

Christine Fuller, MD '95, HS '99

Molecular Diagnosis

Since she was a fellow in neuropathology, Christine Fuller, MD '95, HS '99, has pursued translational research with a single purpose: detecting molecular alterations that will lead to better diagnosis, prognosis, or specific targeted therapy for patients with cancerous tumors.

Using a molecular technology called Fluorescence In Situ Hybridization (FISH), Dr. Fuller is able to make probes to detect molecular alterations on specific genes of interest. "You can basically design a probe to any gene. Sometimes you find something spectacular, and sometimes you find something that's novel but isn't going to help us too much from a diagnostic or clinical perspective," she says.

Currently, she's working to find molecular signatures of certain precancerous lesions that might predict which precancerous cells will go on to form invasive cancer—such as with prostate cancer. "Some of these precancerous lesions just stay as they are for a long time, while others seem to go bad quickly. We're looking for a molecular target to use for clinical testing to help identify early on which ones are more likely to go bad," she explains.

Fuller joined Upstate a year ago as associate professor of pathology and director of neuropathology, having worked previously at William Beaumont Hospital in Michigan, and St. Jude Children's Research Hospital in Tennessee. She was recruited, along with colleague Shengle Zhang, MD, to bring molecular testing services to SUNY Upstate. The Upstate Special Procedures Laboratory is the only New York state facility approved to offer molecular testing for various solid tumors, including brain tumors, breast tumors, lung cancers, pediatric and soft-tissue tumors.

In the clinical setting, molecular testing represents a major diagnostic adjunct to traditional microscopic analysis and staining. Molecular pathology, FISH in particular, uses markers that are specifically diagnostic and/or help direct treatment. "For example, there are certain molecular markers in brain tumors that show a tumor is more responsive to chemotherapy or to particular molecular-targeted therapies," explains Fuller, who completed fellowships in surgical pathology and neuropathology at Washington University in St. Louis.

In addition to new samples, molecular testing can be done on archival fixed tissue to confirm a diagnosis or just to gain more information. "I've gone back on samples as old as 20 years," Fuller says. "There are certain tumors that now have targeted molecular therapies so it's important to be able to go back and test these archival patient samples to aid in directing further clinical management."

Fuller juggles her research and clinical molecular testing with her rotation on the regular surgical pathology service. She is also co-editing a book, *Atlas of Pediatric Brain Tumors*. "There are certain tumors that are more or less unique to children, and there are likewise tumors that both kids and adults get that look identical under the microscope but may behave quite differently or even have totally different genetics," she says.

In her research lab, she's working to combat those tumors at the molecular level. "This is definitely not abstract," she says. "We're trying to come up with tests that we can actually use clinically."

—Renée Gearhart Levy



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Peter D. Calvert, PhD



Amy L. Friedman, MD



Richard Wojcikiewicz, PhD

Emergency Medicine

Chair: John B. McCabe, MD '79

- **Rosetta Grella, MD, HS '07**, has joined the emergency medicine team at Port Jefferson's Mather Hospital. Dr. Grella's certifications include: basic life support and advanced cardiac/trauma/pediatric/hazardous material life support.
- **Ramiro Ramos, MD, HS '07**, has joined the medical staff of Geneva General Hospital, Soldiers & Sailors Memorial Hospital, and Finger Lakes Health in the Emergency Medicine Department.

Obstetrics & Gynecology

Chair: Shawky Badawy, MD, HS '73

- **Richard H. Aubry, MD, MPH, HS '63**, has been chosen to receive The American College of Obstetricians and Gynecologists Award for Outstanding District Service for District II. He will be recognized, along with the other award recipients, during the presidential inauguration and convocation held at the Annual Clinical Meeting in May.

Ophthalmology

Chair: John Hoepner, MD

- **Peter D. Calvert, PhD, and Michael E. Zuber, PhD**, received more than \$2.8 million combined in funding from the National Eye Institute (NEI) of the National Institutes of Health to support their studies into the visual system. One study is expected to shed new light on the role genetic mutations play in retinal degeneration and blindness, the other will generate a map of the genetic network of eye formation. Drs. Calvert and Zuber, both assistant professors of ophthalmology and adjunct assistant professors of biochemistry and molecular biology at SUNY Upstate, received their awards in September.

Pharmacology

Interim Chair: Richard Wojcikiewicz, PhD

- **Richard Wojcikiewicz, PhD**, an NIH funded researcher and professor of pharmacology, has been named interim chair of the department, succeeding Jose Jalife, MD, who was appointed professor and co-director of the Center for Arrhythmia Research at the University of Michigan Health System.

Joining Dr. Jalife at UMHS will be Mario Delmar, MD, PhD, who will also be co-director, and four other members of the department. Dr. Jalife relinquished his role as chair on January 1, 2008. He and the members of his team will leave Upstate in March.

Surgery

Chair: Paul R. G. Cunningham, MD

- **Amy L. Friedman, MD**, has been named director of the Division of Transplantation and professor of surgery in the College of Medicine at Upstate. Dr. Friedman joins the faculty at SUNY Upstate from Yale University School of Medicine where she served as a member of the surgery faculty since 1994. Dr. Friedman specializes in live donor kidney transplantation, laparoscopic kidney donation and pancreas transplantation.
- **Vivian Gahtan, MD**, professor and chief of the division of vascular surgery and endovascular services at Upstate, was named the Recorder for the Eastern Vascular Society (EVS) at the 21st annual meeting of the society in Baltimore, Maryland this past September. The EVS is the regional vascular society whose objectives are to advance the art and science of vascular surgery; to provide an educational forum for physicians in the Eastern United States and Canada active in the field of vascular diseases; to improve the delivery to the public of health care for vascular diseases; and to encourage research in the etiology, diagnosis and treatment of vascular diseases.

Biochemistry and Molecular Biology

Chair: Richard Cross, PhD

- **Richard Cross, PhD**, internationally known for his work in the field of bioenergetics, the study of biological energy transfer and conversion at the cellular and molecular levels, has been named a SUNY Distinguished Professor. This honor is the highest accolade SUNY awards to faculty. Cross was a key contributor to the work on ATP synthase for which Paul Boyer shared a Nobel Prize in Chemistry in 1997.