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Or visit our website at:
http://www.sleep.pitt.edu

University of Pittsburgh

Translational Research Training in Sleep Medicine

Medical Student
Summer Research Program

www.sleep.pitt.edu

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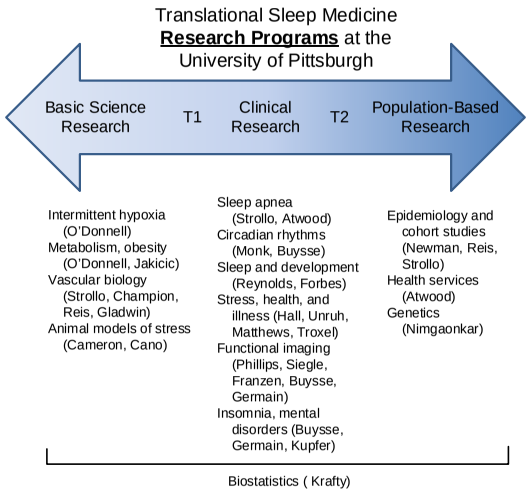
Med student 6/2015

<u>Why Sleep Medicine</u>? Sleep Medicine is a growing, multidisciplinary specialty. Disciplines involved in Sleep Medicine include neuroscience, psychiatry, neurology, pulmonary medicine, and epidemiology. Because of its multidisciplinary nature, Sleep Medicine offers a wide variety of research opportunities.

Sleep and sleep disorders are increasingly recognized as critical contributors to physical health, mental health and functioning. Over the past five years, a range of exciting developments in basic, translational, and epidemiological sleep research have begun to elucidate how sleep exerts these effects. In *<u>basic sleep science</u>*, particular progress has been made in sleep and circadian genetics, genomics, and proteomics. Animal studies have shown convincing associations between clock genes and cardiometabolic function. *<u>T1 translational research studies</u>* have provided compelling evidence for the link between sleep disruption and cardiometabolic risk, and neuroimaging studies documented the adverse effects of sleep loss on neuropsychiatric functions, a mechanistic understanding for how sleep disruption increases risk for psychiatric and substance use disorders. *<u>Clinical research studies</u>* have included the first large-scale clinical trials of positive pressure treatment in sleep apnea, examining effects of treatment on cardiovascular and neurocognitive functions. Finally, *<u>epidemiologic studies</u>* demonstrate the impact of sleep duration and sleep disorders on a wide range of physical and mental health measures including risk for adverse cardiovascular outcomes.

The University of Pittsburgh Sleep Medicine Institute (UPSMI) includes investigators from The Schools of Medicine, Nursing, and the Graduate School of Public Health. These investigators have a wide range of research programs (see figure).



<u>The UPSMI offers two types of research experiences for medical students:</u>

- A short term summer research experience at the end of the first or second year of medical school
- Longer term involvement through the School of Medicine Scholarly Project

<u>Summer Research</u>. The goal of the summer elective is to capture the interest of medical students early in the path of career choice and to create a positive research experience focused on sleep medicine. This opportunity provides a modest stipend together with outstanding research experience and opportunities.

<u>Scholarly Project</u>. The aims of the Scholarly Project are to: 1) Foster analytical thinking skills and the development of tools for rational decision-making in future physicians; 2) Provide role models, mentorship, and guidance for students regarding careers that integrate research, teaching, and clinical service; 3) Present research and scholarly biomedical pursuits to students as endeavors that often, but not always, involve collegial interaction; 4) Enhance the medical school culture of self-directed and peer group-fostered learning; and 5) Enhance the oral and written communication skills of graduating medical students.

<u>Program Plan.</u> Interested students will be interviewed and selected by the Program Directors and appropriate Training Faculty. Criteria for selection will include: 1) Interest in working in the field of Sleep Medicine; 2) Interest (and preferably experience) in clinical or basic biomedical research; and 3) Willingness to commit to the full-time 10-12 week summer elective, to complete a project, and contribute to a peer-reviewed publication; or interest in completing a Scholarly Project in Sleep Medicine.

Medical students should contact the Program Directors, who will direct them to a potential faculty mentor based on their interests and experience. Medical students will then meet with the mentor to assess the "match." Students will be selected to participate in a research project that has the potential to lead to a presentation and in many cases a publication. In addition, students will be exposed to clinical research, observing research assessments, sitting in on team meetings, and occasionally going on rounds or observing a consultation. In total, approximately 8 hours per week will be devoted to clinical observation to provide students with some clinical context for their experience. The Program Directors will meet with the group weekly to review progress, address questions about clinical experiences they have had during the week, and to discuss interdisciplinary research in Sleep Medicine.