President's Research Council

2019



Supporting the Advancement of Science and Medicine



Schedule of 2019 Programs
January 22
March 12
September 10
November 5

6:15 p.m. Reception 6:45 p.m. Program

Medical Education and Conference Center
T. Boone Pickens Biomedical Building
6001 Forest Park Road
Dallas.Texas 75390

UTSouthwestern Medical Center

engage.utsouthwestern.edu/prc

Supporting the Advancement of Science and Medicine

Members of the President's Research Council (PRC) directly propel the advancement of medical research at UT Southwestern. Joining the PRC brings opportunities to hear from internationally recognized scientists conducting high-impact research. Your membership supports promising young scientists 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 Marnie and Kern Wildenthal President's Research Council Professor 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 Daniel K. Podolsky, M.D., to honor the recipients
 of the Distinguished Researcher Awards; and
- Learning about the latest advances in medical science from one of the nation's leading institutions.

President's Research Council programming in 2019 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 exciting speakers scheduled can be found on the back of this brochure.

An annual tax-deductible membership in the President's Research Council is \$1,000 for individuals or couples, but larger gifts to support the work of UT Southwestern physician-scientists are always appreciated.

For additional information about the President's Research Council, please call the Office of Development and Alumni Relations at 214-648-2344 or visit engage.utsouthwestern.edu/prc.

About UT Southwestern Medical Center

One of the top academic medical centers in the world, UT Southwestern is a premiere educational, clinical, and research institution with an innovative approach to medicine. Our physicians and researchers seamlessly integrate breakthroughs in science, advances in comprehensive patient care, and prestigious educational programs to improve health care in North Texas and around the world.

Consistently ranking among the top institutions for biomedical research, UT Southwestern is home to six Nobel laureates, 16 members of the National Academy of Medicine (formerly the Institute of Medicine), 22 members of the National Academy of Sciences, and 15 Howard Hughes Medical Institute Investigators, which is more than all other academic medical centers in Texas combined. More than 5,800 research projects totaling more than \$455 million annually are underway at UT Southwestern on a host of medical disorders including: cancer, heart disease and stroke, neurological diseases, arthritis, diabetes, and Alzheimer's disease.

Faculty and residents provide care to more than 105,000 hospitalized patients and oversee more than 2.4 million outpatient visits each year. UT Southwestern also impacts the regional economy as an employer of more than 17,000 people in North Texas.

President's Research Council Co-Chairs Wendy and Randy Robinson

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Membership Co-ChairsMary Lois and J. Sloan Leonard

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Gaudenz Danuser, Ph.D.

Inaugural Chair, Lyda Hill Department of Bioinformatics
Patrick E. Haggerty Distinguished Chair in Basic Biomedical Science
Professor, Department of Cell Biology
Scholar, Cancer Prevention Institute of Texas (CPRIT)

Artificial Intelligence in Biomedical Research and Clinical Practice

Tuesday, January 22, 2019

r. Gaudenz Danuser trained as an engineer in geodetic and electrical engineering/computer science and as a cell biology postdoctoral fellow at the Marine Biological Laboratory in Massachusetts. His research focuses on how chemical and mechanical signals integrate in regulating cytoskeleton dynamics and membrane trafficking.

He directed research laboratories at ETH Zurich, The Scripps Research Institute, and Harvard Medical School before coming to UTSW in 2013 to establish an internationally recognized research program in cancer cell morphogenesis and migration. In 2015, he was appointed the Inaugural Chair of the Lyda Hill Department of Bioinformatics to drive innovation in novel information technology.

"Building a department at one of America's premier medical centers to enhance medical research and clinical practice with computer science is a unique opportunity," said Dr. Danuser. "Breathtaking advances in big data processing and artificial intelligence are underway to profoundly change how we study disease, search for new cures, and deploy them through medical professionals. On the flip side of this technological race are concerns of possibly unprecedented magnitude regarding the largely unknown flaws these methods carry and the impact they have on our society and well-being."

As a local, national, and international teacher and mentor, he has initiated several innovative training approaches that help students and faculty harness the revolutionary advances in information technology in the basic research of disease and the clinical practice. He has received the Excellence in Postdoctoral Mentoring Award by the UT Southwestern Postdoctoral Association (2015) and the Outstanding Educator Award by the UT Southwestern Academy of Teachers.



Raquibul Hannan, M.D., Ph.D.

Associate Professor,

Radiation Oncology and Immunology

A New Paradigm for Cancer Treatment: Radiation and Immunotherapy

Tuesday, March 12, 2019

r. Raquibul Hannan is an expert in the use of radiation therapy for patients with genitourinary cancers. His research explores strategies that combine immunotherapy—using the body's own immune system to fight off cancer—with radiation therapy.

Dr. Hannan has seven ongoing clinical trials that investigate new applications of stereotactic radiation therapy for the treatment of prostate or kidney cancers. Three of these trials strategically combine immunotherapy with stereotactic radiation therapy to harness the cancer vaccination effect of radiation therapy to improve the outcome of immunotherapy for cancer treatment.

"We are offering a new approach to patients whose cancer has spread," said Dr. Hannan. "By combining research in immunology with a radiation therapy pioneered at UT Southwestern called stereotactic ablative radiotherapy (SAbR), we can stimulate supercharged white blood cells to help patients fight their own cancers. This new 'i-SABR' approach is promising and has the potential to increase the rate of cancer cure for patients."

Dr. Hannan's fascination with cancer as a biochemistry undergraduate at New York University inspired him to pursue a physician scientist training program dedicated to cancer immunology that was funded by the National Institutes of Health. He earned a combined medical degree and Ph.D. in philosophy at State University of New York. For his Ph.D. research, he worked on the immunology of pancreatic carcinogenesis and discovered a novel marker for pancreatic cancer. He completed his residency in radiation oncology at Albert Einstein College of Medicine and joined the UT Southwestern faculty in 2011.



Lora Hooper, Ph.D.
Professor and Chair, Immunology
Professor, Center for Genetics of Host Defense | Microbiology
Jonathan W. Uhr, M.D. Distinguished Chair in Immunology
Nancy Cain and Jeffrey A. Marcus Scholar in Medical Research,
in Honor of Dr. Bill S. Vowell

Gut Reactions: Exploring How the Microbiome Contributes to Health and Disease

Tuesday, September 10, 2019

r. Lora V. Hooper's research focuses on how the immune system defends against the vast communities of microorganisms inside the intestine. Dr. Hooper's discoveries have helped explain how a host peacefully coexists with the trillions of beneficial bacteria present in the intestinal tract and may reveal how changes therein can make it possible for disease-causing bacteria to overtake them.

Her research results have shown that the microbiome, which plays an important role in digestion and nutrition, not only determines the ability of some microbes to cause infections, but also regulates risk for other illnesses like diabetes, heart disease, and obesity.

"At UT Southwestern, I have enjoyed working with my team to unravel the intricate molecular conversations that our intestinal bacteria have with our gut lining," said Dr. Hooper. "Our bacteria have a truly profound impact on so many areas of our biology, ranging from how our immune systems develop to how we digest our food and store fat. I look forward to continuing to discover more about the fascinating microbial universe in the human intestine, and using these discoveries to help fight intestinal disease."

Dr. Hooper earned a B.S. in biology from Rhodes College in Memphis and a Ph.D. in molecular cell biology and biochemistry from Washington University School of Medicine in St. Louis. She completed a fellowship and held an instructor position in molecular biology and pharmacology at Washington University School of Medicine before joining the faculty at UTSW in 2003. She has served as Chair of Immunology since 2016; been an Investigator at the Howard Hughes Medical Institute since 2008; and been a member of the National Academy of Sciences since 2015.



Herbert Zeh III, M.D.

Professor and Chair, Department of Surgery

Hall and Mary Lucile Shannon Distinguished Chair in Surgery

From Innovations to Novel Therapeutics:

Defeating Pancreatic Cancer

Tuesday, November 5, 2019

r. Herbert J. Zeh III is an innovator and leader in the field of pancreatic diseases and pancreatic cancer. His expertise lies in both the use of state-of-the-art robotic technology and in clinical trials examining novel treatments for patients with pancreatic cancer. He directs a translational research lab that examines damage-associated molecular pattern molecules in pancreatic cancer.

"Two of the most significant advances in the treatment of pancreatic cancer in the past decade have been the use of preoperative chemotherapy and the use of minimally invasive surgery," said Dr. Zeh. "Both of these innovations have optimized the number of patients who can receive chemotherapy, which is really critical to improving survival. Future innovations will focus on more rapidly identifying synergy with chemotherapy and targeted agents in the preoperative setting."

Before joining UT Southwestern in 2018, Dr. Zeh served as the Watson Family Professor of Surgery at the University of Pittsburgh School of Medicine; Chief of the Division of Gastrointestinal Surgical Oncology at the University of Pittsburgh Medical Center (UPMC) Hillman Cancer Center; and Co-Director of the UPMC Pancreatic Cancer Center. While at UPMC, Dr. Zeh and his research colleagues published extensively on one of the world's largest robotic pancreatic surgery endeavors.

Dr. Zeh earned his medical degree at the University of Pittsburgh School of Medicine and completed his surgical residency and fellowship training in advanced gastrointestinal surgery and surgical oncology at The Johns Hopkins Hospital. The author of more than 200 peer-reviewed articles and book chapters, funding for his research includes support from the NIH.