2017) with Dr. Ichiro Kawachi (Harvard Chan School of Public Health) and Dr. Susan Redline (Brigham and Women’s Hospital and Harvard Medical School).
- 2016- Alyssa Gamaldo, PhD, Assistant Professor, Department of Human Development and Family Studies, Pennsylvania State University, University Park PA
Primary mentor, Program to Increase Diversity in Behavioral Medicine and Sleep Disorders Research (PRIDE) at New York University, School of Medicine.
R01 under review.
- 2017- Margeaux Gray, Postdoctoral Scholar, Biobehavioral Health, Pennsylvania State University
Primary mentor (from 2/1/17); Project leader on Sound Sleeping (NSF) and Deep Sleep (NIA) inpatient studies
- 2017- Jacinda Li, M.S., Candidate for Ph.D. in Human Development and Family Studies;
USDA Childhood Obesity Prevention Training Fellow, The Pennsylvania State University
Mentoring team member: (F31DK109578) “*Prospective longitudinal study of competing mechanisms and modifiers for obesity trajectories and comorbid metabolic outcomes in normative and high-risk females*”
- 2017- Russell Nye, Candidate for Ph.D. in Biobehavioral Health, The Pennsylvania State University
Dissertation Committee member. [research program title tbd]
- 2017- Rebecca Robbins, Ph.D., Postdoctoral Fellow, Department of Public Health and Center for Healthful Behavior Change, New York University (NYU) School of Medicine
Mentoring team member on Mentored Research Scientist Development Award (K01) application submitted (February 2017) to the National Heart, Lung, and Blood Institute (NHLBI) entitled: “*Design and usability testing of an intervention to address sleep, health, and safety in transportation workers*”

2018- Rodney Jones, B.S., Candidate for Ph.D. in Biobehavioral Health, The Pennsylvania State University.
Mentor.

Local Invited Presentations

No presentations below were sponsored by outside entities

May 31, 2003	Impact of chronic sleep loss on health, Undergraduate faculty, 6 hours preparation Harvard University
Oct 27, 2005	Sleep loss and fatigue: risks to doctors, patients, and our waistlines/ Grand Rounds Harvard South Shore Psychiatry Residency Training Program, Brockton VA Medical Center
Mar 22, 2006	Sleep loss and fatigue: risks to doctors, patients, and our waistlines/ Annual Grand Rounds Cambridge Hospital, Cambridge Health Alliance and the Joint Committee on the Status of Women at Harvard Medical School and Harvard Dental School
Dec 4, 2006	The contributions of the National Postdoctoral Association to the careers of postdocs, Harvard University Harvard undergraduates, graduate students, and faculty, 16 hours preparation
Jun 2, 2006	Health impact of insufficient sleep and sleep disorders: elevating risk for weight gain, obesity, cardiovascular disease, and mortality. Undergraduate faculty, 15 hours preparation Brigham and Women's Hospital
Mar 29, 2007	The health impact of sleep loss and insomnia/ Grand Rounds Department of Psychiatry, McLean Hospital
May 25, 2007	Maximizing Career Development through Individual Development Plans (IDPs) and Peer Mentorship / seminar Brigham and Women's Hospital, Center for Faculty Development and Diversity
Feb 8, 2007	Maximizing Career Development through Individual Development Plans (IDPs) and Peer Mentorship / seminar The Children's Hospital Boston, Office of Fellowship Training
Aug 22, 2008	Health impact of insufficient sleep and sleep disorders: elevating risk for weight gain, obesity, diabetes, cardiovascular disease, and mortality. Harvard masters and undergraduate students, 3 hours preparation Harvard Extension School; Boston MA
Mar 8, 2010	How and why we sleep, When and If it's up to us Harvard Medical School Office for Work and Family, Boston MA
Apr 9, 2010	Maximizing Career Development through Individual Development Plans (IDPs) and Peer Mentorship / seminar Brigham and Women's Hospital, Center for Faculty Development and Diversity; Boston MA
Jan 3, 2011	Causes and cardiometabolic consequences of sleep deficiency Brigham and Women's Hospital, Annual Workshop of the Center for Clinical Investigation; Boston MA
Mar 9, 2011	Why Sleep Matters: Sleep, Work, Family, and Health Talks@12 series seminar, Harvard Medical School, Boston MA
Aug 30, 2011	Effects of sleep restriction and circadian disruption on glucose metabolism /seminar

Biomedical Research Institute at Brigham and Women's Hospital: "Obesity and Impact of systems regulating energy balance"

Nov 10, 2011 Causes and cardiometabolic consequences of sleep deficiency / seminar
Harvard School of Public Health, Department of Society, Health and Human Development / RWJ scholars program

Jan 9, 2012 Causes and cardiometabolic consequences of sleep deficiency / Sleep Grand Rounds
Harvard Medical School, Division of Sleep Medicine

Feb 29, 2012 Adverse metabolic consequences of sleep restriction and circadian disruption in humans / invited presentation
Cardiovascular, Diabetes and Metabolic Disorders (CVDM) Research Center, Biomedical Research Institute (BRI), Brigham and Women's Hospital, Boston MA

May 11, 2012 "On Being a Postdoc: A Co-founder's Perspective on the First Decade of the National Postdoctoral Association"
Harvard School of Public Health, HSPH Postdoctoral Council, Boston MA / invited lecture

May 14 2012 "Environmental and Biological Mechanisms Impacting Sleep and Health" / invited lecture as a part of the program entitled "Sleep Health Disparities: Opportunities to Improve the Health of the Community"
Harvard Catalyst Health Disparities Research Program, Harvard School of Public Health, Boston MA

May 17, 2012 "Causes and Consequences of Sleep Deficiency and Circadian Disruption: Clinical and Workforce Impacts"
Children's Hospital Boston, Pediatric Emergency Medicine Department, Boston, MA

May 24, 2012 "On Being a Postdoc: A Co-founder's Perspective on the First Decade of the National Postdoctoral Association"
Massachusetts General Hospital, MGH Office for Research Career Development, Boston MA / invited lecture

Nov 14, 2012 "Causes and Consequences of Sleep Deficiency"
Epidemiology Seminar Series, Department of Epidemiology, Harvard School of Public Health, Boston MA

Jan 14, 2013 "Causes and Adverse Consequences of Sleep Deficiency and Circadian Disruption: Clinical and Workforce Impacts"
Preceptors Introductory Sleep Course, T-32 Program, Brigham and Women's Hospital, Boston MA

Jun 20, 2013 "Causes and Consequences of Sleep Deficiency"
Massachusetts General Hospital Social Services Department, Boston MA / invited Grand Rounds lecture

Sep 20, 2013 "Causes and Consequences of Sleep Deficiency"
Social Work in-service, Brigham and Women's and Dana-Farber Cancer Institute, Boston MA

Oct 18, 2013 "Causes and Consequences of Sleep Deficiency"
MGH Department of Radiation Oncology at Emerson Hospital, Concord MA/ invited Grand Rounds lecture

Jan 2, 2014 "Causes and consequences of sleep deficiency" / invited lecture
Brigham and Women's Hospital, Annual Workshop of the Center for Clinical Investigation; Boston MA

May 9th, 2014 Brigham and Women's Hospital, Center for Faculty Development & Diversity; Boston MA.

- Sept 29, 2014 Panel Discussion: “Dual Career Couples: How Do They Do It?”/ invited panelist
Department of Nutrition, Pennsylvania State University, University Park, PA
“Causes and consequences of sleep deficiency” / Invited Colloquium lecture
- Nov 8, 2014 Integrated Graduate Degree Program in Physiology, The Pennsylvania State University,
University Park, PA
“Causes and physiologic consequences of sleep deficiency” / Invited lecture
- Dec 5, 2014 Noll Physiology Seminar, Pennsylvania State University, University Park, PA
“Causes and physiologic consequences of sleep deficiency” / Invited lecture
- Dec 8, 2014 College of Nursing Center for Nursing Research Seminar, Pennsylvania State University,
University Park, PA
“Causes and consequences of sleep deficiency: Usefulness of conceptual frameworks”
/invited lecture
- Oct. 19, 2016 Invited presentation before the undergraduates in the U.R.I.S.E program, Dr. Vivek
Kumar director; Pennsylvania State University, University Park, PA
“Sleep Health” / invited lecture

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

No presentations below were sponsored by outside entities

Regional

Nov 14, 1997	Circadian Rhythms/ Invited Speaker Chicago Chapter of the Neuroscience Society annual meeting, Chicago, Illinois
Apr 29, 1999	The interactions of circadian rhythms and sleep, and the implications for teenagers/ Lecture Lake Forest High School, Lake Forest, Illinois
Sept 28, 2000	Consequences of a sleep debt for human health/ Seminar Department of Biology, Andrews University, Berrien Springs, Michigan
Aug 22, 2001	The effects of sleep loss on metabolism and endocrine function/ Invited Speaker University of Rhode Island, East Greenwich, Rhode Island
Sept 13, 2001	Sleepless in Chicago: Consequences of sleep loss for health/ Invited seminar speaker Post-Doctoral Association of the Biological Sciences Division, University of Chicago
Oct 21, 2001	Neuroendocrine and metabolic effects of exercise at different times of day/ Seminar Department of Medicine, University of Chicago, Chicago, Illinois
Feb 9, 2004	Sleep Loss and Mechanisms of Impaired Glucose Metabolism/ Invited seminar speaker Beth-Israel Deaconess Medical Center, Boston, MA
May 18, 2004	Sleep Loss and Mechanisms of Impaired Glucose Metabolism/ Invited seminar speaker Brigham and Women's Hospital, Boston, MA
Mar 31, 2005	Sleep and sleep disorders: Implications for obesity and diabetes/ Grand Rounds Norwalk Hospital, Norwalk, CT
Apr 12, 2006	Sleep loss and fatigue: sufficient sleep as marker of good health, sleep loss as symptom of work-family imbalance/ Seminar University of Massachusetts, Boston, Massachusetts
Mar 13, 2007	The health impact of sleep loss and sleep disorders/ Invited lecture University of Massachusetts, Boston, Massachusetts
Sept 25, 2007	The health impact of sleep loss and insomnia/ Invited lecture Cape Cod Physicians Association Annual Meeting, Mashpee, Massachusetts
Aug 20, 2008	The Role Sleep and Acoustics Play in Creating Safe and Healing Environments of Care/ Invited Joint Lecture The Seventh Annual Quality Colloquium, An Executive Education Course on Patient Safety, Healthcare Quality Enhancement and Medical Errors Reduction for Healthcare Executives, Clinicians and Patient Care Staff, Harvard University

Mar 21, 2009	Sleep, Diet, and Metabolism. Invited oral presentation, North East Sleep Society Newton, MA
Oct 20, 2011	Neurobiology and Physiology of Circadian Rhythms and Sleep / lecture Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
Oct 20, 2011	Causes and consequences of sleep deficiency and circadian disruption / lecture Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
Dec 8, 2011	Sleep and diabetes / lecture Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
Dec 8, 2011	Insomnia, sleep, and pain / lecture Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
Oct 18, 2012	The Causes of Sleep Deficiency: Physiologic and Social Mechanisms Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)] The Health Consequences of Sleep Deficiency for Cardiometabolic Risk and Other Outcomes / lecture
March 8, 2013	Family demography and gender working group, Sociology Department, Harvard University, Cambridge MA The Work, Family, and Health Study
Oct 17, 2013	Neurobiology and Physiology of Circadian Rhythms and Sleep / lecture Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
Oct 17, 2013	Causes of Sleep Deficiency: Physiologic and Social Mechanisms Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
Oct 24, 2014	Causes and Consequences of Sleep Deficiency I: Controlled Laboratory Studies and physiologic mechanisms Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
Oct 24, 2014	Causes and Consequences of Sleep Deficiency II: Controlled Laboratory Studies and physiologic mechanisms Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
May 1, 2015	Causes and Consequences of Sleep Deficiency III: Workplace, home and social factors in free-range humans Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
May 1, 2015	Reducing Health Disparities: Modifiable Factors predicting Sleep Deficiency

Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

National

- Sept 24, 2001 The effects of sleep loss on endocrine function: Implications for diabetes, obesity, and aging/ Invited speaker and discussant
National Sleep Foundation workshop, Washington D.C.
- May 16, 2002 Entrainment in Humans/ Invited speaker and discussant
Society for Research on Biological Rhythms, Amelia Island, FL
- May 16, 2002 Interplay between, exercise, sleep, and the clock/ Invited speaker and discussant
Society for Research on Biological Rhythms 8th biannual meeting, Amelia Island Plantation, Florida
- Mar 30, 2003 Sleep Loss and the Aging of Endocrine Systems/ Invited speaker
National Academy of Sciences, Washington D.C. (National Sleep Foundation; National Institute on Aging)
- Apr 25, 2003 Chronic sleep loss leading to obesity, diabetes/ Invited speaker
Wayne State, Detroit, Michigan (NIOSH, OOIDA)
- Feb 7, 2003 Consequences of a sleep debt for performance and health/ Invited speaker
American Academy of Sleep Medicine's Advanced Sleep Medicine Course, San Antonio, Texas
- Aug 11, 2003 Sleep and Endocrine Physiology/ Invited Speaker
American Academy of Sleep Medicine's National Sleep Medicine Course, Oak Brook, Illinois
- May 26, 2004 Sleep, Endocrinology, and Metabolism/ Featured speaker
Mini-Symposium of the American Thoracic Society, Orlando, FL
- Nov 3, 2005 Sleep loss and fatigue: risks to doctors, patients, and our waistlines, OR, sufficient sleep as a marker of good health, sleep loss as a symptom of work-family imbalance/ Invited speaker
Hollywood, Maryland (NIH)
- Dec 18, 2006 Insomnia/ Invited speaker
Joint Family Medicine and Ambulatory Care Grand Rounds, Coney Island Hospital, Brooklyn, New York
- Nov 11, 2006 The health impact of sleep loss and sleep disorders/ Invited speaker
University of California and Berkeley, San Francisco, CA
- Nov 5, 2007 The Health Impact of Sleep: Sufficient Restorative Sleep as a Positive Health Behavior/ Lecture
Department of Sociology, University of San Diego
- June 9, 2008 Sleep Adequacy Associated With More Healthful Food Choices and Positive Workplace Experience In Motor Freight Workers/ Poster presentation
Baltimore, MD

June 9, 2008	Intervening to Improve Sleep, Health & Society/ Symposium Speaker Baltimore, MD
June 12, 2008	Sleep Restriction For One Week Reduces Insulin Sensitivity Measured Using The Euglycemic Hyperinsulinemic Clamp Technique/ oral presentation of selected abstract Baltimore, MD
Apr 13, 2009	Work-Family Conflict, Sleep, and Health: Results from the Work, Family, and Health Network/ Invited oral presentation Scientific Conference on Sleepiness and Health-Related Quality of Life, Natcher Conference Center, NIH campus, Bethesda, MD
May 5, 2009	Meet the Professor Seminar: Health effects of sleep restriction and insufficient sleep/ Invited oral presentation SLEEP 2009, Seattle, WA
June 5, 2009	Managers' Practices Related to Work-Family Balance Predict Employee Cardiovascular Risk and Sleep Duration in Extended Care Settings / poster presentation SLEEP 2009, Seattle, WA
June 8, 2010	Primary insomnia and glucose metabolism: Changes in actigraphically-derived Wake After Sleep Onset (WASO) related to changes in glucose metabolism / oral presentation of selected abstract SLEEP 2010, San Antonio TX
June 6, 2010	Metabolic Consequences of Chronic Sleep Restriction Combined with Circadian Misalignment / oral presentation of selected abstract SLEEP 2010, San Antonio TX
Oct 20, 2010	Causes and Cardiometabolic Consequences of Sleep Deficiency / Seminar University of Pennsylvania Center for Sleep and Respiratory Neurobiology, Philadelphia PA
Mar 30, 2011	Causes and Cardiometabolic Consequences of Sleep Deficiency / Sleep Grand Rounds and Visiting Professorships for Departments of Psychiatry and Neuroscience University of Pittsburgh; Pittsburgh PA
May 23, 2011	Causes and Consequences of Sleep Deficiency / Seminar Department of Psychology, Portland State University; Portland OR
June 13, 2011	"Chronic Sleep Restriction Combined with Circadian Misalignment Leads to Inadequate Insulin Secretion Response to Meals in Young and Older Healthy Adults" / oral presentation in the session entitled "Circadian Rhythms and Circadian Misalignment." SLEEP 2011, Minneapolis MN
June 15, 2011	"Challenges in Identifying Biomarkers for Sleepiness" / discussant SLEEP 2011, Minneapolis MN
June 14, 2011	"Relationship of Sleep Deficiency to Perceived Pain and Physical Disability in Hospital Patient Care Workers." oral presentation SLEEP 2011, Minneapolis MN
June 14, 2011	"Actigraphy as a Tool for Measuring Sleep: Pros, Cons, and Secrets of the Trade" / co-chair and speaker. SLEEP 2011, Minneapolis MN
June 16, 2011	"Causes and Consequences of Sleep Deficiency" / Seminar

lecture jointly sponsored by the Minnesota Population Center and the Social Epidemiology Workgroup, University of Minnesota, Minneapolis, MN

Sept 18, 2011 “Worklife and effects on sleep health” / invited workshop presentation

National Heart Lung and Blood Institute Workshop entitled “Reducing Health Disparities: The Role of Sleep Deficiency and Sleep Disorders”, National Institutes of Health, Bethesda MD

Mar 15, 2012 “The NPA Founders Present Their Perspectives After the First Decade” / invited plenary session

National Postdoctoral Association 10th Annual Meeting, San Francisco, CA

Apr 17, 2012 “Causes and Consequences of Sleep Deficiency: Clinical and Workforce Impacts”

Oregon Healthy WorkForce Center, Oregon Health & Science University, Portland, OR

June 6, 2012 Causes and Consequences of Sleep Deficiency: Workforce Impacts / invited lecture

The National Work & Family Roundtable, Boston College Center for Work & Family, Boston College, Boston, MA

June 10, 2012 “Disrupted Circadian rhythms, sleep loss and metabolic disease: How will research findings influence clinical practice?” / invited presentation

2012 Sleep Research Society William C. Dement Trainee Symposia Series, Boston, MA, Sunday June 10, 2012, 11:10 a.m. – 12:00 p.m.

June 10, 2012 "Adverse metabolic consequences of sleep restriction and circadian disruption in humans" / invited symposium presentation

SLEEP 2012. Session O01: “Sleep Loss and Weight Gain”

June 11, 2012 “Home and Workplaces Factors as Sources of Sleep Disruption that Affect Health Disparities” / invited symposium presentation

Sleep 2012, Boston, MA session D02: “Sleep and Health Disparities: Follow-Up from the 2011 NHLBI Workshop”.

June 11, 2012 Energy Balance Considerations During Chronic Sleep Restriction and Circadian Misalignment. / oral presentation

Sleep 2012, Boston, MA session S04 entitled “Adverse metabolic consequences of sleep and circadian disturbances”, Monday, June 11, 2012, from 3:00pm to 5:00pm.

Aug 6, 2012 “Social and Environmental Determinants of Sleep Deficiency”

Program to Increase Diversity in Behavioral Medicine and Sleep Disorders Research (PRIDE) at SUNY Downstate Medical Center and New York University, School of Medicine

Oct 25, 2012 Center for Family Resilience, Department of Human Development & Family Science, Oklahoma State University, Tulsa OK

“Causes and Consequences of Sleep Deficiency”

Dec 6 2012 Center for Research on Occupational & Environmental Toxicology, Oregon Health Sciences University, Portland OR

“Causes and Consequences of Sleep Deficiency”

Feb 28 2013 Department of Biobehavioral Health, Pennsylvania State University, State College PA

“Causes and Consequences of Sleep Deficiency”

March 13 2013 Workshop on Positive Psychobiology, sponsored by the Princeton Center for Research on Experience and Well-Being (funded by the National Institute on Aging), Miami, FL

"Sleep as a source of resilience and restoration"

June 2, 2013 SLEEP 2013. Session O02: “Developmental and Aging Effects and Interactions with Sleep”

June 14, 2013 “Does Sleep Restriction and Circadian Disruption Cause Sympathetic Activation?”
Center for Research on Occupational and Environmental Toxicology, Oregon Healthy
WorkForce Center, Oregon Health and Science University; symposium “Sleep and
Shiftwork: Impact on Health, Safety, and Productivity”
“Sleep and the workplace”

Aug 5th, 2013 Social and Environmental determinants of Insufficient sleep

May 8, 2014 Program to Increase Diversity in Behavioral Medicine and Sleep Disorders Research
(PRIDE) at SUNY Downstate Medical Center and New York University, School of
Medicine

May 8, 2014 Harvard Medical School CME course entitled “Sleep! – A CME Course for Physicians”.
Boston MA. http://www.hms-cme.net/3424633/3424633_4emlandingindex.html
“Consequences of Sleep Loss – Endocrine and Metabolic Function” / invited lecture

May 21, 2014 Presentation before the Board of Directors of the National Business Group on Health
(www.businessgrouphealth.org), Washington DC
“Integrated Workplace Interventions to Improve Sleep and Health” / invited lecture

May 19, 2014 The American Society for Microbiology, 114th general meeting, session entitled
“Achieving Your Scientific and Career Goals: How an Individual Development Plan Can
Help YOU!” Boston, MA
“Faculty and institutional perspectives on Individual Development Plans and their
implementation” / invited lecture

Sept 22, 2014 Department of Biostatistics, Bloomberg School of Public Health, Johns Hopkins
University, Baltimore MD
“Causes and Consequences of Sleep Deficiency” / invited lecture

May 1, 2015 Harvard Medical School CME course entitled “Sleep! – A CME Course for Physicians”.
Boston MA. <http://www.hms-cme.net/3524633/>
“Consequences of Sleep Loss – Endocrine and Metabolic Function” / invited lecture

July 29th, 2015 PRIDE: Program to Increase Diversity in Behavioral Medicine and Sleep Disorders
Research, New York University Langone School of Medicine
“Social and Environmental Determinants of Sleep Health”

Dec 7, 2015 NIOSH Education and Research Center; Environmental and Occupational Medicine and
Epidemiology Program, Harvard Chan School of Public Health, Boston MA
“The Impact of Work and Workplace Interventions on Sleep Health”/ Invited lecture

2016 PRIDE: Program to Increase Diversity in Behavioral Medicine and Sleep Disorders
Research, New York University Langone School of Medicine
“Social and Environmental Determinants of Sleep Health”

Oct 25, 2016 24th Annual National Symposium on Family Issues - Sleep across the Life Course: Family
Influences & Impacts. Pennsylvania State University (Oct 24-25th)
Also served on Program Committee (with Susan McHale and Valerie Kind)
Workshop: “Sleep Study Methodologies”, “Incorporating sleep into interdisciplinary
research on families” / invited workshop

Aug 02, 2017 PRIDE: Program to Increase Diversity in Behavioral Medicine and Sleep Disorders
Research, New York University Langone School of Medicine
“Social and Environmental Determinants of Sleep Health”

International

- Oct 9, 1999 “The impact of non-photoc stimuli on human circadian rhythms: exercise and dark/sleep” at the symposium "New insights into the entrainment of the human circadian pacemaker/Invited speaker
World Federation of Sleep Research Societies meeting, Dresden, Germany
- June 15, 2012 2012 Work and Family Researchers Network (WFRN) Conference, New York City
The Work, Family, and Health Study: Baseline Findings on the Relationship between Work, Family and Biomarkers of Sleep and Health / invited presentation
- June 15, 2012 “Equipment/Devices in Work and Family Research” / invited presentation
2012 Work and Family Researchers Network (WFRN) Conference, New York City
- Oct 9, 2012 International Conference on Diabetes and Depression, sponsored by NIDDK, Hearndon VA
“Sleep Deficiency, Circadian Rhythm Disruptions, and Metabolism—Basic Science Mechanisms”
- Nov 4, 2012 American Heart Association /invited lecture
Los Angeles, CA
"Disrupted sleep, circadian rhythms, and metabolic risk"
- June 16, 2013 Endocrine Society annual meeting, San Francisco CA /invited symposium speaker in session entitled “Obesity and Dysregulated Sleep”
“Energy balance and dysregulated sleep”
- June 23, 2013 American Diabetes Association annual meeting, Chicago IL / /invited symposium speaker in session entitled “Sleep—A Novel Behavioral Target in Diabetes?”
“Metabolic Effects of Sleep Interventions”
- Jan 28, 2014 Executive and Continuing Professional Education course entitled “Work, Health, and Well-Being: Integrating Wellness and Occupational Health and Safety in the Workplace”, Harvard School of Public Health, Boston MA
“Integrated Workplace Interventions to Improve Sleep and Health” / invited lecture
- June 19, 2014 Work and Family Researchers Network (WFRN), 2nd bi-annual meeting, “Changing Work and Family Relationships in a Global Economy”
<https://workfamily.sas.upenn.edu/sites/workfamily.sas.upenn.edu/files/Conference%20Program%202014.pdf>
Symposium entitled “Work, Family, and Health” (organizer: Orfeu Buxton)
“Effects of a Randomized Workplace Intervention on Actigraphically –Measured Sleep and Cardiometabolic Risk: Results from the Work, Family, and Health Study” / invited lecture
- June 20, 2014 Work and Family Researchers Network (WFRN), 2nd bi-annual meeting, “Changing Work and Family Relationships in a Global Economy”
<https://workfamily.sas.upenn.edu/sites/workfamily.sas.upenn.edu/files/Conference%20Program%202014.pdf>
“Professional Development/Mentoring Workshop.” / organizer/presenter
- June 21, 2014 Work and Family Researchers Network (WFRN), 2nd bi-annual meeting, “Changing Work and Family Relationships in a Global Economy”
<https://workfamily.sas.upenn.edu/sites/workfamily.sas.upenn.edu/files/Conference%20Program%202014.pdf>
“Sleep: What Work and Family Researchers Should Know” / invited workshop presentation
- Oct 20, 2014 International Food & Nutrition Conference & Expo (FNCE) 2014, Atlanta GA
“Causes and Consequences of Sleep Deficiency” / invited symposium lecture

Jan 28, 2015 Executive and Continuing Professional Education course entitled “Work, Health, and Well-Being: Integrating Wellness and Occupational Health and Safety in the Workplace”, Harvard School of Public Health, Boston MA
“Integrated Workplace Interventions to Improve Sleep and Health” / invited lecture

May 19, 2015 The Environmental Determinants of Diabetes in the Young (TEDDY) Study Investigators’ Meeting, Bethesda, MD
“The Potential Role of Stress and Sleep in Type 1 Diabetes” / invited lecture

June 10th, 2015 Association of Professional Sleep Societies annual meeting, Seattle WA

Oct 15, 2015 Causes and Consequences of Sleep Deficiency I: Controlled Laboratory Studies and physiologic mechanisms
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

Oct 15, 2015 Causes and Consequences of Sleep Deficiency II: Controlled Laboratory Studies and physiologic mechanisms / invited presentation
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

Feb 3, 2016 Executive and Continuing Professional Education course entitled “Work, Health, and Well-Being: Integrating Wellness and Occupational Health and Safety in the Workplace”, Harvard Chan School of Public Health, Boston MA
“Integrated Workplace Interventions to Improve Sleep and Health” / invited lecture

April 29, 2016 Reducing Health Disparities: Modifiable Factors predicting Sleep Deficiency / invited presentation
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

April 29, 2016 Sleep and the Workplace / invited presentation
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

Jun 12, 2016 Translational sleep science: integrated workplace interventions / invited presentation
Sleep Research Society Trainee Day, SLEEP 2016, Denver, Colorado

Jun 25, 2016 Work-Family Conflict and Employee Sleep: Evidence from IT workers in the Work, Family & Health Study
Work-Family Research Network, 3rd biennial meeting, Washington DC

Oct 13, 2016 Causes and Consequences of Sleep Deficiency I: Sleep homeostasis and circadian physiology / invited teaching presentation
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

Oct 13, 2016 Causes and Consequences of Sleep Deficiency II: Cardiometabolic outcomes / invited teaching presentation
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

Nov 14, 2016 Importance and Extent of the Relationship Between Sleep and Heart Disease / invited lecture within session “JS.1203 - Sleep and Cardiometabolic Disease”
American Heart Association, New Orleans LA

- Dec 1,
2016 “Environmental, Social and Workplace determinants of sleep” / invited lecture
- “Awakening to the significance of sleep and health disparities: A Global Evolutionary Perspective” co-sponsored by the Triangle Center for Evolutionary Medicine, Center on Biobehavioral Health Disparities Research, Duke Institute for Brain Sciences, and Duke Global Health Institute. Duke University, Durham NC
- Feb 8,
2017 “The Impact of Work and Workplace Interventions on Sleep Health” /invited lecture
- Executive and Continuing Professional Education course entitled “Work, Health, and Well-Being: Integrating Wellness and Occupational Health and Safety in the Workplace”, Harvard Chan School of Public Health, Boston MA
- Apr 05,
2017 Causes and Consequences of Sleep Deficiency III
Reducing Health Disparities: Modifiable Factors Predicting Sleep Deficiency / invited teaching presentation
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
- Apr 24,
2017 “Cardiometabolic Impact of Sleep Restriction and Circadian Disruption” / invited symposium lecture
Symposium entitled “Sleep, Circadian Clocks And Metabolism” (Sponsored by: Endocrinology and Metabolism Section), Experimental Biology (EB) International meeting, Chicago, IL
- Apr 28,
2017 “The Impact of Work and Workplace Interventions on Sleep Health” /invited lecture
- Executive and Continuing Professional Education course entitled “Work, Health, and Well-Being: Integrating Wellness and Occupational Health and Safety in the Workplace”, Harvard Chan School of Public Health, Boston MA; webinar with the SESI group, Brazil.
- Oct 23,
2017 Causes and Consequences of Sleep Deficiency I: Sleep homeostasis and circadian physiology
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
- Oct 23,
2017 Causes and Consequences of Sleep Deficiency II: Cardiometabolic outcomes
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]
- Apr 04,
2018 Reducing Health Disparities:
Modifiable Factors predicting Sleep Deficiency
Dental Sleep Medicine Mini-Residency Program, Tufts School of Dental Medicine, Boston MA [Continuing Dental Education (CDE)]

Report of Education of Patients and Service to the Community

Educational Material for Patients and the Lay Community

No presentations below were sponsored by outside entities

Apr 7, 2006	“Sufficient sleep as a marker of good health, sleep loss as symptom of work-family imbalance”	Seminar for Harvard Union of Clerical and Technical Workers
Jan 12, 2009	“Sleep & Health: With or without normal sleep”	Seminar for Lesley University Student Health Center professional staff
2010	Orfeu M. Buxton and Anne-Marie Chang, “Sleep, Health and Success: How and why we sleep, When and If it’s up to us”	Middle School Unit of the Fayerweather Street School, Cambridge MA
Mar 15, 2010	“Work-Family and Work-Life Matters”	Senior Management Quarterly meeting, Genesis Health Care, Andover MA
Jan. 18, 2012	Sleep and Health / lecture	Carleton-Willard Village retirement community, Bedford, MA
Mar 1, 2012	Orfeu M. Buxton and Anne-Marie Chang, “Sleep, Health and Success: How and why we sleep, When and If it’s up to us”	Middle School Unit of the Fayerweather Street School, Cambridge MA
August 9th, 2012	Orfeu M. Buxton , Glorian Sorensen. NIOSH Science Blog Safer Healthier Workers: <i>Sleep, Pain, and Hospital Workers</i> .	http://blogs.cdc.gov/niosh-science-blog/2012/08/sleep-pain/ a Top 12 NIOSH Science Blogs of 2012 http://blogs.cdc.gov/niosh-science-blog/2013/01/top12
	“Advice for Boomers Concerned About Sleep Deficiency” http://www.nytimes.com/2013/09/19/booming/taking-questions-on-causes-and-effects-of-sleep-deficiency.html	<i>New York Times</i> , Booming blog “Ask an Expert”.
Sep 19, 2013		
Sep 25, 2013	Part 1: http://www.nytimes.com/2013/09/25/booming/advice-about-sleep-deficiency-in-midlife-part-1.html	
Oct 02, 2013	Part 2: http://www.nytimes.com/2013/10/02/booming/advice-about-sleep-deficiency-in-midlife-part-2 .	
Oct 09, 2013	Part 3: http://www.nytimes.com/2013/10/09/booming/advice-about-sleep-deficiency-in-midlife-part-3.html	
Dec, 2013	Orfeu M. Buxton and Anne-Marie Chang, “Sleep, Health and Success: How and why we sleep, When and If it’s up to us”	Middle School Unit of the Fayerweather Street School, Cambridge MA
Mar 22, 2014	Orfeu M. Buxton and Anne-Marie Chang, “Strategies for good sleep”	Parent and student community of the Fayerweather Street School, Cambridge MA
Nov 19, 2014	Orfeu M. Buxton, Henrik Jacobsen, NIOSH Science Blog Safer Healthier Workers: <i>Work-family Conflict, Sleep, and the Heart</i>	http://blogs.cdc.gov/niosh-science-blog/2014/11/19/work_sleep_heart/

Educational material or curricula developed for non-professional students

2004 FIMS position statement on air travel and performance in sports report

O'Connor PJ, SD Youngstedt, OM Buxton, and MD Breus. FIMS position statement on air travel and performance in sports. Fédération Internationale de Médecine du Sport (FIMS) Position Statement #16, 2004, pp-1-12.

Report of Scholarship

Publications

Peer reviewed publications in print or other media

Research Investigations

1. **Orfeu M. Buxton**, Samuel A. Frank, Mireille L'Hermite-Balériaux, Rachel Leproult, Fred W. Turek, and Eve Van Cauter. Roles of intensity and duration of nocturnal exercise in causing phase delays of human circadian rhythms. *Amer J Physiol* 1997; 273(36): E536-42. PMID: 9316443; PMCID: In progress.
2. Rachel Leproult, Georges Copinschi, **Orfeu Buxton**, and Eve Van Cauter. Sleep loss results in an elevation of cortisol levels the next evening. *Sleep* 1997; 20(10): 865-70. PMID: 9415946; PMCID: In progress.
3. André J. Scheen, **Orfeu M. Buxton**, Maria Jison, Olivier Van Reeth, Rachel Leproult, Mireille L'Hermite-Balériaux, Eve Van Cauter. Effects of exercise on neuroendocrine secretion and glucose regulation at different times of day. *Amer J Physiol* 1998; 274(37): E1040-9. PMID: 9611154. PMCID: In progress.
4. Erik Naylor, **Orfeu M. Buxton**, Bernard M. Bergmann, Amy Easton, Phyllis C. Zee, Fred W. Turek. Effects of aging on sleep in the golden hamster. *Sleep* 1998; 21(7): 687-93. PMID: 11286344. PMCID: In progress.
5. **Orfeu M. Buxton**, Mireille L'Hermite-Balériaux, Fred W. Turek, and Eve Van Cauter. Daytime naps in darkness phase shift the human circadian rhythms of melatonin and thyrotropin secretion. *Amer J Physiol* 2000; 278(2): R373-82. PMID: 10666138. PMCID: In progress.
6. Veronica S. Valentinuzzi, **Orfeu M. Buxton**, Anne-Marie Chang, Kathryn Scarbrough, Elenice A. M. Ferrari, Joseph S. Takahashi, Fred W. Turek. Locomotor response to an openfield during C57BL/6J active and inactive phases: differences dependent on conditions of illumination. *Physiol Behav* 2000; 69(3): 269-75. PMID: 10869592. PMCID: In progress.
7. Teresa H. Horton, **Orfeu M. Buxton**, Susan Losee-Olson, Fred W. Turek. Twenty-four-hour profiles of serum leptin in Siberian and golden hamsters: Photoperiodic and diurnal variations. *Horm Behav* 2000; 37(4): 388-98. PMID: 10860682. PMCID: In progress.
8. **Orfeu M. Buxton**, Georges Copinschi, Anne Van Onderbergen, Eve Van Cauter. A benzodiazepine hypnotic facilitates adaptation of human circadian rhythms and sleep-wake homeostasis to an eight hour delay shift simulating westward jet lag. *Sleep* 2000; 23(7), 915-27. PMID: 11083601; PMCID: In progress.
9. Jennifer Cunningham, **Orfeu M. Buxton**, Roy Weiss. Circadian variation in Cushing's disease and pseudo-Cushing's states by analysis of cortisol (F) and adrenocorticotropin (ACTH) pulsatility. *J Endocrinol Invest* 2002; 25(9): 791-9. PMID: 12398238. PMCID: In progress.
10. **Orfeu M. Buxton**, Calvin W. Lee, Mireille L'Hermite-Balériaux, Fred W. Turek, and Eve Van Cauter. Exercise elicits phase shifts and acute alterations of melatonin levels that vary with circadian phase. *Amer J Physiol* 2003; 284(3):R714-R724. PMID: 12571075. PMCID: In progress.

11. John W. Winkelman, **Orfeu M. Buxton**, J. Eric Jensen, Kathleen L. Benson, Shawn P. O'Connor, Wei Wang, and Perry F. Renshaw. Reduced brain GABA in primary insomnia: preliminary data from 4T proton magnetic resonance spectroscopy (1H-MRS). *Sleep*. 2008 Nov;31(11):1499-506. PMID: 19014069; PMCID: PMC2579978.
12. **Orfeu M. Buxton**, Keith Malarick, Wei Wang, Teresa Seeman. Changes in dried blood spot Hb A1c with varied postcollection conditions. *Clin Chem*. 2009 May;55(5):1034-6. PMID: 19299546; PMCID: PMC2925185.
13. **Orfeu M Buxton**, Lisa Quintiliani, May Yang, Cara Ebbeling, Anne Stoddard, Lesley Pereira, Glorian Sorensen. Association of sleep adequacy with more healthful food choices and positive workplace experiences among motor freight workers. *Am J Public Health*. 2009 Nov;99 Suppl 3:S636-43. PMID: 19890169; PMCID: PMC2774168.
14. Antonia Omisade, **Orfeu M Buxton**, Benjamin Rusak. Impact of acute sleep restriction on cortisol and leptin levels in young women. *Physiol Behav*. 2010 Apr 19;99(5):651-6. PMID: 20138072. PMCID: In progress.
15. John W Winkelman, Kathleen L Benson, **Orfeu M Buxton**, In Kyoony Lyoo, Sujung Yoon, Shawn O'Connor, Perry F Renshaw. Lack of hippocampal volume differences in primary insomnia and good sleeper controls: An MRI volumetric study at 3 Tesla. *Sleep Med*, 2010 May 11. PMID: 20466585. PMCID: In progress.
16. **Orfeu M Buxton** and Enrico Marcelli. Short and Long Sleep Are Positively Associated with Obesity, Diabetes, Hypertension, and Cardiovascular Disease among Adults in the United States. *Social Science & Medicine* 2010 Sep;71(5):1027-36. Epub 2010 Jun 16. PMID:20621406; PMCID: In progress. Selected for "Best of Sleep Medicine" 2011.
17. **Orfeu M Buxton**, Pavlova Milena, Emily Reid, Wei Wang, Donald C Simonson, Gail K Adler. Sleep restriction for 1 week reduces insulin sensitivity in healthy men. *Diabetes*. 2010 Sep;59(9):2126-33. Epub 2010 Jun 28. PMID: 20585000; PMCID: PMC2927933. Selected for "Best of Sleep Medicine" 2011.
18. Lisa Berkman, **Orfeu M Buxton**, Karen Ertel, Cassandra Okechukwu. Managers' practices related to work-family balance predict employee cardiovascular risk and sleep duration in extended care settings. *J Occup Health Psychol*. 2010 Jul;15(3):316-29. PMID: 20604637; PMCID: PMC3526833.
19. Thien Thanh Dang-Vu, Scott M McKinney, **Orfeu M Buxton**, Joanne M Solet, and Jeffrey M Ellenbogen. Spontaneous brain rhythms predict sleep stability in the face of noise. *Current Biology* 2010 Aug 10;20(15):R626-R627. PMID: 20692606. PMCID: In progress.
20. Scott M. McKinney, Thien Thanh Dang-Vu, **Orfeu M Buxton**, Jo M Solet, and Jeffrey M Ellenbogen. Covert waking brain activity reveals instantaneous sleep depth. *PLoS One*. 2011 Mar 3;6(3):e17351. PMID: 21408616; PMCID: PMC3048302.
21. Glorian Sorensen, Anne Stoddard, Sonja Stoffel, **Orfeu M Buxton**, Grace Sembajwe, Dean Hashimoto, Jack Dennerlein, Karen Hopcia. The Role of the Work Context in Multiple Wellness Outcomes for Hospital Patient Care Workers. *J Occup Environ Med*. 2011 Aug; 53(8):899-910. PMID: 21775897. PMCID: PMC3693572.
22. David Hurtado, Erika Sabbath, Karen Ertel, **Orfeu M Buxton**, and Lisa F Berkman. Racial disparities in job strain among American and immigrant long-term care workers. *Int Nurs Rev*. 2012 Jun;59(2):237-44. Epub 2011 Dec 7. PMID: 22591096; PMCID: PMC3622248.

23. **Orfeu M Buxton**, Sean W Cain, Shawn P O'Connor, James H Porter, Jeanne F Duffy, Wei Wang, Charles A Czeisler, Steven A Shea. Adverse metabolic consequences in humans of prolonged sleep restriction combined with circadian disruption. *Sci Transl Med*. 2012 Apr 11;4(129):129ra43. PMID: 22496545; PMCID: PMC3678519.
24. **Orfeu M Buxton**,* Jeffrey M Ellenbogen,* Wei Wang, Andy Carballeira, Shawn P O'Connor, Dan Cooper, Scott McKinney, Jo M Solet. Sleep Disruption Due to Hospital Noises: A Prospective Evaluation. *Ann Intern Med*. 2012 Jun 11. [Epub ahead of print] PMID: 22868834; PMCID: In progress (*: equal first authorship roles).
25. **Orfeu M Buxton**, Karen Hopcia, Grace Sembajwe, James H Porter, Jack Dennerlein, Christopher Kenwood, Anne Stoddard, Dean Hashimoto, Glorian Sorensen. Relationship of sleep deficiency to perceived pain and functional limitations in hospital patient care workers. *J Occup Environ Med*. 2012 Jul;54(7):851-8. PMID: 22796931; PMCID: PMC3720240.
26. Seung-Sup Kim, Cassandra Okechukwu, **Orfeu M. Buxton**, Jack T. Dennerlein, Leslie I. Boden, Dean M. Hashimoto, Glorian Sorensen. Association between work-family conflict and musculoskeletal pain among hospital patient care workers. *Am J Ind Med*. 2013 Apr;56(4):488-95. Epub 2012 Sep 27. PMID: 23019044; PMCID: In progress.
27. Bray, J. W., Kelly, E. L., Hammer, L. B., Almeida D. M., Dearing, J. W., King. R. B., & **Buxton, O. M.** (2013). An integrative, multilevel, and transdisciplinary research approach to challenges of work, family, and health. RTI Press publication No. MR-0024-1303. Research Triangle Park, NC: RTI Press. PMID: 24618878; PMCID: PMC3947908.
<http://www.rti.org/publications/rtipress.cfm?pubid=20777>
28. David G. Harper, David T. Plante, J. Eric Jensen, Kathleen L. Benson, Shawn P. O'Connor, **Orfeu M. Buxton**, Perry F. Renshaw, John W. Winkelman. Energetic and cell membrane metabolic products in patients with primary insomnia: a 31-phosphorus magnetic resonance spectroscopy study at 4 tesla. *Sleep*. 2013 Apr 1;36(4):493-500. PMID: 23564996; PMCID: PMC3612248. doi: 10.5665/sleep.2530.
29. Michael A. Grandner, **Orfeu M. Buxton**, Nicholas Jackson, Megan Sands, Abhishek Pandey, and Girardin Jean-Louis. Extreme sleep durations and increased C-reactive protein: effects of sex and ethnoracial group. *Sleep*. 2013 May 1;36(5):769-79. PMID: 23633760; PMCID: PMC3624831. doi: 10.5665/sleep.2646.
30. John W Winkelman, David T Plante, Laura Schoerning, Kathleen L Benson, **Orfeu M Buxton**, Shawn P. O'Connor, Eric Jensen, Perry Renshaw, Atilla Gonenc. Increased Rostral Anterior Cingulate Cortex Volume in Two Independent Groups with Primary Insomnia. *Sleep*. 2013 Jul 1;36(7):991-998. PMID: 23814335; PMCID: PMC3669070.
31. John H. Kingsbury, **Orfeu M. Buxton**, Karen M. Emmons, Susan Redline. Sleep and its Relationship to Racial and Ethnic Disparities in Cardiovascular Disease. *Current Cardiovascular Risk Reports*. August, 2013. PMID: 24244756; PMCID: PMC3824366. DOI: 10.1007/s12170-013-0330-0. [Download from Springer](#)
32. Miguel Marino, Yi Li, Michael N Rueschman, John W. Winkelman, Jeffrey M. Ellenbogen, Jo M. Solet, Hilary Dulin Lisa Berkman, **Orfeu M. Buxton**. Measuring Sleep: Accuracy, Sensitivity, and Specificity of Wrist Actigraphy Compared to Polysomnography. *SLEEP* 2013;36(11):1747-1755. PMID: 24179309; PMCID: In progress. doi: 10.5665/sleep.3142.
33. Laura F. Sandoval, Karen Huang, Jenna O'Neill, Cheryl J. Gustafson, Emily Hix, Jessica Harrison, Adele Clark, **Orfeu M. Buxton**, and Steven R. Feldman. Measure of atopic dermatitis

- disease severity using actigraphy. *J Cutan Med Surg*. 2014; 18:49-55. PMID: 24377474; PMCID: In progress.
34. Ostler, M. W., Porter, J. H., **Buxton, O. M.** Dried Blood Spot Collection of Health Biomarkers to Maximize Participation in Population Studies. *J. Vis. Exp.* 2014 Jan 28;(83). PMID: 24513728; PMCID: In progress. doi: 10.3791/50973.
<http://www.jove.com/video/50973/dried-blood-spot-collection-health-biomarkers-to-maximize>
 35. Gustafson CJ, O'Neill J, Hix E, McLaren DT, **Buxton OM**, Feldman SR. Feasibility of actigraphy wristband monitoring of atopic dermatitis in children. *Skin Res Technol*. 2014 Feb 13. doi: 10.1111/srt.12147. [Epub ahead of print] PMID: 24521349.
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 38. Jacobsen HB, Reme SE, Sembajwe G, Hopcia K, Stiles TC, Sorensen G, Porter JH, Marino M, **Buxton OM**. Work stress, sleep deficiency, and predicted 10-year cardiometabolic risk in a female patient care worker population. *Am J Ind Med*. 2014 May 8. doi: 10.1002/ajim.22340. [Epub ahead of print]. PMID: 24809311; PMCID: In progress.
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<http://www.sleephealthjournal.org/article/S2352-7218%2814%2900004-7/pdf>

44. **Orfeu Buxton**, Anne-Marie Chang, James C. Spilsbury, Taylor Bos, Helene Emsellem, Kristen L. Knutson. Sleep in the Modern Family: Protective family routines for child and adolescent sleep. *Sleep Health* 2015, 1(1)15-27.
<http://www.sleephealthjournal.org/article/S2352-7218%2814%2900006-0/pdf>
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47. Consensus Conference Panel, Watson NF, Badr MS, Belenky G, Bliwise DL, **Buxton OM**, Buysse D, Dinges DF, Gangwisch J, Grandner MA, Kushida C, Malhotra RK, Martin JL, Patel SR, Quan SF, Tasali E; Non-Participating Observers, Twery M, Croft JB, Maher E; American Academy of Sleep Medicine Staff, Barrett JA, Thomas SM, Heald JL. Recommended Amount of Sleep for a Healthy Adult: A Joint Consensus Statement of the American Academy of Sleep Medicine and Sleep Research Society. *J Clin Sleep Med*. 2015 Jun 15;11(6):591-2. doi: 10.5664/jcsm.4758. PubMed PMID: 25979105; PubMed Central PMCID: PMC4442216.
48. Watson NF, Badr MS, Belenky G, Bliwise DL, **Buxton OM**, Buysse D, Dinges DF, Gangwisch J, Grandner MA, Kushida C, Malhotra RK, Martin JL, Patel SR, Quan SF, Tasali E. Recommended Amount of Sleep for a Healthy Adult: A Joint Consensus Statement of the American Academy of Sleep Medicine and Sleep Research Society. *Sleep*. 2015 Jun 1;38(6):843-4. doi: 10.5665/sleep.4716. PubMed PMID: 26039963; PubMed Central PMCID: PMC4434546.
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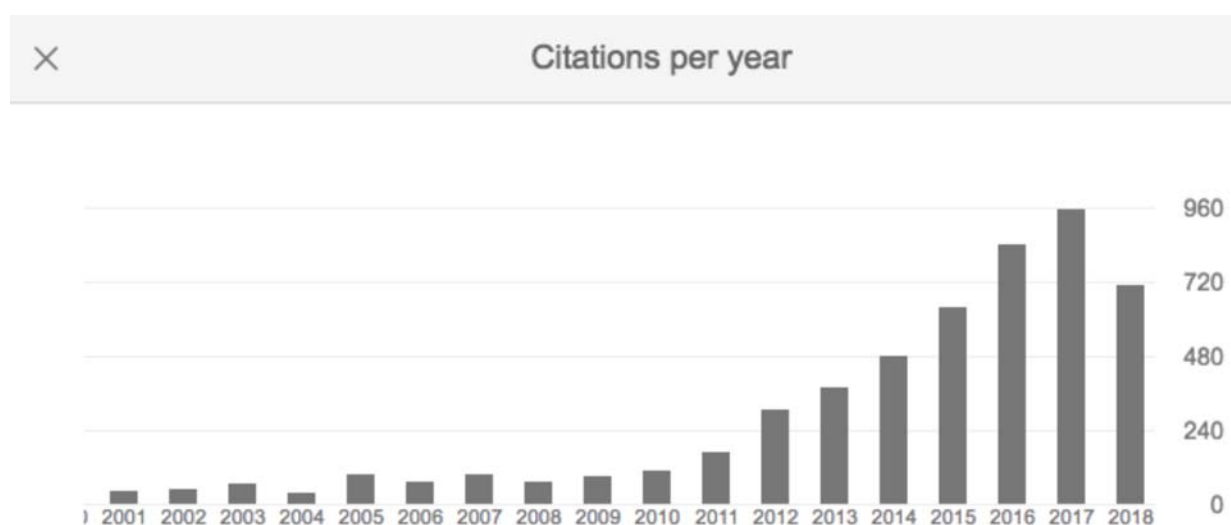
94 publications

Total citations > 5,400 (*as of July 2018*)

H-index = 35 (*as of July 2018*)

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Non-peer reviewed scientific or medical publications/materials in print or other media

Reviews, Chapters, Monographs, and Editorials

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Professional educational materials or reports, in print or other media

1. Orfeu M. Buxton and Stephen Gasior. Surveying Postdocs: A tale from the trenches. *Science NextWave*. January 2002.
2. Orfeu M. Buxton and Stephen Gasior. You've got the data! Now advocate for change! *Science NextWave*. April 2002.
3. "Slide Sets to Accompany the SRS Basics of Sleep Guide." Charles J. Amlaner, Orfeu M. Buxton, editors. Sleep Research Society Educational Programs Committee. 2007.
4. "Single Slide Sets to Accompany the SRS Basics of Sleep Guide (version 1.1)." Charles J. Amlaner, Orfeu M. Buxton, editors. Sleep Research Society Educational Programs Committee. 2008.

5. 2002. Chair, ad hoc SRBR Trainee Committee. Developed an educational program for trainees at a joint Society for Research on Biological on Biological Rhythms and Society for Sleep Research Meeting.

6. 2002. Co-wrote a trainee workshop proposal that was funded by the Sleep Research Society (\$24,700). 73 trainees, 12 faculty participants, and 2 speakers attended an event including a presentation on “Early career development” (speaker: Izja Lederhendler, National Institute of Mental Health) a guided mock grant-writing and review session (moderator: Dale Edgar), and informal networking and socializing opportunities.

7. 2002- Educational outreach and career development program for postdoctoral scientists. I and 6 other postdoctoral association leaders from across the US, beginning in May of 2002, formed an Exploratory Committee that submitted a successful proposal to the A.P. Sloan Foundation to seek planning funds to found the National Postdoctoral Association, a professional society for postdoctoral scientists. By October of 2002, we became a Steering Committee, formed alliances with federal, institutional, and professional societies, and submitted a successful proposal to the A.P. Sloan Foundation for start-up funds (\$450,000 for the first 18 months) that enabled us to found the National Postdoctoral Association <http://www.nationalpostdoc.org>. Educational outreach and postdoctoral scientist advocacy activities are ongoing. I chaired the Publications committee and served as a member of the Executive Board. I was honored to present a co-founder’s plenary lecture at the 10th annual meeting.

8. 2005-2008 Educational materials development for sleep education and teaching materials for graduate and undergraduate faculty. I served as a Member and am the current Vice Chair of the Educational Programs Committee of the Sleep Research Society (SRS). Our primary mission for 2006-2007 was a completed project to develop a semester’s course worth of slides and accompanying notes to facilitate the teaching of a Basics of Sleep course by non-expert faculty. I am one of two senior co-editors on the project. Formal launch of the product occurred at the Sleep 2007 meeting, and total sales have been revenue-generating for the SRS Foundation supporting sleep medicine research and other worthy SRS goals. These slide sets have also been re-packaged for sale as single slides sets for individual sale so as to broaden the audience for these educational products. Finally, we launched a new ‘webinar’ series of web-based, live lectures that is revenue-generating for the SRS and allows top experts in Sleep Medicine to reach a new and wider audience of physicians and research professionals.

Thesis

Buxton, O.M. The Impact of Non-photoc Stimuli on Human Circadian Rhythms: Exercise, Darkness, Sleep, and Triazolam [dissertation]. Evanston (IL): Northwestern University; 2000.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings

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3. Crain, T. L., Hammer, L. B., Lee, S., Johnson, R. C., Bodner, T., Almeida, D., Stawski, R. S., & Buxton, O. M. (2015, April). Assessing directionality among resource loss and sleep. Paper presented at the 30th annual meeting of the Society for Industrial and Organizational Psychology, Philadelphia, PA.
4. Zitting K, Vujovic N, Medina JE, Rader AG, Harris MP, Wong A, Williams JS, **Buxton OM**, Czeisler CA, Duffy JF. Resting Energy Expenditure Varies with Circadian Phase in Non-obese Older Adults. *SLEEP* 2017; 40:Suppl. A25.
5. Ness KM, Ramos AJ, Chang A, Shearer GC, **Buxton OM**. Role of Sleep Restriction in Adipocyte Insulin Sensitivity During an Intravenous Glucose Tolerance Test in Healthy Adult Men. *SLEEP* 2017; 40:Suppl. A27.
6. Stock AA, Lee S, Nahmod NG, **Buxton OM**, Chang A. Sleep and Cardiometabolic Health: Should College Students Be Concerned? *SLEEP* 2017; 40:Suppl. A295.
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(recent abstracts; papers unpublished or under review)

Narrative Report (limit to 500 words)

My current research primarily focuses on 1) the causes of chronic sleep deficiency in the workplace, home, and society, and 2) the health consequences of chronic sleep deficiency, especially cardiometabolic outcomes, and the physiologic and social mechanisms by which these outcomes arise. My primary research involves sleep laboratory studies as well as field-based studies including interventions. I have taught a sleep section in a HU undergraduate course for 5 years, and was twice awarded a Harvard Certificate of Distinction in Teaching prior to accepting a tenured position as Associate Professor at Pennsylvania State University in 2004.

My research has spanned rodent and human studies. Graduate work with Dr. Fred W. Turek at Northwestern University on studies of circadian physiology, endocrine function, and the effects of age on mammalian sleep. My training included a human sleep research rotation with Dr. Phyllis Zee. Through a collaboration with Dr. Eve Van Cauter at the University of Chicago, my primary graduate work involved experiments to characterize the effects of exercise, sleep, light-dark cycles, and a hypnotic on the human circadian system using neuroendocrine markers.

To study the health consequences of sleep loss, I founded a Sleep and Metabolism Research Program within the Division of Sleep Medicine at Harvard Medical School. Completed and ongoing interdisciplinary human studies involve sleep deficiency by a variety of means, including investigator-initiated trials of behavioral sleep restriction, normal aging, and insomnia, and exogenous factors such as acoustic sleep disruption and work-related sleep disruption. For example, I completed a study (as PI) demonstrating that a modest degree of sleep restriction (5 hrs/night for 1 week) impairs neurobehavioral performance, increases cortisol levels, and reduces insulin sensitivity, increasing diabetes risk (*Diabetes* 2010). I completed studies of the sleep-disruptive effects of typical hospital noise on cortical arousals and heart rate during nighttime sleep, informing new construction guidelines recently implemented for US healthcare facilities (*Annals of Internal Medicine* 2012). With Dr. Charles Czeisler (overall Program Project PI), I led a NIA-funded project examining ‘metabolic aging’. We observed that exposure to sleep restriction and circadian disruption, in young and older subjects, increases post-prandial blood glucose levels due to insufficient pancreatic insulin release, thereby increasing diabetes risk (*Science Translational Medicine* 2012). Based on these findings, this P01 was renewed with a focus on physiologic and tissue-specific mechanisms by which sleep deficiency and circadian disruption impact cardiometabolic risk.

I co-chair of the Steering Committee on the NIH-funded “Work, Family, and Health Network”. We study the relationship between work stress and the health of workers, their children, and other dependents. Our major NIH-funded, longitudinal intervention study tests workplace-based methods to reduce work stress and improve the health of workers and their families. We examine the role of work-family imbalance and workplace policies on the health of workers in two industries (nursing home workers and IT company workers) to examine the modifiable aspects of the workplace that influence sleep and cardiometabolic outcomes, among many other outcomes.

Now at Penn State full-time since 2014, I currently have 9 extramurally funded projects as part of my Sleep, Health, and Society Collaboratory. I lead a Biomarker and Actigraphy Data Coordinating Center spanning multiple projects. As one example of these interdisciplinary projects, in a current study of the Fragile Families cohort (Lauren Hale, PI), we examine biopsychosocial and genetic determinants of adolescent sleep, and the extent to which differential sleep patterns, physical activity, and other behaviors and contextual factors during childhood contribute to differences in obesity and cardiometabolic risk in teens.