

Making the connection

Dr. Copello receives NIH grant

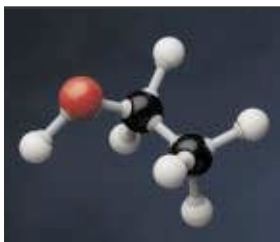
How do molecules communicate? That's the question Julio Copello, Ph.D., assistant professor of pharmacology, is asking. He has been awarded a five-year grant totaling \$1.2 million from the National Institute of General Medical Sciences, one of the National Institutes of Health.



The study will look at how groups of molecules connect to work in a coordinated way to allow calcium, which is required for heartbeat and muscle movement, to travel from one place to another inside the cells. This research may eventually lead to the development of new drugs for humans for treatment of heart and muscle diseases.

This is Dr. Copello's first national grant for research, which focuses on muscle physiology and pharmacology.

Dr. Copello joined SIU's faculty in 2005. He earned his doctoral and master's degrees in biochemistry from the University of La Plata in La Plata, Argentina (1989, 1983). He earned his bachelor's in economics at the National School in Chacabuco, Argentina.



Breathe easy *Emphysema treatment uses 'airway bypass'*

Researchers in the Division of Cardiothoracic Surgery at Southern Illinois University School of Medicine in Springfield are participating in an international, multi-center trial called EASE™, which stands for Exhale® airway stents for emphysema. The clinical trial will study an investigational treatment that may offer a new, minimally-invasive option for those suffering from advanced emphysema.

"We are excited to be part of this study which uses a new procedure because there are limited treatment options for emphysema patients, patients who are often in poor physical condition, struggling with each breath," says Dr. Stephen R. Hazelrigg, professor and division chair of cardio-thoracic surgery and principal investigator of the study. "By creating new pathways for airflow, we hope to improve lung function. If patients can breathe easier, it is likely their quality of life will improve."

The study uses a procedure called "airway bypass," which creates pathways in the lungs for trapped air to escape and in turn relieves emphysema symptoms. Physicians insert a flexible bronchoscope through the nose or mouth into the airways. Using a



Doppler probe, they identify a site in the airway away from blood vessels. A special needle is used to make a small opening where the stent is

placed. The procedure lasts one to two hours and can involve placing up to six stents.

Emphysema affects an estimated 60 million people worldwide with more than three million sufferers in the United States. There is no cure for this chronic, progressive and irreversible lung disease. The loss of the lungs' natural elasticity and the collapse of lung airways combine to make exhaling ineffective, leaving the emphysema sufferer unable to get air out of their lungs. Breathing becomes inefficient and the patient is always short of breath. Even simple physical activities become difficult and many emphysema patients become dependent on oxygen therapy. Airway bypass holds some promise for increasing a patient's functional capabilities.

Understanding cancer cells

Two national grants for Dr. Mo

Yin Yuan Mo, Ph.D., associate professor of medical microbiology, immunology and cell biology, has received two national grants for his projects that are investigating the molecular level of cancer cells.



Dr. Mo is a member of the research team at SimmonsCooper Cancer Institute at SIU.

His research will examine micro RNA, small nucleic acids, which may be responsible for transforming a normal breast cell into a cancer cell. Identification of the micro RNA may lead to the development of new diagnostic markers for breast cancer as well as new therapies. Total budget for the one-year grant awarded by the U.S. Army Medical Research is \$108,375.

Another of Dr. Mo's awards is a five-year grant awarded by the National Institutes of Health as a subcontract of a grant to the University of Illinois at Chicago.

The study will examine the role of Ubc9, a cellular protein, in response to anticancer drugs and the effects of protein activity on cancer development and progression. This study may lead to new and improved strategies used in the treatment of cancer. The total budget for the grant is \$98,455.

Dr. Mo's cancer research has been funded for four years by the National Cancer Institute and totals about \$1.2 million. He joined the SIU faculty in 2003. He completed his post-doctoral fellowship in microbiology at Washington State University at Pullman, Wash., where he also earned his doctoral degree (1994, 1991). He earned his bachelor's at Zhejiang University in China (1982).