2009

On the Job-Zi-Xuan Wang, PhD

Follow this and additional works at: http://jdc.jefferson.edu/jss

Let us know how access to this document benefits you

Recommended Citation
Available at: http://jdc.jefferson.edu/jss/vol4/iss1/7

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's Center for Teaching and Learning (CTL). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Jefferson Surgical Solutions by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.
Zi-Xuan (Zoe) Wang, PhD

Zi-Xuan Wang, PhD, is an Assistant Professor of Surgery, with a secondary appointment in the Department of Pathology, Anatomy, and Cell Biology, where she is the Assistant Director of the Clinical Microbiology Laboratory. She joined Jefferson in October 2008 after six years at the Medical College of Georgia where she was the Scientific Director of the Molecular Diagnostics Laboratory.

What is the focus of your research?

My passion is personalized medicine: to find out how and why certain therapies/medicines do or do not work and then to develop a customized approach to enhance a patient’s treatment. Since people can metabolize or respond to medicines in various ways, genetic analysis can predict a certain patient’s response, so that therapeutics can be administered and dosed optimally.

How do you use technology in your work?

DNA sequencing and gene chips have made testing individuals feasible. We characterize specific aspects of cancer and host genomes to predict whether a drug will be effective or whether serious side effects will emerge. Characterization of mutations in the patient’s genome can predict drug resistance and provide a personalized approach.

What motivates you on a day-to-day basis?

As a scientist, I am dedicated to improving the health of human beings and I especially enjoy working with the surgical faculty on pancreatic cancer and translational research. As a team, our analytical skills and emerging technologies have pushed us to the leading edge of diagnostics. Future collaborations with other Jefferson researchers will further advance our progress and ultimately improve medicine.
New facility, upgrade to the Intensive Care Unit (ICU), and multiple new trials and studies are just some of the changes underway in the Acute Care Surgery Division.

The addition of Dr. Jennifer Gill, and Dr. Martin, brings the Division team to seven faculty, strengthening its interventionist program, which makes an attending acute care surgeon available 24 hours a day, 7 days a week.

Dr. Martin recently joined the Division after completing fellowships in Gastrointestinal and Surgical Critical Care at the Hospital of The University of Pennsylvania. Dr. Jenoff, Assistant Professor of Surgery and a 2011 graduate of the Jefferson Surgery residency program, is Board Certified in both surgery and critical care medicine. Dr. Martin, a 2009 graduate of Jefferson's residency program is also Board Certified in surgery and critical care medicine and has been named the Associate Program Director of Graduate Education.

As part of Jefferson’s commitment to constantly improving the care and experience of patients, the hospital is building a new, state-of-the-art ICU facility on the Gibbon Building on Jefferson’s Center City Campus. Construction is expected to be completed during this year and will add to the existing ICU. The new space will accommodate 36 beds, half of which will be dedicated to surgical patients.

"This fully functional ICU will have the most advanced technology, tools and instruments available," says Dr. Martin, "so that we can respond to a patient’s needs, from pre- and post-operative care to bedside presses, under ideal conditions with the optimal equipment."

"Like any professional team, each player plays an important role," says Dr. Jenoff, "and our two trauma nurse practitioners, Alannah Ryan, CNCP, and Catherine Gill, CST, are the ‘glue’ that keeps care continuity for patients are second-to-none."

In addition to clinical priorities, the Division is placing a renewed emphasis on research and has recently undertaken several clinical studies and trials. "A number of these new studies make Jefferson—our Division in particular—an exciting place to be right now, a place to grow as a professional," says Dr. Martin. In trauma, for example, the group is looking at new methods of stabilization, prevention strategies, and resuscitation. Faculty members are also studying abdominal wall outcomes and developing new protocols, while working with industry representatives on device implementations. Research projects include multidisciplinary collaborations with Jefferson colleagues in rehabilitation and orthopedics. Over the next 12-15 months Division faculty will present findings at multiple national academic meetings.

For more information about the Acute Care Surgery Division, visit www.jeffersonhospital.org/transplant

Please Welcome

Dr. Joshua Curtin in the New Transplant Laboratory

Joshua Curtin, PhD, is a research fellow in the lab of Cataldo Doria, MD, PhD, focusing on the regulation of tumor cell growth and death, primarily in the liver. He examines how molecular components of cellular signaling pathways function to regulate cell growth and cell death.

Dr. Curtin’s doctoral research studied the actions of natural killer cells of the γδ T-cell lineage in pancreatic cancer. He discovered that the γδ T-cells could kill tumor cells and that the killing was mediated by an enzyme known as perforin, which can destroy the cell membrane of the target cell. Dr. Curtin is currently investigating the role of perforin in the development of pancreatic cancer.

Dr. Curtin has coupled his expertise as a clinical investigator with his interest in pancreatic cancer. He is a post-doctoral fellow in Dr. Cataldo Doria’s lab at the Hospital of the University of Pennsylvania. Dr. Curtin’s research focuses on how pancreatic cancer cells grow and how these cells evade the immune system.

In Dr. Curtin’s lab, he and his team are developing a new therapy for pancreatic cancer that targets the cancer cell’s ability to produce an enzyme known as perforin. This enzyme is used by the cancer cell to destroy the host’s own immune cells. The goal is to find ways to block the production of perforin and thereby slow the growth of pancreatic cancer.

Dr. Curtin and his team are conducting a clinical trial to test the effectiveness of this new therapy in patients with advanced pancreatic cancer. They hope to learn how the therapy works and whether it is safe and effective in treating pancreatic cancer.

Dr. Curtin and his team have published several papers on their research, including one in the Journal of Clinical Investigation and another in the Journal of Immunology. They have also presented their findings at national and international conferences.

"This is a really exciting time for research in pancreatic cancer," Dr. Curtin said. "We are making progress in our understanding of how pancreatic cancer cells grow and how they evade the immune system. Our goal is to develop new therapies that target these mechanisms to help patients with pancreatic cancer."

Signature Contributions to Surgical Residents Make Important Impact

Jefferson residents have made significant contributions to their surgical training. These contributions have helped residents advance their skills and knowledge in their chosen field.

For an appointment with a Jefferson Surgeon, call 1-800-JEFF-Now.