Heavy Ion Cancer Therapy: Novel, Precise, and Potent

January 19, 2016

Hak Choy, M.D.
Professor and Chair, Department of Radiation Oncology; Nancy K. & Jake L. Hamon Distinguished Chair in Therapeutic Oncology Research

Radiation Oncology at Vanderbilt University before coming to Center in San Antonio. Branch in Galveston, Dr. Choy completed a residency in internal $1 million planning grant awarded by the National Cancer Insti- to establish the country’s first National Center for Heavy Ion accurate treatment. ”

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world-renowned expert in chemoradiation therapy, Dr. Hak Choy joined UT Southwestern Medical Center in 2003. As Chair of the Department of Radiation Oncology, Dr. Choy has been the prime motivator in growing the medical center’s radiation oncology practice to the region’s largest. He is active in designing national clinical trials that combine chemo- therapy with the latest radiation techniques and treats patients with lung cancer. “We have made tremendous progress in curing lung cancer with chemotherapy and advanced radiation therapy,” Dr. Choy said. “UT Southwestern has the latest technology – some of it is the first of its kind in North America – to help facilitate extremely accurate treatment.”

Cannibals, Kuru, and Common Dementias: A Unification Theory

March 29, 2016

Marc Diamond, M.D.
Professor and Director, Center for Alzheimer’s and Neurodegenerative Disease; Distinguished Chair in Basic Brain Injury and Repair

A s Director of the Center for Alzheimer’s and Neurodegen- erative Diseases, and Professor of Neurology and Neuro- therapeutics, Dr. Marc Diamond has devoted his career to identifying mechanisms and new therapies for neurodegenerative diseases. Dr. Diamond’s lab works primarily with the protein tau, which builds up in Alzheimer’s disease. His research focuses on why toxic proteins accumulate and move from cell to cell, causing destruction throughout the brain.

Understanding what triggers the progressive pathology could lead to approaches for halting Alzheimer’s. Drugs such as antibodies or small molecules can be used to attack toxic protein “seeds” while they are between cells, and early detection of the seeds could lead to diagnosis even before symptoms occur. “The last few years have seen a huge number of studies that suggest that proteins associated with neurodegeneration can assume an abnormal conformation that allows them to move between brain cells and spread pathology,” Dr. Diamond said. “We are now at a very exciting moment in neurodegenerative disease research, because this hypothesis has allowed us to conceive of many new ways to diagnose and treat people. In fact, new thera-pies based on this idea are already in clinical trials.”

To today he is investigating real-time imaging of patient metabolism and exploring new technologies to study biochem-istry in cancer. “We know a tremendous amount about the basic science of metabolism in each vital organ,” he said. “Metabolic changes can cause disease, and diseases can profoundly disrupt normal metabolism. But only a tiny fraction of this knowledge can actually be used to help with individual patient care decisions. Our goal is to translate this knowledge to improve personalized medical care.”

New Drugs for Malaria: From Bench to Bedside

September 13, 2016

Margaret Phillips, Ph.D.
Professor, Department of Pharmacology; Carolyn R. Bacon Professorship in Medical Science and Education; Beatrice and Miguel Elias Distinguished Chair in Biomedical Science

In 2003 a team directed by Dr. Margaret Phillips identified a promising inhibitor of a specific enzyme that the malaria para-site requires for survival. The lead compound, uncovered during high-throughput tests at UT Southwestern Medical Center’s core screening laboratory, made possible the development of a new medicine, DSM265, which kills drug-resistant malaria parasites in the blood and liver by targeting their ability to replicate. “DSM265, being developed with Medicines for Malaria Venture, is one of several next-generation antimalarial drugs with the ability to cure after a single dose,” said Dr. Phillips, Professor of Pharmacology. “It’s expected to greatly increase patient compliance over current medicines and will be developed in combination with another drug to help prevent drug resistance.”

Malaria kills millions every year, and no vaccine prevents the disease. Drug resistance to current frontline therapies has recently emerged, which threatens to erase gains in reducing the disease. Having done graduate work on African sleeping sickness, Dr. Phillips continued studying that parasitic disease after coming to UT Southwestern in 1992. She was soon drawn to expanding her research efforts into the area of malaria drug development. Dr. Phillips received her undergraduate degree in Biochem- istry from the University of California, Davis and her Ph.D. in Pharmaceutical Chemistry from the University of California, San Francisco, where she was also a postdoctoral fellow in the Department of Biochemistry.

Molecular Imaging and Beyond

November 1, 2016

Craig Malloy, M.D.
Professor, Advanced Imaging Research Center, Internal Medicine, Radiology; Richard A. Lange, M.D. Chair in Cardiology

C ardiologist Dr. Craig Malloy, a pioneer in the use of magnetic resonance methods to define complex metabolic changes, is Medical Director of the Advanced Imaging Research Center at UT Southwestern Medical Center. In 1993, Dr. Malloy led the development of a new program at the Medical Center to analyze cardiac metabolism using magnetic resonance spectroscopy. This lab established new diagnostic methods for patients with abnormal metabolism. Today he is investigating real-time imaging of patient metabolism and exploring new technologies to study biochem-istry in cancer.

“We know a tremendous amount about the basic science of metabolism in each vital organ,” he said. “Metabolic changes can cause disease, and diseases can profoundly disrupt normal metabolism. But only a tiny fraction of this knowledge can actually be used to help with individual patient care decisions. Our goal is to translate this knowledge to improve personalized medical care.”

Dr. Malloy is a Professor in the Departments of Internal Medicine and Radiology, and he serves on the Campus Advisory Committee for all small animal imaging equipment (predominantly MRI, PET/CT, and SPECT/CT) used by members of the Simmons Comprehensive Cancer Center. He is also a mentor for the UT Southwestern Graduate School of Biomedical Engineering. After graduating from Stanford University with a degree in chemistry, he earned his medical degree from the University of California, San Francisco. Dr. Malloy completed his residency at Parkland Memorial Hospital and a cardiology fellowship at Harvard Medical School and Brigham and Women’s Hospital, as well as a biochemistry fellowship at the University of Oxford.
Members of the President’s Research Council (PRC) directly engage the advancement of medical research at UT Southwestern, joining the PRC brings opportunities to hear from internationally recognized scientists conducting translational, high impact research. Your membership supports promising young physicians who are the innovators of tomorrow. As a member of the PRC, you’ll be advancing the future of medicine, today.

President’s Research Council member functions and activities include:

• Supporting the annual Distinguished Researcher Awards for faculty members early in their research careers when federal grants can be difficult to obtain. Support may also be given to a past recipient named as the Mammie and Kern Wildenthal Professorship in Medical Science;

• Attending four stimulating programs each year by prominent faculty researchers;

• Meeting outstanding scientists who are revolutionizing the scope and practice of medicine;

• Hosting an annual dinner with UT Southwestern President Danial W. Podolsky, M.D., to honor the recipients of the Distinguished Researcher Awards;

• Learning about the latest advances in medical science from one of the nation’s leading institutions.

President’s Research Council programming in 2016 will be stimulating and informative. This year will offer members the opportunity to hear directly from gifted researchers who are rethinking and redefining what is possible in medical science today. Biographies of the four excellent speakers scheduled can be found on the back of this brochure.

Annual tax-deductible memberships in the President’s Research Council start at $750 for individuals or couples and $1,000 for businesses, but larger gifts to support the work of the UT Southwestern Research Council start at $750 for individuals or couples and $1,000 for businesses, but larger gifts to support the work of the PRC are welcome. Research Council members are eligible for a 10% discount on UT Southwestern’s annual Distinguished Researcher Awards, which will be held on September 13, November 1, March 29, and May 25, 2016.

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President’s Research Council 2016

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