

# PATHOLOGY inSIGHT

Alumni Bulletin of Wake Forest University School of Medicine Department of Pathology

### Four Decades of Atherosclerosis Research

Richard St. Clair, PhD, retired last year after over 40 years in the Pathology Department. You might not realize he's retired, though, as he is still frequently found around campus; he remains on the faculty as Professor Emeritus of Pathology.

This volunteer status allows retiring senior faculty to retain access to certain facilities (labs, for example) and maintain working relationships with their colleagues. "I love this work so much I do it for free," he jokes. "The day I wake up and don't want to go to work is when I'll stop."

After graduating with a PhD in Physiology from Colorado State University in 1965, Dr. St. Clair began a fellowship at the Bowman Gray School of Medicine; he joined the Pathology faculty in 1968 and has



Dr. Richard St. Clair

been a central figure in the department ever since. He was originally attracted to Bowman Gray, he says, because he was "passionately interested in how blood vessels develop atherosclerosis."

Along with colleagues in both Comparative Medicine and other Pathology research areas, Dr. St. Clair did much to establish the importance of animal models in the study of atherosclerosis, cholesterol metabolism, and vascular disease in humans. His atheroscle-

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## **Blood Bank Automation System**

The blood bank's two newly installed transfusion diagnostics machines increase blood bank safety and productivity. "It's a



Technologist Marilyn McDonald performed extensive validation testing prior to clinical use of the Tango Optimo Automated Blood Bank System.

watchdog," said recently retired Blood Bank Manager Rita Joseph, BB (ASCP) SBB CQA (ASQ). "You can't use expired

> chemicals, and you can't make data entry errors. No data entry is necessary." The Tango Optimo Automated Blood Bank System from Biotest automates every step; there are bar codes on all sample tubes

and reagent bottles, and results are transferred directly into MISYS, the laboratory information computer system that handles all lab results.

"And that," adds Blood Bank Director Gregory Pomper, MD, "increases patient safety."

Automated machines like the Tango increase the number of samples that can be batch tested, and because there are two machines, one is always available for urgent or STAT typing and antibody screening requests while

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# COMING UP IN OUR NEXT ISSUE:

- ► Tracking drug-resistant pathogens
- ▶ Dr. Zak Shihabi retires as Director of Clinical Chemistry
- Primate Center's outreach program seeks to inform, involve community

Find us online at www.wfubmc.edu/pathology/alumni

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# First Year Pathology Residents

**Julia S. Manny, MD,** grew up in Lubbock, TX, and completed her



undergraduate education at Texas Tech University, where she earned a BA (summa cum laude) in Geosciences in 2002

and a BS (summa cum laude) in Biology in 2003. She earned her MD (AOA) degree in 2007 at the University of Texas Southwestern Medical School in Dallas, during which time she assistant-taught histology and anatomy. Dr. Manny completed three months of a Neurology internship here at WFUBMC before deciding to pursue her interest in Pathology. Since that time, she and her husband Ted have started a family, welcoming their first son, Bergen, in January, 2009. She also enjoys watching MotoGP and cooking Mexican food, along with baking, quilting, running, and loves the North Carolina spring and fall scenery.

**Kelley O. Montoya, MD,** completed his undergraduate degree in



Biology at UNC-Chapel Hill in 2003. He spent one undergraduate year in Florence, Italy. After completing his undergraduate

work, he worked as a lab tech for the AIDS clinical trials group at UNC School of Medicine. He began interpreting for Spanish speaking study subjects and volunteered as an interpreter at a free clinic in Carrboro, NC. Dr. Montoya received his MD at the Medical University of South Carolina in Charleston. He was awarded the DeWitt Harper Scholarship and the Arnold Scholarship. He founded a volunteer Spanish interpreter program at MUSC's free clinic, and in his free time, he enjoys cycling, Latin dancing, and cooking.

**Jennifer K. Wagstaff, MD,** is a native of North Carolina, and re-



ceived a BS in Biology at NC State University. She earned her MD from the Brody School of Medicine in Greenville, NC, and

worked as an Anatomy TA during the summer between M1 and M2 years. Prior to medical school, Dr. Wagstaff worked in public accounting and at a cytogenetics laboratory. She enjoys spending time with her boyfriend, Will, and her family, friends, and cat Meowzers. Her volunteer experiences include the Greenville Shelter Clinic, Habitat for Humanity, and the End of Life Care Coalition. Her hobbies include traveling (most recently to Roma-

nia), and she enjoys music and cooking.



Lin Wang, MD, completed her at Nanjing Medical University in Nanjing, China, in 2001, and moved to the US where she learned

English and earned an MS degree in Molecular Genetics and Biochemistry at the University of Illinois – Chicago in 2004. She then joined the Pathology and Laboratory Institute at the Cleveland Clinic and has been doing breast cancer research with Dr. Raymond Tubbs, in collaboration with Ventana Medical System, Inc. Dr. Wang enjoys cooking and spending time with her husband Tao and their three-year-old daughter Jodi.

## 2009-10 Pathology Fellows

Cytopathology Fellow: **Cynthia L. Cookingham, MD,** graduated from the University of Michigan



Medical School in 1981. Her training including AP/CP at the University of Michigan 1981-85; pediatrics at William Beau-

mont Hospital in Royal Oak, MI 1986-88; and Allergy and Immunology at Henry Ford Hospital in Detroit 1988-90. She practiced in Allergy and Immunology from 1990 to 2008, returning to the University of Michigan as a Visiting Scholar part-time in 2007 and completing a Breast Pathology fellowship there in 2009. She is married to Duane D. Harrison, MD, and their identical twin daughters started college this fall. Dr. Cookingham's hobbies include swimming, bicycling, theatre, and dance.





And welcome back to **Amy D. Durso, MD** (left), as this year's
Forensic Pathology Fellow; to **Amy C. Parsons, MD** (right), as this
year's Dermatopathology Fellow;
and to **Yorke D. Young, MD,**(below) as this year's Hematopathology Fellow. All three completed their AP-CP residency training here at WFUBMC last year.



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# PhD Program in Molecular Pathology

The Molecular Pathology program welcomes three new students this year:

Kanwardeep Singh Bura earned his MS in Biotechnology (2009) at Illinois Institute of Technology in Chicago and his BTech in Biotechnology in 2006 at Kurukshetra University in Kurukshetra, India

**Sarah Soltis** earned her BS in Marine Science and Biology in 2007 from the University of Miami in Coral Gables.

**Kelly Ethun, DVM,** who earned her DVM at the University of Wisconsin in

son and her BS in Biology in St. Louis, MO. She is also currently a resident in the Laboratory Animal Medicine Training Program here in Comparative Medicine.

Congratulations to **Stanton Gray, DVM PhD,** who successfully defended his dissertation: "Genetic Characterization of the St. Kitts-Origin Vervet Monkey (*Chlorocebus Aethiops* SSP) as a Model of Polygenic Obesity;" and to **Anna Blade, PhD,** dissertation title: "Role of Apolipoprotein A-V in Triglyceride Metabolism." Both were awarded PhDs in Molecular Pathology this year.



Kanwardeep Bura





Sarah Soltis

Kelly Ethun, DVM

Madi-

Learn more about the PhD in Molecular Pathology Program online at www.wfubmc.edu/lipidsci/graduate.

## 2009-10 Research Fellow

Patrick Ware, MD, will be this year's Research Fellow, working with Mark Willingham, MD, of the Section on Tumor Biology. His project examines the methods for detection of the lipid composition of cell membranes in tumor tissue as well as normal tissue in humans and in mice. The eventual goal of the research is to translate the *in vivo* findings to intact tissue, and hope-

fully to provide new insights into the changes that occur in malignant cells. These insights could lead to the development of a useful diagnostic tool. Dr. Ware completed his MD at the University of South Carolina School of Medicine in Columbia, SC, last year, and will enter the Pathology Residency Training Program here next year.

(Continued from page 1)

the other processes routine orders. That flexibility, Joseph notes, along with the consistency and predictability of the machines, makes staffing, training and quality monitoring easier thus improving the overall productivity of the blood banking lab.

The Blood Banking Laboratory continues to offer special services and consultations 24 hours a day, seven days a week.

Pathology inSight is a publication of the Wake Forest University Baptist Medical Center Department of Pathology and distributed to the alumni of its training and graduate education programs. Please send address changes, updates, or other comments to us at the address on the back page, or email pathalumni@wfubmc.edu.

Past issues of Pathology inSight are available online at www.wfubmc.edu/pathology/alumni.

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# The View from the Department Chair

During my negotiations to take the position of Chair of the Depart-



Dr. Garvin

ment of Pathology, I wrote a letter on September 14, 1996, to Dr. Jim Thompson, then the Dean of the School of Medicine, in response to his request to

give my vision for the future of the department. In that letter, I outlined several goals that I thought were necessary to create a productive academic environment in a pathology department.

The first goal was to "strengthen research within the Pathology Department," and the second goal was to "consolidate and improve the clinical services to the Hospital. I wrote the following:

"The hospital needs to decide on the role of the Pathology Department in patient care testing within the Hospital System. This situation needs to be addressed

prior to the appointment of a new chair. Laboratory testing is currently being carried out in research and independent laboratories throughout the hospital, and some Departments send out their laboratory testing to commercial laboratories outside the hospital.

"I believe that the Department of Pathology should be given sole responsibility for all Pathology laboratory testing.

"For Pathology Departments to maintain their level of funding to support teaching and research activities, they must aggressively pursue increased value from outside the academic medical center to lower costs as well as to generate income."

It has been a long time since I wrote those insightful words, and I had no idea it would take so long for this to come to fruition but the re-organized Wake Forest University Physicians ("new WFUP") and the North Carolina Baptist Hospital have agreed to a joint venture consolidating the

twenty-eight laboratories in the Medical School and the Hospital "core laboratories." In addition, a new outreach program will be initiated within the month beginning with our own practices (formerly Aegis).

We will be able to start an outreach for anatomic pathology specimens as well as clinical pathology specimens. It would be easy to rest on our laurels after achieving these long-stated goals, but these changes only increase our responsibility during a time of limited resources.

Which reminds me of the saying "be careful what you wish for, 'cause it may become true!"

-A. Julian Garvin, MD PhD Robert W. Prichard Chair of Pathology



#### (Continued from page 1)

rosis-prone pigeon colonies were among the early inhabitants of the Friedberg Campus, and he was part of the original NIH SCOR (Specialized Center of Research) in Arteriosclerosis grant, serving as its program director from 1988 to 1991. "We were one of the first groups to show that accumulation of atherosclerotic plaque is a hallmark of the disease."

It was his interest in the work of Thomas Clarkson, DVM (Comparative Medicine), and Hugh Lofland, MD (Pathology), that brought him here; the NIH awarded him a postdoctoral position in Kentucky, but he convinced them to transfer the fellowship here instead.

He's glad he did that. Originally from Sioux Falls, SD, Dr. St. Clair says that he loves Winston-Salem, and considers it a great place to raise a family. His wife, Jeannie St. Clair, EdD, retired recently from her teaching position in the Winston-Salem/ Forsyth County school system; they have two grown sons.

As much as he loves his work, Dr. St. Clair has been deeply involved with the community as well, serving (currently) as Chairman of the YMCA's Board of Directors and President of the Kiwanis Club. He finds time for a round or two of golf every week, and is an avid squash

player.

In addition to his research, teaching, and publications, Dr. St. Clair headed Pathology's Section on Comparative Medicine from 1998 until 2006, was director of several laboratories, and served on a large number of committees, boards, and councils, including the Council on Arteriosclerosis of the American Heart Association.

He is particularly proud of his role in the Medical Student Research Program as well as the his part in starting the institution's transgenic mouse program. "No top quality research institution can function without a transgenic mouse facility," he said.

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## Pandemic Flu Testing

Elizabeth Palavecino, MD, is awfully busy lately. She's the Director of Clinical Microbiology, and she is part of the Pandemic Flu Committee's working group for laboratory



testing procedures. They're engaged right now in setting policies and pro-

cedures for both diagnostic and surveillance testing standards for the H1N1 Novel Influenza A Virus (the one they call "swine flu") throughout the institution.

She's also part of the statewide Laboratory Response Network, which meets quarterly to coordinate efforts and establish state guidelines.

"For the last two months," said Dr. Palavecino, "it's been nothing but H1N1 all the time."

The Centers for Disease Control (www.cdc.gov) have developed testing algorithms to confirm the presence of the H1N1 virus, and they passed that information on to state labs throughout the country. The state laboratories, however, are set up mainly for surveillance and monitoring of disease on a state-

wide scale, not for diagnostic testing. They were not equipped at first to handle the enormous number of samples they've been getting, and don't have a fast enough turnaround time right now to be useful for clinical or diagnostic testing.

The CDC has now published their testing criteria so that private labs and hospitals, including ours, can begin verifying and running their own tests. The WFUBMC laboratory has already begun the long (and extremely expensive) process of validating a new test.

The rapid test that most outpatient clinics are currently using is one that confirms the presence of an influenza A virus, but is not sensitive enough to be considered a reliable diagnostic test for the H1N1 strain

In other words, a negative result on the test does not necessarily mean the patient is free of the virus, and a positive result will not always differentiate between the regular seasonal flu virus and a novel one such as the H1N1 strain.

The most important patients to test diagnostically are those in ICU settings or who are at very high risk and in whom H1N1 infection is more likely to be fatal. It's not recommended to test every patient in every suspected case, Dr. Palavecino explained.

"Wash your hands, and stay home when you are sick!"

"There's no need in most cases because the clinical symptoms are enough." The monitoring that the state labs perform indicates prevalence levels in communities, and the most prevalent non-seasonal flu strain right now is H1N1.

Even when the H1N1 virus is present, however, for most patients outside a hospital setting it's usually not necessary to treat it any differently than any other flu virus. Antivirals such as Tamiflu can be used in some acute or high-risk circumstances, but it is important to not overuse such medications in order to reduce the likelihood that antiviral-resistant organisms will become more prevalent.

Infection control practices, especially in hospital settings, are essential. The current practice here at WFUBMC, which Dr. Palavecino praises, includes a note or "flag" on the computerized lab record of all patients who have a flu test. An automated lab report goes out every day, and isolation precautions begin at once for all hospitalized patients who have been tested.

There is no need to wait for the results before initiating an Infection Control consultation, Dr. Palavecino says. This rapid response helps to reduce the spread of the disease.

The best way those of us who are not hospitalized can help slow the spread of flu virus in the community?

Wash your hands, and stay home when you are sick!

The most recent pandemic influenza information, including vaccine updates, testing guidelines, and other recommendations are available on the CDC's website: www.cdc.gov

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## **New Faculty**







Dr. Pang

Dr. Sirintrupan

Dr. Brown

Welcome to **Changlee Pang, MD** and **Joseph Sirintrupan, MD**, Assistant Professors in Anatomic and Clinical Pathology, and to **J. Mark Brown, PhD,** Instructor in Pathology - Lipid Sciences

## Honors & Awards

**Thomas B. Clarkson, DVM,** Comparative Medicine, was awarded the 2009 American College of Laboratory Animal



Dr. Clarkson

Medicine (ACLAM) Mentor Award in recognition of his efforts mentoring postdoctoral fellows, graduate students, and junior level ACLAM diplomats during the course of their professional careers. Dr. Clarkson is known internationally for his work in nonhuman primates as models for human disease research, hormone replacement, and women's health. He has published more than 300 peer-reviewed

articles and 86 book chapters.

**John S. Parks, PhD,** Lipid Sciences, was selected to receive the 2009 Special Recognition Award in Arteriosclerosis



Dr. Parks

for his substantial professional contributions to the field as well as to the AHA Council on Arteriosclerosis, Thrombosis, and Vascular Biology. The award will be presented at the American Heart Association's Scientific Sessions in November, 2009. Dr. Parks was also appointed to the Boards of Directors of the Deuel Conference on Lipids and the Kern Aspen Lipid Conference for 2010-2014.

**J. Mark Brown, PhD,** Lipid Sciences (photo above), received the Roger Davis Young Investigator Award for Transitional Faculty at the Kern Aspen Lipid Conference in August, 2009. This award is given to researchers in their first faculty positions, who show clear evidence of progress towards independence. Dr. Brown's talk was called "Biliary Sterol Secretion is not Required for Macrophage Reverse Cholesterol Transport: RCT Requires Reconsideration."

## **Promotions**

**Patrick E. Lantz, MD,** was promoted to Professor of Pathology. He is the Director of Forensic Pathology. Dr. Lantz will present a talk entitled "Everything I Wanted to Know About Pathology I Learned in Kindergarten" at the annual Medical Group Management Association's Pathology Management Assembly later this month.





Dr. Lantz

Dr. Palavecino

Elizabeth L. Palavecino, MD, Director of Clinical Microbiology, and Gregory J. Pomper, MD, Director of the Blood Bank and Bone Marrow Transplant Laboratory, were promoted to Associate Professor of Pathology.





Dr. Pomper

Dr. Temel

**Ryan E. Temel, PhD,** was promoted to Assistant Professor of Pathology - Lipid Sciences.

## TSI Appointments

Professors Lawrence Rudel, PhD and John Parks, PhD, and Assistant Professor Liqing Yu, MD PhD, were approved for joint appointments in the WFU Translational Science Institute (TSI)'s Translational Technologies Resources Program. Dr. Rudel was also appointed Professor in the TSI's Non Human Primates Program. All three are in the Section on Lipid Sciences, of which Dr. Rudel is currently head.

The Translational Science Institute continues to grow and change; learn more online at www.wfubmc.edu/tsi.

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## Research Spotlight: Stress and Heart Disease

Recent findings from ongoing studies in Comparative Medicine under the leadership of Carol A. Shively, PhD, show that social stress could play an important part in the development of heart disease

by causing the body to release more of the hormones that cause additional fat deposits in the abdominal cavity. Abdominal fat deposits behave differently than fat in other locations, and may speed the harmful buildup of plaque in blood vessels.

The study appeared as the cover story of Obesity, the peerreviewed journal of the Obesity Society, this summer.

Shively notes that obesity is directly related to lower socioeconomic status in Western societies, as is heart disease. In other words, those who have fewer resources to buffer themselves from the stresses of life are more likely to experience such health problems, she said.

What is striking about that relationship is that women and female

monkeys normally have a natural protection against heart disease – women typically develop heart disease, on average, 10 years later than men do. That protection seems to be lost when stress and visceral fat

increase; the monkeys with high social stress and larger amounts of visceral fat also had ovaries that produced fewer protective hormones. "Suppressed ovarian function is a very serious condition in a woman," Shively said. "Women who

are hormone-deficient will develop more atherosclerosis and be at greater risk of developing coronary heart disease and other diseases such as osteoporosis and cognitive impairment."

Women whose bodies are not producing adequate amounts of hormones won't necessarily know it, Shively said. The researchers found that low hormone production doesn't always lead to fewer menstrual cycles. To diagnose serious health

problems in obese women, doctors would have to investigate hormone levels.

The study was funded by the National Heart, Lung and Blood Institute of the National Institutes of Health and by a grant from the John D. and Catherine T. MacArthur Foundation.

## Help Wanted

#### FORENSIC PATHOLOGY

In addition to applicable degree(s), training, certification, and eligibility for licensure, we are looking for a person with a strong interest in the teaching and training of students, residents, and fellows using both hospital and medico-legal autopsies. A strong candidate will show evidence of scholarly abilities and exceptional communication skills.

#### CLINICAL CHEMISTRY

This is an outstanding opportunity for a qualified, well trained, and extremely motivated clinical chemist (MD or PhD) to join our dynamic clinical service and training program.

Contact us for more complete description including specific qualifications and requirements.

Faculty rank will be based upon qualifications and experience; salary is based on academic rank and years in service. Applications will be accepted until positions are filled.

To apply send a signed letter of interest, CV and 3 references to: Patrick E. Lantz, MD, Director of Autopsy Service, or Marcus B. Simpson, MD, Director of Clinical Laboratories, c/o Vickie C. Smith, Administrative Assistant, Department of Pathology, WFU Health Sciences, Medical Center Boulevard, Winston-Salem, NC 27157-1072.

Wake Forest University School of Medicine is an Affirmative Action Equal Opportunity Employer.

## ARRA Funds Stimulate Research

The Department of Pathology has been awarded 40 NIH-supported grants for FY 2009; most of these are continuing support for existing programs and projects, though several are new this year. One of the new projects funded this year (a supplemental grant representing about 3% of the total NIH dollars to the department) is supported by money from the American Recovery and Reinvestment Act of 2009 (ARRA).

The recent ARRA legislation seeks to stimulate the US economy by awarding \$8.2 billion to the NIH to support and advance scientific research. ARRA funding is awarded to new projects as well as targeted supplements to existing projects that will

create or retain jobs, and that have the potential for scientific progress in two years.

Overall, NIH grants to WFUHS amount to more than \$127 million in FY 2009; ARRA funds account for nearly 20% of the total dollars awarded this year. The Department of Pathology's investigators receive nearly 10% of NIH grants to the institution.

Learn more about the ARRA on the National Institutes of Health website at www.grants.nih.gov/ recovery. You'll find links to a database of all NIH grants, searchable by investigator, institution, or congressional district.



SCHOOL of MEDICINE

#### ONLINE GIFTS:

To make an online gift to Pathology, go to <a href="http://www.wfubmc.edu/onlinegift">http://www.wfubmc.edu/onlinegift</a>. In the designation field, please note "Pathology Discretionary Fund."

#### LEAVE A LEGACY:

You can make a lasting and profound impact on groundbreaking research, state-of-the-art medical education and outstanding patient care. Consider including Wake Forest University Health Sciences/Department of Pathology in your will, or naming us beneficiary of a retirement plan or insurance policy, or establishing a charitable annuity or trust that will pay you an income for life. For more information, please contact John Gillon, Senior Director of Gift Planning, Wake Forest University Health Sciences, 800-899-7128 or jgillon@wfubmc.edu.

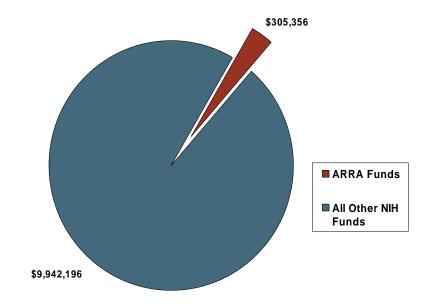


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# NIH Funding to Pathology Department All Sources FY 2009



One of the Pathology Department's new grants (about 3% of the total NIH dollars awarded) is supported by funds designated under the American Recovery and Reinvestment Act of 2009 (ARRA), which seeks to stimulate the US economy by awarding \$8.2 billion via the National Institutes of Health to support and advance scientific research. More details inside on page 7. Learn more about ARRA at the National Institutes of Health website at www.grants.nih.gov/recovery.