

HLO82160: TRANSLATIONAL RESEARCH TRAINING IN SLEEP MEDICINE
(DANIEL J. BUYSSE, MD, TRAINING DIRECTOR)

Sleep and Health: Basic and Pre-Clinical Studies. Core Leader: O'Donnell

Faculty Member	Research Focus	Collaborators
Chris O'Donnell, PhD ¹	Cardiovascular and metabolic sequelae of sleep apnea; interaction of OSA with genes relating to obesity; role of leptin and oxidative stress in cardiovascular and metabolic consequences of OSA	Strollo, Germain
Judy Cameron, PhD ^{1,3}	Interactions between stress and reproductive biology, using the non-human primate as an experimental model; genetic diathesis of stress-sleep relationships in non-human primates	Buysse, Hall
Mark Gladwin, MD ³	Pulmonary hypertension; nitric oxide biology; role of nitrites in improving metabolic outcomes in obesity and animal models of OSA	Strollo, O'Donnell
Colleen McClung, PhD ⁴	Molecular mechanisms by which circadian genes control mood, anxiety and reward-related behavior using mouse models	Hasler
V. Nimgaonkar, MD, PhD ³	Single nucleotide polymorphisms for target genes related to specific neurotransmitters involved in the pathogenesis of mental disorders; combination of genetic analysis with endophenotypes	Buysse, Hall

Sleep and Health: Mechanisms. Core Leaders: Hall, Strollo

Faculty Member	Research Focus	Collaborators
Robert Krafty, PhD ^{2,3}	Application and development of statistical methodologies for analysis of longitudinal, functional, and time series data; particular emphasis on design and analysis of sleep and circadian data	Hall, Buysse
Cardiovascular and Metabolic Mechanisms		
Francesca Facco, MD ⁵	Sleep, circadian rhythms, metabolic function during pregnancy; sleep interventions in pregnancy	Buysse, Franzen, Strollo
Daniel Forman, MD ⁴	Geriatric cardiology management and rehabilitation; assessment of functional capacity; cardiovascular effects of exercise training	
Martica Hall, PhD ^{1,2}	Naturalistic, clinical experimental, and animal experimental models of stress-sleep-health relationships; cohort and population studies of sleep and cardiometabolic health	Buysse, Matthews, Strollo
John Jakicic, PhD ¹	Relationship between sleep disturbances/poor sleep quality and physical inactivity, obesity, weight gain, and related chronic disease risk	Newman
Karen Matthews, PhD ²	Psychosocial factors in cardiovascular disease; relationship between sleep, psychosocial risk factors, and cardiovascular risk factors; T32 in cardiovascular behavioral medicine	Hall, Strollo, Buysse, Atwood, Reis
Sanjay Patel, MD, MPH ⁴	Sleep epidemiology; sleep in minority populations	Strollo, Hall
Steven Reis, MD ²	Gender and race disparities in cardiovascular risk and mechanisms of atherosclerosis/ endothelial dysfunction; biomarkers of systemic inflammation and the metabolic syndrome; PI of the CTSI	Strollo, Matthews, Buysse, Hall
Patrick Strollo, Jr., MD ¹	Relationship between cardiovascular disease (esp. heart failure), sleep, and sleep apnea; relationship between sleep and cardiovascular risk factors	O'Donnell, Reis, Buysse, Matthews, Hall
Sally Wenzel, MD ⁴	Mechanisms and clinical trials for asthma; interactions between asthma and sleep	Strollo, Buysse
Neural Mechanisms		
Erika Forbes, PhD ^{1,2}	Role of sleep in adolescent affective disorders and its association with neural reward circuitry	Hasler, Franzen
Peter L. Franzen, PhD ^{1,2}	Naturalistic and experimental sleep deprivation/restriction paradigms to examine the role of sleep in physical and mental health, using psychophysiological and neuroimaging-based indicators	Buysse, Hall, Phillips, Siegle, Hasler
Brant Hasler, PhD ^{1,5}	Circadian rhythms and sleep in relation to neural reward systems and substance use disorders; sleep in adolescence	Buysse, Franzen, McClung
Mary L. Phillips, MD ^{1,2}	Functional imaging (fMRI) of neural systems underlying emotion processing in normal and psychiatric populations; developing a comprehensive neurocognitive model of emotion processing	Franzen, Buysse
Greg Siegle, PhD	Brain mechanisms of cognition and emotion, particularly as they are associated with affective disorders, prediction of recovery, and development of novel interventions	Franzen, Hall, Buysse

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Sleep and Health: Intervention Studies. Core Leaders: Buysse, Strollo

Faculty Member	Research Focus	Collaborators
Daniel J. Buysse, MD ^{1,2}	Insomnia, sleep in depression, sleep in aging, patient-reported outcomes; functional imaging of human sleep; Director of the N-CTRC; Program Director	Reynolds, Hall, Strollo, Matthews
Charles W. Atwood, Jr., MD ³	Novel technologies for detection of OSA; cost-effectiveness of diagnostic and treatment methods in OSA; upper airway physiology; Director of ACGME clinical Sleep Medicine Training Program	Strollo, Matthews, Hall
Lora Burke, PhD ⁴	Mobile health to assess and deliver behavioral interventions (e.g., electronic diaries, smartphones, actigraph, apnea link); ecological momentary assessment (EMA)	Strollo, Chasens, Hall
Eileen Chasens, PhD, RN ⁴	Effects of sleep disorders and sleepiness on management of chronic disease; sleep intervention effects on chronic disease self-efficacy and self-management	Strollo, Burke, Buysse
Anne Germain, PhD ¹	Sleep in PTSD, insomnia; development of behavioral interventions for sleep disturbances; functional imaging of sleep disorders and response to treatment	Buysse, Hall
Tina Goldstein PhD ⁴	Sleep in bipolar disorder; sleep in adolescents; sleep interventions to reduce suicidality	Franzen, Buysse
Elizabeth Miller, MD, PhD ^{1,4}	Clinic & community-based interventions to promote adolescent health; stakeholder-engaged research; qualitative & mixed-methods research; translating research for policy & practice	Franzen, Buysse
Anne B. Newman, MD, MPH ^{1,2}	Epidemiology of sleep disturbances and sleep apnea in older adults; sleep and functional status in the elderly; Pittsburgh site PI of the Sleep Heart Health Study; sleep cohort studies	Strollo, Hall
Charles Reynolds, MD ³	Age-related sleep changes in healthy adults and those with neuropsychiatric disorders; impact of sleep disturbance on treatment outcomes in depression; depression prevention; T32 grants	Buysse, Hall, Germain
Bruce Rollman, MD, MPH ⁴	Internet interventions; treatment of depression and anxiety in medical patients; implementation research	Buysse, Strollo