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Message from the Chair

The start of the new school year once again brings many new faces to the Department of Pathology. In addition to the annual influx of new residents, fellows and graduate students, several new faculty members will be joining various divisions over the next few months. Look for new faculty profiles in this and upcoming issues of our newsletter. Our aggressive recruitment strategy will continue through the fall as many faculty candidates will be visiting UAB and I hope that you will be able to attend as many candidate seminars as possible.

A number of construction and building renovation projects are underway in the department and several are nearing completion. I am optimistic that by the time you read the next quarterly newsletter, the Anatomic Pathology Division faculty, staff, and services currently housed in the Kracke Building will all be moved to newly completed facilities in PD6A. Similarly, several Department of Pathology investigators are tentatively scheduled to move this fall into renovated laboratory space in the Wallace Tumor Institute. These new facilities will permit further expansion of cancer related research in our department and help us to recruit additional outstanding clinicians and investigators to UAB.

Best wishes,
Kevin A. Roth, M.D., Ph.D.

Faculty Profile: Majd Zayzafoon, M.D., Ph.D.

Majd Zayzafoon, M.D., Ph.D., is an Associate Professor in the Department of Pathology. He serves as the Director of the UAB Center for Metabolic Bone Disease (UAB-CMBD), is Co-Director of the NIH P30 UAB Core Center for Basic and Translational Skeletal Research, and is PI of the NIH T32 Comprehensive Training Program in Bone Biology and Disease. Majd Zayzafoon was born in Birmingham and grew up in Norwich, England. He went to medical school at Damascus University, Syria where he obtained his MD degree. After graduation, he completed his residency in Internal Medicine followed by a fellowship in Gastroenterology at Preston Hospital, Tyne & Wear, England. Majd then moved to the United States and joined the Physiology Doctoral Program at Michigan State University, where he earned his Ph.D. degree. In 2002 he moved to UAB as a post-doctoral fellow in the Division of Molecular and Cellular Pathology, Department of Pathology. Since that time Majd has moved rapidly through the ranks, being promoted to Associate Professor in 2009. He is also currently enrolled in the MBA Graduate Program at the UAB School of Business where he is expected to obtain his MBA in 2012. Majd’s research program is focused on his long-standing interest in the role of calcium signaling in the transcriptional regulation of osteoblast differentiation and bone formation. He has made significant contributions to the elucidation of the role of Ca2+ signaling through the activation of calmodulin-dependent protein kinase II and the nuclear factor of activated T-cells, with a particular emphasis on the on the regulation of osteoblast proliferation and differentiation. His current research is focused on identifying the roles of calcium, calmodulin, and related protein kinases and phosphatases in osteoporosis, osteosarcoma and prostate cancer bone metastasis. A combination of biochemistry, cell biology, and molecular biology techniques are used in his laboratory to elucidate the critical signal transduction pathways involved in osteoblast differentiation and bone formation.
Majd Zayzafoon Cont’d:

In 2009 Majd was elected by the JHS faculty to UAB Faculty Senate, and in 2010 he received a Commendation Award for Outstanding Service to the Senate. He was Chair of the Faculty Senate Curriculum & Research Committee from 2010-2011 and is now Chair of the newly created Faculty Senate Research Committee for 2011-2012. Majd is also Founder and President of Novicure Biotechnology, which is a biotech company focused on drug discovery for prostate cancer bone metastasis.

Faculty Profile: Shantel Hebert-Magee, M.D.

Dr. Shantel Hébert-Magee has recently joined the UAB Cytopathology faculty as a new member. She is a native of Louisiana and attended medical school at Georgetown University School of Medicine. She continued on at Georgetown University Hospital completing a combined residency in Anatomic and Clinical Pathology in 2009, during which time she had been recognized as resident of the year and served as chief resident. Subsequently, Dr. Hébert-Magee went to the National Cancer Institute and completed a Translational Surgical Pathology fellowship under the directorship of Dr. Maria Merino. While at the NCI, Dr. Hébert-Magee studied the ultrastructural features of renal tumors in patients with Birt-Hogg-Dubé syndrome and note characteristics which distinguish them from other hereditary and sporadic renal neoplasms. For this work, she was awarded the Ultrastructural Pathology Award at the 2010 USCAP. Last year, Dr. Hébert-Magee came to UAB as a Cytopathology fellow after her previous mentor at Georgetown, Dr. Mary Sidawy, highly recommended Drs. Isam Eltoum and Andra Frost as experts in the field.

As a child Dr. Hébert-Magee was taught by her famille to make an impact. She learned of the legacy of her family, having a great-great-great grandfather who was an officer in the Louisiana 1st Native Guard the first colored regiment in the Civil War, whose family later expatriated to Haiti and France for lack of rights for blacks. Upon her family’s return to the states, they emphasized education, culture and community. It wasn’t long before she was told the favorite Creole statement “et toi”, French literally for “and you”, but used in bayou territory to mean “your turn.” When her turn came, Dr. Hébert-Magee realized that she wanted to make an impact in minority health, health disparities, and health initiatives for the underserved. As an undergraduate Howard Hughes scholar, she investigated the effects of 7,12-dimethylbenzanthracene on rat mammary glands and the estrous cycle; this model paralleled inner-city carcinogenic exposure and breast cancer risks for African American women. In addition, she spent a summer as a Harvard-SHURP scholar, under the direction of Dr. Michael Starnbach, of the Department of Microbiology and Molecular Genetics at Harvard Medical School, investigating CD8+ response to the pathogen C.

Cont’d...
Shantel Hébert-Magee Cont’d...

It wasn’t long before she was told the favorite Creole statement “et toi,” French literally for “and you,” but used in bayou territory to mean “your turn.”

In her spare time, Dr. Hébert-Magee enjoys writing Creole literature, painting, spending time with her family, and her Pomeranian, Saint (named after the New Orleans Saints, of course). She also volunteers with medical school applicants, always leaving them with two words to stimulate impact, et toi.

APC Distinguished Teaching Awards:

Two top educators from the UAB Department of Pathology have received meritorious awards from the Association of Pathology Chairs at the association’s annual meeting in July 2011 in Monterey, California. C. Bruce Alexander, MD, received the 2011 Distinguished Teaching Award in Graduate Medical Education; and Peter G. Anderson, DVM, PhD, received the 2011 Distinguished Teaching Award in Undergraduate Medical Education.

Dr. Peter G. Anderson, the recipient of the undergraduate teaching award, is Professor of Pathology and Director of Pathology Undergraduate Education at UAB School of Medicine. He is very active in educational pursuits, most notably in using technology to enhance teaching and learning. He holds leadership positions in many national and international educational organizations.

Dr. Anderson has received multiple “Advancing the Field of Pathology Through Computer Technologies” awards and “Best Departmental Website” awards from the Advancing Pathology Informatics, Imaging and the Internet Group (APIII). Last year he was awarded the Alpha Omega Alpha Honor Society’s Robert J. Glaser Distinguished Teaching Award. His Pathology Education Instructional Resource (PEIR) website is an internationally acclaimed educational resource.

Dr. C. Bruce Alexander, the recipient of the graduate teaching award, is Professor and Vice Chair in the Department of Pathology at UAB School of Medicine. In addition, he is the Pathology Residency Program Director and Section Head of Autopsy Pathology. Dr. Alexander is recognized nationally for his contributions to graduate medical education. He was a
Board of Directors of the ASCP, the American Pathology Foundation, the National Residency Match Program (NRMP), and the national Alpha Omega Alpha Honor Society. Dr. Alexander is currently president-elect of the American Society for Clinical Pathology, and will assume the presidency of that organization in October of this year.

Dr. Alexander was the recipient of the Parker Palmer “Courage to Teach” Award in 2002. This award, given by the ACGME, is specific for the top program directors in residency education. It is given to those finding innovative ways to teach residents. He has written a number of papers on graduate medical education and was a participating author on authoritative papers on curricula for medical education and graduate medical education.

Dr. Keeton obtained his Ph.D. degree in Pathology from UAB in 2003, after obtaining his BS degree in Natural Science (Cum Laude) from UAB in 1994. From 1994 to 1998, Dr. Keeton was an NIH Pre-Doctoral Fellow, and from 1998-1999, he had a fellowship sponsored by the Diabetes Trust Fund Boshell Scholarship in Medicine. During his Ph.D. studies in the UAB Pathology Graduate Program, Dr. Keeton was guided and instructed in Dr. Joseph L. Messina’s laboratory, where his research focused on insulin signal transduction pathways and insulin regulated gene expression. From 1999-2003, he served as Senator to the UAB Graduate Student Association, representing the Pathology Department.

After obtaining his Ph.D., Dr. Keeton was a Postdoctoral Fellow at UAB in 2004, and a Cell Biology and Immunology Postdoctoral Fellow at the Southern Research Institute in Birmingham in 2005. From 2004-2006, he was a member of the Executive Board of the UAB Postdoctoral Association and chairman of the “Beyond the Bench” committee.

In 2006, Dr. Keeton accepted a staff scientist position in the assay development group at Southern Research Institute, as part of the NIH Roadmap High Throughput Screening program. In 2010, he was promoted to Research Biologist at Southern Research. At present, he is part of a drug discovery group involved in elucidating certain mechanisms of colon cancer chemoprevention.

Dr. Keeton is a member of the American Association for Cancer Research, the Society for Biomolecular Sciences, and the American Society of Pharmacology & Experimental Therapeutics. From 2007 to the present, he has delivered a lecture, “High Content Screening for Drug Discovery,” in the Vocabulary in Drug Discovery course within the UAB Hughes Med-Grad Fellowship Program.

Dr. Keeton has many fond memories of his colleagues and friends in the Pathology graduate program and especially the guidance of his mentor, Dr. Joseph Messina. He resides in Gardendale, Alabama.
Heparin-Induced Thrombocytopenia (HIT) is a severe and potentially life-threatening complication of heparin therapy. In the classical presentation of HIT, thrombocytopenia develops 5-14 days after initiating heparin therapy. Thrombocytopenia is defined as a platelet count of <150 x10^3/mL or a 30-50% fall from the baseline platelet level. Patients with HIT may develop venous or arterial thromboses up to 30 days after cessation of heparin and therefore must remain on alternative anticoagulation for up to six weeks after diagnosis. Although unfractionated heparin poses the greatest risk to patients, low molecular weight heparins (i.e. enoxaparin) still have a small potential for inducing HIT antibodies.

HIT is caused by an immune response against heparin and Platelet Factor-4 (PF4) complexes. Heparin binds to PF4, a chemokine released from activated platelets, causing a conformational change resulting in a novel epitope that is recognized by the patient’s immune system. Antibodies against this epitope are formed and have the potential to bind to heparin:PF4 complexes and to IgG receptors on platelets, causing activation of platelets and increased risk for thrombosis.

Making a clinical diagnosis of HIT is often complex, especially in patients with other confounding medical conditions that also cause thrombocytopenia and/or thrombosis. Two types of laboratory assays for detecting HIT antibodies are available. At UAB, as in most academic medical centers, we offer an immunoassay (ELISA) which detects antibodies that bind to heparin:PF4 complexes. This assay is not technically demanding and results are available relatively quickly. Although the sensitivity of this assay is near 100% (meaning a negative test strongly argues against a diagnosis of HIT), its specificity is only ~50%. A positive ELISA result is a poor predictor of a true HIT diagnosis. This assay will also detect non-pathogenic heparin:PF4 antibodies as well as some...

**Spotlight on Administration—Karen Lewis:**

Karen Lewis is the Residency Program Coordinator for Pathology, where she learned medical terminology and had a lot of direct patient contact, which she found very rewarding. She transferred into the Department of Pathology in 1997. When first applying for the position, Karen recalls that she did not even know what a resident was - she had to read up on it.

Karen started the new job in September, when applications were flooding in, close to 1,000 that year! She helped Dr. Alexander review the applications, and then began scheduling interviews. Each Interview day started with breakfast and went all day until 5:00 – sometimes later. “At the end of each day, I was exhausted. But all this work paid off big time. In March, eight outstanding new residents were signed on!” Karen reflects that being a Program Coordinator is a challenging job.

Program requirements for certification of the program are always changing – so it’s critical to keep up with the changes and remain in compliance. She says that the best part of her job is the residents themselves. They amaze her with their hard work, devotion and talents, both in the medical profession and outside of it.

Karen graduated from the University of Montevallo in 1976 with a BA in History and a minor in Office Administration. She is married to Earl Lewis, and they reside in Bluff Park along with Callie, their calico cat. Her grown son Josh works for Confederate Motor Company in Birmingham, where he designs and builds high-end and unique motorcycles. Karen and Earl love to entertain. Their ongoing hobby and endless project is their home.

**New changes to HIT antibody testing protocols aim to reduce misdiagnosis of HIT in the UAB patient population:**
unrelated antibodies (e.g., lupus anticoagulant, anti-bovine protein antibodies, immune complexes). A functional assay that detects pathogenic HIT antibodies is available as a send-out test. The Platelet 14C-Serotonin Release Assay (SRA) is considered the “gold standard” for HIT antibody testing. Unfortunately, this assay is very technically demanding and is only offered at highly specialized reference laboratories. The turn-around time for the SRA can be as long as one week.

We recently completed a prospective study on the HIT antibody ordering practices of UAB physicians. We found that over 50% of HIT antibody test requests are for patients with a very low clinical probability of having HIT. In fact, 15% of orders were placed on patients with no history of heparin exposure! Given the low specificity of the HIT antibody ELISA assays and the ordering practices at UAB, it is clear that we have created an environment that places our patients at great risk of being misdiagnosed with HIT. Why is this dangerous? A diagnosis of HIT forever changes anticoagulation practices for the patient. Current guidelines state that patients who have a diagnosis of HIT should not have future heparin exposure unless undergoing cardiopulmonary bypass surgery (Chest 2008;133:340-380). In addition, because of the prolonged risk of thrombosis, patients with a HIT diagnosis, who are often thrombocytopenic and have other bleeding complications, must be anticoagulated for up to 6 weeks after diagnosis.

In an effort to improve patient safety by reducing the risk of HIT misdiagnosis at UAB, Pathology residents and attendings from the Coagulation Service will review all HIT antibody orders for appropriateness. Patients will be evaluated using two HIT pre-test probability scoring systems: The Warkentin’s 4T’s and the HIT Expert Probability Score (J Thromb Haemost 2006; 4: 759–65; J Thromb Haemost 2010; 8:2642-50). These scoring systems were validated in our prospective study of the HIT ordering practices of UAB physicians. If either probability score shows an intermediate risk for HIT, the HIT antibody assay request will be approved. If both scoring systems show a low risk of HIT, the HIT antibody request will be canceled. A copy of our scoring sheet can be viewed here. Specimens with positive HIT antibody will be sent out for the Serotonin Release Assay (SRA) to determine the antibody function. Results will be available as an interpretive report. We strongly recommend evaluating your patients using these criteria prior to ordering the HIT antibody test. If there are any questions, call the laboratory at 934-1045 and ask for the Pathology resident on call.

Jill Adamski, MD, PhD
—This story was reprinted from Synopsis (http://www.oneuabmedicine.org/UAB1/news/s-hit)

New Changes to HIT Cont’d...

From the Chief Residents:

We welcome the new residents and fellows who joined our program in July. We are excited you are here and look forward to a great year!

Emily Gorman and Amberly Nunez
Chief Residents, 2011-2012

Boards:
Congratulations to those residents who recently passed their boards! Best wishes to those residents taking board exams this fall. You have worked hard and will do well!

National Meetings:
College of American Pathologists (CAP)—The annual CAP meeting will be held on September 11-14 in Grapevine, TX. Jie Xu will present the poster “Metastatic Renal Cell Carcinoma Presenting as Gastric Polyp.” Faculty mentor was Dr. Shi Wei.

American Society for Clinical Pathology—The Annual ASCP Meeting will be held on October 19-22 in Las Vegas, NV. Rong Li will present the posters: “A Translocation-associated Renal Carcinoma Resembling Hybrid Oncocytic Tumor,” and “Extramedullary Hematopoeisis: An Unusual Finding in Subdural Hematomas.” Faculty mentors are Dr. Shi Wei and Drs. Vishnu Reddy and Cheryl Palmer, respectively.
From the Chief Residents Cont’d:

American Society of Dermatopathology (ASDP)-The Annual ASDP meeting will be held on October 20 -23 in Seattle, WA. Caitlin Halverson will present the poster “Cutaneous Reactive Angiomatosis Associated with End-Stage Renal Disease.” Faculty mentor was Dr. Aleodor Andea. Taylor Deal will present the poster “Subcutaneous Sweets Syndrome in a Leukemic Patient: Case Report of a Rare Entity with Emphasis on the Differential Diagnosis.” Faculty mentor was Dr. Aleodor Andea.

American Association of Blood Banks (AABB)-The Annual AABB meeting will be held on October 22 -25 in San Diego, CA. Taylor Deal will give an oral presentation entitled “Two Novel Jka Alleles in a Jk(a+b-) Patient with Anti-Jka.

Society for Neuro-Oncology (SNO) - The Annual SNO meeting will be held November 17-20 in Orange County, CA. Rob Hackney will present the poster “Primary Central Nervous System Angiosarcoma: Diagnosis and Treatment Strategies.” Faculty mentor was Dr. Cheryl Palmer.

Committees: Alex Hanna has been elected to serve a one-year term as the UAB Program liaison for ASCP beginning in October. Taylor Deal is joining Johnny Ross on the UAB House Staff Council starting this Fall.

New Appointments: Thuy Nguyen, Zhiyong Ren, and Yaolin Zhou have been chosen to serve as our Residency Website Coordinators and will be responsible for content on the residency portion of the UAB Department of Pathology website.

Congratulations to...

-... Wei Song, Taylor Deal, Rong Li, and Zhiyong Ren who were awarded Adams Grant funding for research. Faculty mentors are Dr. Brandwein-Gensler (for Wei and Taylor), and Dr. Shi Wei (for Rong and Ren).

Resident and Fellow Out-going Reception:
Primary faculty, fellows, and residents attended the 2011 Outgoing Reception on Thursday, May 12, at Vestavia Hills Country Club. Residents and fellows finishing their training received certificates of completion. Awards were presented to Emily Gorman (Jay M. McDonald Award for Excellence in Laboratory Medicine Presentation), Johnny Ross (Kracke Award for Best Presentation in Anatomic Pathology), and Mark Steciuk (Roger Denio Baker Prize in Anatomical Pathology).

From the Graduate Students:

Accolades/Awards:
Robert N. Bone—received a UAB Graduate Student Association Travel Award to attend the meeting of the American Society for Gene and Cell Therapy in Seattle, WA.

Ryan Corrick—a graduate and MSTP student, was selected by The Endocrine Society to attend Endocrine Trainee Day at ENDO 2011: The Endocrine Society’s 93rd Annual Meeting held June 4-7, 2011 in Boston, Massachusetts. As part of this acceptance he received a travel award and complimentary (free) registration to the meeting.

Qinglan (Helen) Liu— received a UAB DRTC (Diabetes Research Training Center) travel award, and presented “6-Mercaptopurine, an activator of the orphan nuclear receptor NR4A3, modulates glucose transport in LG skeletal muscle cells” at the ADA (American Diabetes Association) annual meeting in San Diego, CA, June 2011.
From the Graduate Students Cont’d:

Shaoning Jiang—Named runner up in the Young Investigator Award competition at the Shock Society Meeting in June. She received a travel award for being selected and a cash reward for being the runner up.

Angelina Londono Joshi—Elected president for the UAB Toastmasters International Speaking Club.

Scott Tanner—was awarded the Marie and Emmett Carmichael Fund for Graduate Students in Biosciences. The award is given out annually on the basis of academic achievement. Scott will use the award to continue his work on the role of regulatory T cells in the development of inflammatory bowel disease.

Publications/Presentations:

Robert N. Bone—presented the poster entitled “Gene Transfer of Constitutively Active Akt1 Increases Islet Cell Survival and Proliferation” at the 14th Annual Meeting of the American Society for Gene and Cell Therapy in Seattle, WA.


Scott Tanner—Digestive Diseases Week, Chicago, IL. Decreased regulatory T cell numbers in the intestine precede the development of colitis in the FVB.mdr1a-/- mice.

New Pathology Faculty:

Robert Arena, M.D.
Laboratory Medicine Instructor
Start Date: 8/8/11

Huma Fatima, M.D.
Anatomic Pathology Assistant Professor
Start Date: 7/1/11

Shuko Harada, M.D.
Anatomic Pathology Assistant Professor
Start Date: 8/15/11

Shantel Hébert-Magee, M.D.
Anatomic Pathology Assistant Professor
Start Date: 7/1/11
Pathology Grant Awards Cont’d:

**JONAS ALMEIDA**
NIH/Medical Univ. of South Carolina
Prognostic Markers in Postoperative Acute Kidney Injury
$44,317 1/05/11-1/04/12

**JONAS ALMEIDA**
ONR/Medical Univ. of South Carolina
Identification and Validation of Plasma Biomarkers in California Sea Lions
$19,136 1/01/11-5/31/12

**SCOTT BALLINGER**
NIH/Boston University
Mitochondrial Dysfunction in the Diabetic Endothelium
$160,690 4/01/11-2/28/16

**SCOTT BALLINGER**
American Heart Association (AHA)
The Role of Mitochondrial Genetic Background on Caloric Utilization and Biogenetics
$44,360 7/01/11-6/30/13

**DOUGLAS HURST**
American Cancer Society
Composition of S103 Protein Complexes in Breast Cancer Metastasis
$649,000 7/01/11-6/30/15

**YI-PING LI**
NIH
Role of RGS10 (Regulator of G-Protein Signaling 10) in Osteoclast Differentiation
$210,778 10/01/10-03/31/11

**YI-PING LI**
NIH (ARRA)
Novel RNAi Inhibits Both Inflammation and Bone Resorption in Oral Disease
$592,990 1/14/11-8/31/11

**ROBINNA LORENZ**
NIH
Medical Scientist Training Program
$41,663 7/01/11-6/30/15

**RAKESH PATEL**
American Heart Association (AHA)
The Role of Endothelial N-glycosylation in Mediating Monocyte Adhesion
$41,663 7/01/11-6/30/13

**KEN WAITES**
NIH/University of Maryland
Azithromycin to Prevent BPD in Ureaplasma-Infected Preterms
$321,760 3/10/11-2/29/16

**CASEY WEAVER**
HHMI
Howard Hughes Medical Institute Fellow Award
$39,000 6/01/11-5/31/12

**CASEY WEAVER**
Crohn’s and Colitis Foundation of America (CCFA)
A Critical Role for T Cell-Derived IL-6 in the Pathogenesis of Colitis
$386,100 7/01/11-6/30/14

**YANG YANG**
NIH
Heparanase Regulation of Osteolysis in Multiple Myelomas
$1,380,400 7/08/11-6/30/16

**YANG YANG**
Multiple Myeloma Research Foundation (MMRF)
Heparanase as a Therapeutic Target for Regulation of Myeloma Bone Disease
$200,000 7/01/11-6/30/13

If anyone has any news items, accolades, etc. to be put in the quarterly newsletter, please send it to the Path In Focus e-mail address at: pathinfocus@uab.edu.

Thank you.