



iuscc research news

April 2008

IUSCC researchers will track clues to multiple myeloma with \$750,000 grant

Two researchers with the IU Simon Cancer Center will search for molecular clues to enable better detection and treatment of multiple myeloma with a \$750,000 award from the Multiple Myeloma Research Foundation.

Mu Wang, PhD, director of the Protein Analysis and Resource Center (PARC), and Attaya Suvannasankha, MD, will lead the three-year initiative that was announced in early April.

IU was one of three institutions selected nationally, along with the University of Arkansas and the University of Michigan, by the foundation to use the powerful tools of proteomics to find biomarkers for the disease.

About 15,000 new cases of multiple myeloma are diagnosed in the United States annually.

Thus far, the disease has resisted researchers' efforts to find a cure or successfully predict which patients will benefit from available treatment alternatives, Dr. Suvannasankha said.

Researchers will analyze the differences in proteins found in multiple myeloma cells versus healthy cells. They also will study the protein patterns of bone marrow cells that provide "support" for the cancerous cells, searching for proteins that could serve as biomarkers for doctors and scientists.

In addition, they will study the cells' protein patterns before and after treatment with various chemotherapy regimens.

"It would be good to know that if a patient has protein expression pattern A, the patient should receive drug regimen A," Dr. Suvannasankha said. "That's the kind of thing we're hoping to better understand by understanding the cancer cells and their surrounding cells that support the growth of the cancer cells."

To attack such problems, IU will be able to combine its clinical care and basic science research expertise in multiple myeloma with the resources in one of the nation's most advanced proteomics facilities, Dr. Wang, the project's

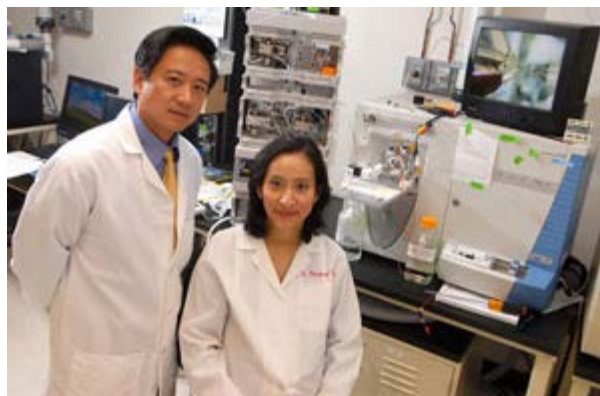
principal investigator, said.

Proteomics technologies enable scientists to study the universe of proteins that exist in cells at a given time. The Protein Analysis Research Center (PARC), which provides proteomics analysis to academic researchers, is part of Monarch LifeSciences, an Indianapolis firm that provides contract research services focusing on biomarker discovery and validation.

PARC serves as the IU School of Medicine's proteomics core, which was created with funding by the Indiana Genomics Initiative (INGEN).

Also participating in the initiative will be Fred Regnier, PhD, of Purdue, and Xiang Zhang, PhD, of the University of Louisville.

-Eric Schoch



Dr. Wang (left) and Dr. Suvannasankha are leading a three-year initiative in which researchers will search for molecular clues to enable better detection and treatment of multiple myeloma.

Rocky Rothrock photo



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Core spotlight

***In Vivo* Therapeutics Core**

The [In Vivo Therapeutics \(IVT\) Core](#), under the direction of Karen E. Pollok, PhD, is the newest IU Simon Cancer Center core.

The IVT core replaces the Stem Cell Transplant Core, which traced its beginnings to the Core Centers of Excellence in Molecular Hematology NIH-sponsored grant that previously provided funding for many core services, including on-site mouse colonies.

The IVT core includes those colonies (NOD/SCID, NOD/SCID/IL2Rgammanull, Boy/J, and F1/BoyJxC57Bl/6). Because of the colonies' on-campus location, investigators save time by not having to wait for mice to be delivered as well as money. The core maintains an IACUC-approved study dedicated to *in vivo* animal studies.

But the IVT core goes beyond the mouse colonies.

"Now it's a service-based core," Pollok said. "We're doing tumor modeling studies, drug efficacy studies, and developing new tumor models."

Overall, the core provides these pharmacological investigations:

- *in vitro* toxicity testing
- *in vivo* dose range finding
- *in vivo* tumor growth kinetics
- *in vivo* drug efficacy/tumor xenograft model

Cellular therapies include:

- radiation of mice prior to transplantation
- intravenous injection of hematopoietic stem cells into mice
- provide investigator blood samples from transplanted mice

"This is truly a core where things are customized for the investigator," Pollok added. "Our mission is to provide comprehensive services and act as a liaison between the PI and other core services that will enhance the quality of their

research.”

For more information about the IVT core, contact Pollok at kpollok@iupui.edu.



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News briefs

Mushroom may help fight breast cancer

A medicinal mushroom -- found primarily in tropical America, Africa, and Asia -- may help scientists find a cure for breast

cancer. Daniel Sliva, PhD, and colleagues are working on a study that demonstrates that the mushroom *Phellinus linteus* (PL) inhibits proliferation as well as colony formation of highly invasive human breast cancer cells. The mushroom blocks the enzyme AKT, which controls the signals for cells to grow and the development of new blood vessels that feed tumors. The findings were published in the April 15 [British Journal of Cancer](#).



Sliva

Sliva is with the Methodist Research Institute and an associate member of the IU Simon Cancer Center's Molecular and Environmental Carcinogenesis program.

Cancer Research Day is May 7

The 2008 IU Simon Cancer Center Cancer Research Day is May 7. Cancer Research Day, led by James Klaunig, PhD, aims to increase understanding and awareness of IU Simon Cancer Center research endeavors and encourage collaboration with other cancer research institutions in Indiana. Students, fellows, and faculty conducting cancer research at IUPUI, IU-Bloomington, Purdue University, and the Walther Cancer Research Center at the University of Notre Dame are invited to present their current cancer research efforts. Abstracts should be submitted for basic science, translational/clinical, or population science categories. Please submit all abstracts electronically by April 30 by visiting this [link](#). For more information about Cancer Research Day, contact Dr. Klaunig at jklauni@iupui.edu or read this previous [story](#).

Yoder leads Wells Center

Mervin Yoder, MD, a nationally recognized stem cell researcher and a researcher with the IUSCC, has been appointed to lead the Herman B Wells Center for Pediatric Research at IUSM and Riley Hospital. An accomplished scientist and entrepreneur, Yoder and his colleague David Ingram,

MD, were the first to isolate, cryopreserve, and undertake assay development to prove the existence of endothelial blood-vessel-forming cells from umbilical cord blood in 2004. Using these cells, they hope to create cell therapy products to treat people with circulation problems in their arms and legs, those who have heart disease, or those with other health issues involving blood vessels and circulation. Drs. Yoder and Ingram have created EndGenitor Technologies Inc. to pursue this application. Yoder succeeds Mary C. Dinauer, MD, PhD, who served as the Wells Center director since 2000. Dinauer oversaw a period of robust growth and expansion that included an increase in principal investigators, research personnel, graduate students, postdoctoral and clinical subspecialty fellows, and administrative staff. During the time she directed the Wells Center, the number of investigators increased from 25 to 34 and NIH funding grew from \$8.9 million to \$12.5 million. Dinauer will continue her own groundbreaking research in the area of gene therapy as the Nora Letzter Professor of Pediatrics and professor of microbiology and immunology and of medical and molecular genetics.



Yoder

Flockhart participates in U.S.-Japanese study

David Flockhart, MD, PhD, will participate in the Global Alliance for Pharmacogenomics, a collaboration between scientists in the United States and Japan. The U.S. scientists involved are members of the NIH Pharmacogenetics Research Network. The Global Alliance for Pharmacogenomics is a broad-based effort to use genetic information to better understand why patients react differently to drugs, both in terms of side effects and the drugs' effectiveness. The agreement was reached between the NIH and the newly-created Center for Genomic



Flockhart

Medicine in Japan. Flockhart will participate in a Global Alliance research study to better understand the role of genetic factors in the effectiveness of aromatase inhibitors, a class of breast cancer drugs that can help block the growth of tumors by reducing the amount of estrogen in the body. Flockhart already is researching how genetic factors affect how the body metabolizes aromatase inhibitors and the role of genetics in side effects from those drugs as part of a five-year, \$12 million research project funded by the National Institutes of Health.

IU Simon Cancer Center tissue bank collects 1,000 blood samples

An army of volunteers, led by Anna Maria Storniolo, MD, and Susan Clare, MD, PhD, collected 1,000 blood samples from women during a blood draw at the Indianapolis Race

for the Cure April 19
for the Susan G.
Komen for the Cure
Tissue Bank at the IU



Simon Cancer Center. By collecting blood from women with and without breast cancer, researchers will be able to determine the differences between these populations, which could lead to a better understanding of the disease and eventual advances in diagnosis and treatment.

PowerPoint, poster templates now available

IUSCC members can now access templates -- with the approved IU Simon Cancer Center signature -- for PowerPoint presentations and posters on the cancer center's Intranet [here](#). Both are located under the "Templates" heading.

Banks joins ITRAC

Crystal Banks is the newest staff member of [ITRAC](#). Most recently with Eli Lilly, Banks has an extensive background in animal pharmacology as well as project management through six sigma green belt training. She will work with and report through the ITRAC platform, focusing on assisting scientists with experimental designs that already have been mapped out but require liaison activities. In addition, Banks will serve as the ITRAC contact for the revamping of the Research Collaboration and Inventory Database and the campus-wide database collaboration project led by the new [Clinical and Translational Science Institute](#) (CTSI) initiative. Banks can be reached at crysbanks@iupui.edu or 278-3312.

Honor, remember someone affected by cancer

During the grand opening of its new patient facility this summer, the IU Simon Cancer Center will honor 10,000 people who have been touched by cancer through its "Faces of Cancer" ribbon campaign. Please consider honoring or remembering someone affected by cancer by visiting the [Faces of Cancer](#) Web page. You may request as many ribbons as you would like and there is no cost to do so.

Hammoudeh dots the eye



Fuad Hammoudeh, the hematology/oncology division administrator and Clarian Health's cancer programs administrator, paints the dragon's eye red on the Indy SurviveOars dragon boat, sponsored by the IU Simon Cancer Center and Clarian Health. The dotting of the eye signifies the release of the spirit of the boat. Members of Indy SurviveOars, composed of Hoosier breast cancer survivors, introduced dragon boat racing to Indiana during its debut April 13 on Geist Reservoir.



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New member

Samy Meroueh, PhD
Associate member, Experimental and Developmental
Therapeutics

New grants

David Ingram
“Molecular Mechanisms of NF1 Vasculopathy”
U.S. Department of Defense

Mark Kelley
“The Role of Ape1 in Neurotoxicity of Cancer Treatments”
NIH-NCI

Feng-Chun Yang
“Identification of the Cellular and Molecular Mechanisms
Underlying the Osseous Manifestations of NF1 in Murine
and Human Systems”
U.S. Department of Defense

Jian-Ting Zhang
“Targeting the Oligomerization Domain of Human Breast
Cancer Resistance Protein for Chemosensitization”
U.S. Department of Defense