

Unblocking the Bottleneck

Written by Karen Carlson • Photograph by James Hawker

Center for Clinical Research seeks to shorten time from microscope to stethoscope

Research is the gateway to better health care. But research is facing a shortage of clinicians who make time for research. This has resulted in a “bottleneck” that delays turning scientific discoveries into better patient care, notes Howard B. Dickler, M.D., Association of American Medical Colleges director for clinical research and staff director of the 2006 AAMC report, *Promoting Translational and Clinical Science: The Critical Role of Medical Schools and Teaching Hospitals*. This report urges medical schools and teaching hospitals to add to the number of physician-scientists.

The National Institutes of Health also is mandating more collaborative efforts between clinicians and scientists, notes J. Kevin Dorsey, M.D., Ph.D., dean and provost of SIU School of Medicine.

Linda Toth, Ph.D., associate dean of research and faculty affairs adds, “That includes translating clinical research into patient care.” SIU faculty members also have asked for help to move clinical research forward.

Answering these calls to action, SIU School of Medicine is strengthening its commitment to clinical and translational research with the establishment of The Center for Clinical Research. Sandra Puczynski, Ph.D., is leading the effort as director of Clinical Research Development. Before coming to SIU in July, Dr. Puczynski helped build a center for clinical research at the Medical College of Ohio, which is now the University of Toledo Health Science Campus.

Dr. Toth explains. “Physicians who want to do clinical research are committed to the future good of patients. However, clinical research is complex and requires knowledge about many issues apart from patient care.” The complexities of clinical research include understanding the logistics of carrying out a project, learning how to write grants and protocols, knowing the requirements for recruiting patients, applying valid approaches to collecting, analyzing and presenting data, and the ability to publish. While basic scientists spend years developing these skills, young physicians may not know where to begin.

That’s where Dr. Puczynski can help. Along with a core group of SIU faculty, she is assessing the unique needs of SIU School of Medicine and determining what infrastructure is needed to support and encourage clinicians to un-



Dr. Puczynski

dertake clinical research. She will also facilitate collaborations among clinical and basic scientists within the School, as well as help link the minds of Springfield with faculty at Carbondale and other institutions.

“Several groups are doing excellent work here,” Dr. Puczynski says. “By aligning our clinical and translational research programs with the

educational and service components of the School’s mission, we can be a much more efficient organization.”

New projects may also help SIU fulfill its commitment to Illinois’ rural population. Dr. Puczynski envisions taking clinical and translational research into communities beyond Springfield. “A lot of good ideas are tested in an academic setting,” she says, “But academic institutions don’t necessarily represent the population. People who can participate in a research project in an academic community and those who can join studies in smaller communities may be very different demographically. That needs to be explored. SIU could do this very effectively.”

Dr. Toth adds, “People in rural settings with limited access to health care are not likely to have access to clinical trials. We are going to work to get innovations in medicine to patients in a practical way.”

Dr. Puczynski foresees components of the program that will include training for clinical investigators and research personnel and establishing regulatory and biostatistics support offices. “We are here to facilitate the clinical research process and to provide an interface between the research team and the hospitals, the Springfield Committee for Research on Human Subjects and other entities they must interact with to get research done,” she says.

“The Center for Clinical Research that we envision will be a place where faculty members across all disciplines can go if they have a question or need help. However we can make it easier for them to build clinical research into their busy practices of patient care, that’s what we want to do.” ●●●

Tinnitus grants aim to stop the ringing



Donald Caspary, Ph.D., professor of pharmacology and SIUC distinguished scholar, received two national grants totaling more than \$1.7 million

to study tinnitus, or ringing in the ears. Tinnitus affects nearly 36 million Americans, according to the American Academy of Otolaryngology Head and Neck Surgery. Dr. Caspary is the principal investigator for both projects.

A five-year federal grant from the National Institute of Deafness and Other Communication Disorders (NIDCD), a division of the National Institutes of Health, will study the impact of aging on changes in the brain related to tinnitus. Dr. Caspary and his team will examine the functional and molecular neurochemical changes between young and aged rats with and without behavioral evidence of tinnitus. The total budget for the grant is \$1,535,315.

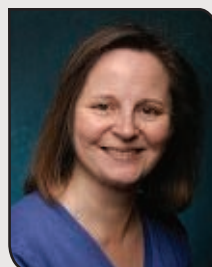
The second grant, a two-year grant from Merck & Company, Inc., will test a potential new drug, gabox-

adol, as a possible treatment for tinnitus. The study will determine where in the brain the compound acts and how it affects some of the hearing pathways in the rat brain. The total budget for the grant is \$197,064.

Co-investigators for the projects are **Thomas J. Brozoski, Ph.D.**, professor of surgery; **Larry F. Hughes, Ph.D.**, professor of psychiatry and surgery; and **Jeremy G. Turner, Ph.D.**, part-time faculty member in surgery. Staff working on the project include **Lynne L. Ling**, senior researcher, and **Hongning Wang**, graduate assistant, both in pharmacology. Other SIU faculty members contributing to the research are **Carol A. Bauer, M.D.**, associate professor of otolaryngology head and neck surgery, and **Robert H. Helfert, Ph.D.**, associate professor of otolaryngology, head and neck surgery and pharmacology.

This year, Dr. Caspary marks 35-years of research at the School of Medicine. He has studied presbycusis (age-related hearing loss) for more than 25 years. His research has been funded for most of that time by NIDCD, totaling more than \$5.2 million.

Refinement award granted



Linda Toth, Ph.D., professor of pharmacology and associate dean of research and faculty affairs, received the 2007 Charles River Laboratories Excellence in Refinement Award. This award is given for "a body of research that improves both

the understanding and practice of refinement alternatives." "Refinement" refers to methods aimed at minimizing pain and distress for laboratory animals. The award is sponsored by the Johns Hopkins Center for Alternatives to Animal Testing. She received the award at the 6th World Congress on Alternatives and Animal Use in the Life Sciences in Tokyo in August. According to the Johns Hopkins Center for Alternatives to Animal Testing (CAAT) Web site, the award "is based on the conviction that the humane care of laboratory animals is both a moral imperative and a scientific necessity."

In the last six years at SIU School of Medicine, active external research funds have increased more than 56 percent in areas such as cancer, aging, neuroscience, auditory research and medical education, according to the School's Institutional Self-Study Report.

Researchers work to stop sudden death from epilepsy

SIU faculty have been awarded a one-year national grant from the Citizens United for Research in Epilepsy (CURE) to study sudden unexpected death in epilepsy (SUDEP). The project's principal investigators are **Carl L. Faingold, Ph.D.**, professor and chair of pharmacology, and **Victor Uteshev-Gaard, Ph.D.**, assistant professor of pharmacology. The



Dr. Faingold

total budget for the grant is \$75,000.

Sudden unexpected death in epilepsy results from breathing failure after seizures. This study will determine if specific drugs



Dr. Uteshev-Gaard

will prevent SUDEP in a type of mice that are known to have seizures and death due to breathing failure. It also will examine how these drugs act on a region of the brain that

controls breathing to determine the nature of the defect causing death. The research could lead to the prevention of SUDEP.

Dr. Faingold has been with SIU School of Medicine for 35 years. His research has been funded by the National Institutes of Health and other national foundations for 30 years and totals \$3.5 million. His research has focused on how drugs affect net-

works of brain cells involved in epilepsy and alcoholism.

This is the second national grant awarded to Dr. Uteshev-Gaard. His previous research has been the study of mechanisms that regulate neuronal function and signaling and how drugs change those mechanisms.