UT SOUTHWESTERN MEDICAL CENTER
VOL. 3, NO. 4, JULY 2009

Investigator to Cancer Center Bulletin

A publication of the Harold C. Simmons Comprehensive Cancer Center

Grand Rounds

The speaker for the upcoming Simmons Comprehensive Cancer Center Grand Rounds Dr. Mien-Chie Hung, chairman of the department of molecular and cellular oncology and director of the breast cancer basic research program at M.D. Anderson Cancer Center.

The lecture will be held Aug. 7 from 11:30 a.m. to 12:30 p.m. in the T. Boone Pickens Biomedical Building and Conference Center (NG) 3.112.

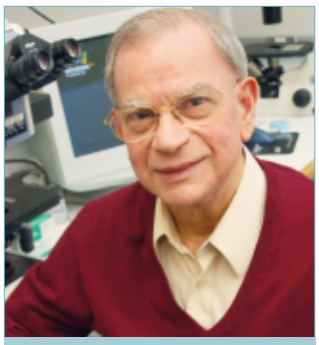
The title of Dr. Hung's lecture is "Novel signal pathways and their implication in developing cancer therapy."

Dr. Hung has earned an international reputation for research involving the molecular biology of cancer.

He was the first to isolate and delineate the regulatory region of the *HER-2/neu* oncogene. He also discovered how multiple molecular mechanisms cause an over-expression of this gene and clarified how altered *HER-2/neu* oncogenes enhance the metastatic potential of cancer cells.

Dr. Hung and his colleagues are working to develop a breast cancer-specific targeted therapy by using a fusion protein called endostatin-cytosine deaminase.

Grant funds early-detection studies of lung cancer



Dr. Adi Gazdar

Researchers at UT Southwestern Medical Center are among an elite group of cancer scientists to share a $2 million grant to find biomarkers for lung cancer that develops in people who have never smoked.

The National Cancer Institute (NCI) and the Canary Foundation, a nonprofit organization that funds research in early cancer detection, are sponsoring the multi-institutional effort.

The NCI's Early Detection Research Network (EDRN) and the Canary Foundation each are providing initial funding of $1 million for the first year of this project.

The partnership will support studies designed to create a better understanding of the biology of lung cancer and to develop a test to detect early-stage lung cancer in lifetime nonsmokers.

Dr. Adi Gazdar, professor of pathology in UT Southwestern's Nancy B. and Jake L. Hamon Center for Therapeutic Oncology Research, is the principal investigator for the EDRN project, which will be conducted at five sites across the country.

"We know that smoking-related cancers are heavily dependent on how much one smokes. The more you smoke, the greater the risk," Dr. Gazdar said. "But why are so many new cases of lung cancer being diagnosed among never-smokers?"

Estimates suggest that as many as 25 percent of all lung cancers worldwide – 15 percent of those in men and 50 percent of those in women – are not attributable to smoking, although the figures for the United States are somewhat lower.

"If you consider lung cancer in never-smokers as a separate category, it ranks as the seventh-most common cause of cancer deaths worldwide," Dr. Gazdar said. "Lung cancer among never-smokers is really an ignored disease, yet it is such a major killer."

Research has shown that lung cancer in people who have never smoked differs in many ways from the disease in smokers. Nonsmokers with lung cancer have different tumor histology, gene mutations, and clinical and demographic profiles than smokers with lung cancer.

Continued on page 2

INSIDE:

THIS ISSUE

Tissue Resource aids clinical studies

Dr. David Gerber

MANY FACTORS HAVE BEEN EXAMINED in an attempt to explain the low rates of participation in cancer clinical trials, including both patient and physician characteristics. But the role of nonphysician research personnel, who often discuss study details with patients and obtain consent for participation, has not been extensively studied.

In a recent study published in *The Oncologist*, Dr. David Gerber, assistant professor of internal medicine in the division of hematology/oncology at UT Southwestern, evaluated the association between consenter characteristics and patient interest in clinical research.

Dr. Gerber examined trends among 922 patients using information stored in UT Southwestern's Tissue Resource, which was established jointly by the Department of Pathology and the Harold C. Simmons Comprehensive Cancer Center. The facility stores tissue samples gathered from consenting UT Southwestern patients who are undergoing a biopsy or surgical procedure for suspected or confirmed cancer.

Dr. Gerber didn't focus on the tissue or blood specimens stored at the facility, however. Instead, he gathered information from the consent forms that patients must sign for their tissue to go to the repository. In the six-page document, he discovered several questions that asked patients whether they would agree to be contacted in the future for follow-up information and whether they would agree for UT Southwestern staff to contact them for participation in future research.

"This research is a good example of how important the extensive data collection by the Tissue Resource is in aiding research at UT Southwestern," said Jennifer Sayne, who manages the Tissue Resource.

Dr. Gerber reviewed additional data collected by the Tissue Resource, including the age, gender, race and ethnicity of the patient. He also gathered similar information for each consenter and used this data to study the impact of consenter characteristics and experience on patient interest in clinical research.

The major findings include:

- The overwhelming majority of patients are interested in future research.
- Both life experience, as reflected in age, and consenting experience is associated with increased subject interest in future research.
- Discordance between consenter and subject gender is associated with increased subject interest in future research.

"Research personnel familiarity and comfort with a consent form are critical in the consent process. This experience optimizes research interest and accrual in clinical studies," Dr. Gerber said.

Other UT Southwestern researchers included Dr. Drew Rasco, a fourth-year resident; Dr. Jonathan Dowell, associate professor of internal medicine; and Dr. Celette Sugg Skinner, professor of clinical sciences and associate director for population science and cancer control at the Simmons Comprehensive Cancer Center. The project also included Dr. Jingsheng Yan, biostatistics consultant, and Dr. Yang Xie, assistant professor of clinical sciences, both members of the Biostatistics and Bioinformatics shared resource.

Grant funds early-detection studies of lung cancer

CONTINUED FROM PAGE 1

In 2005, Dr. Gazdar and his colleagues at the Harold C. Simmons Comprehensive Cancer Center helped make a key discovery in this area.

They found that lung-cancer patients who have never smoked are much more likely than smokers to harbor one of three mutations in the epidermal growth factor receptor (*EGFR*) gene. In addition, they found that such mutations are more common in women and in people of Asian ancestry.

For the current project, cancer scientists at the Simmons Comprehensive Cancer Center, Johns Hopkins University, Fred Hutchinson Cancer Research

CONTINUED ON PAGE 3

Grant funds early-detection studies of lung cancer

Continued from page 2

Center, University of Southern California and the British Columbia Cancer Agency in Vancouver will undertake a coordinated approach to biomarker discovery by using their expertise to study the same sets of specimens by different methods. Researchers hope to open the project to additional researchers after the first year.

The researchers will use lung-cancer cells lines, tumor and lung tissues, and blood specimens to conduct studies in proteomics, structure genes, microRNAs, methylation, mitochondrial mutations and gene expression.

"By pooling our talents we have a much better chance of rapid success," Dr. Gazdar said. "The challenge is going to be interpreting the vast amount of data we expect to generate."

> "About 10 to 15 years after someone has stopped smoking, their cancer more closely resembles cancers from never-smokers than from smokers."
>
> — Dr. Adi Gazdar

The data will be funneled to a single repository, and the results will be integrated to find the most promising biomarkers.

"What we're missing right now is sequencing the whole genome for each patient's specimens," Dr. Gazdar said. "We think that sequencing the whole genome is going to be crucial, but we're still seeking additional funding for that."

The ultimate goal is to develop a test to screen long-term former smokers before the onset of symptoms arise. Such a test also could help nonsmokers.

"About 10 to 15 years after someone has stopped smoking, their cancer more closely resembles cancers from never-smokers than from smokers," Dr. Gazdar said. "As more and more people quit smoking, lung cancer will mainly become a disease of former smokers."

Cancer Center Bulletin
is published by
the Harold C. Simmons
Comprehensive Cancer Center at
UT Southwestern Medical Center.

Director - Dr. James Willson
Associate Director for Research
Admin. - Dr. Tim Strawderman
Editor - Amanda Siegfried
Writer - Connie Piloto
Designer - Jan Pults
Layout - Angela W. Charlton

www.utsouthwestern.edu/utsw/home/simmons