

**This ongoing addition to Aspects will highlight a few of the hundreds of research projects SIU School of Medicine faculty are undertaking.**

**For more information about these projects, contact the Office of Research and Faculty Affairs at 217-782-7936.**

**Biological Markers in Reproductive Medicine**

*Primary Investigator:  
Mary E. McAsey, Ph.D.*

Dr. McAsey is developing new biological markers for clinical use in reproductive medicine. Biological markers are chemicals or measurable physiological responses that can indicate health problems. Her long-term goals with the project are to expand the clinical research program in obstetrics and gynecology and establish a core biomarker laboratory that will focus on the development of molecular and immunologic techniques to identify and/or quantify biological markers in body fluids and tissues. Specifically, she is looking into markers for ovarian cancer, infertility, and pre-eclampsia. She also is exploring new clinical applications for existing biological markers that will predict diseases and develop more effective treatment for these diseases. This research is funded by an *Excellence in Academic Medicine* award.

**CMV Infection and Disease in HIV Positive Patients Receiving Highly Active Antiretroviral Therapy (HAART): A Longitudinal Study**

*Primary Investigator:  
James M. Goodrich, M.D., Ph.D.*

Cytomegalovirus (CMV) is an opportunistic infection in HIV and transplant patient populations that may cause death. Dr. Goodrich is collecting longitudinal data of CMV infection and disease in AIDS patients who are receiving highly active antiretroviral therapy, and he is examining the current tests for the diagnosis of CMV disease.

He hopes to find a test that is predictive for CMV disease that could be used to monitor patients at high risk for the illness. Patients testing positive could be treated with drugs to prevent CMV disease.

**Screening and Assessing for Family Violence in Emergency Rooms (SAFER)**

*Primary Investigator:  
Regina Kovach, M.D.*

This project (SAFER) is a prospective, randomized, controlled, multi-center trial to assess whether screening for, and referral of, domestic violence victims by health-care providers can impact the victim's decision to seek a protective shelter. The trial also seeks to determine if intervention by health care workers affects subsequent outcomes of domestic violence victims.

The trial represents a special collaboration of six independent organizations that include the Illinois Department of Public Health, Memorial Medical Center, St. John's Hospital, SIU School of Medicine, Sojourn Shelter and Service and the Sangamon County Sheriff's Department.

**Integrative Neurobiology of Alcohol Withdrawal Seizures**

*Primary Investigator:  
Carl L. Faingold, Ph.D.*

People suffering from alcoholism may experience a withdrawal syndrome if they stop drinking abruptly, including convulsive seizures similar to those of epilepsy. Dr. Faingold hopes to understand the brain mechanisms involved in these alcohol withdrawal seizures. His research involves studying the abnormal changes in mechanisms of brain cells during seizures, and he is testing seizure-blocking drugs in certain regions of the brain. Dr. Faingold will compare his findings with withdrawal behaviors in an effort to develop better therapies for human alcohol withdrawal.

**The Regulation of Beta Defensin in Cultured Human Keratinocyte**

*Primary Investigator:  
Stephen M. Milner, M.D.*

Dr. Milner proposes to stimulate cultured skin cells called keratinocytes with various concentrations of anthralin, an anti-inflammatory molecule. He will measure the amount of a bacteria-fighting protein called defensin that is produced. If anthralin does induce the expression of defensin, it may lead to the use of anthralin to regulate the expression of defensin in burn patients.

This may benefit burn patients who suffer infection, since preliminary data shows that burned skin has lower levels of beta defensins. The project is funded internally through the Central Research Committee.