**Message from the Chair:**

The Department of Pathology has taken an innovative approach to informatics education. Too often, informatics training is conceived as simply learning how to use institution-specific commercial software systems rather than obtaining a deep understanding of data processing and analysis. In this new era of computational pathology (defined as the development and application of data-analytical and theoretical methods, mathematical modeling, and computational simulation techniques to the scientific study of disease), pathology research trainees, clinical residents and fellows, and investigators need to be ready to engage Big Data resources and statistical concepts with the same ease and familiarity with which they use the microscope. Faculty in the Division of Informatics have stepped up to this educational challenge.

Dr. Seung Park directs a course titled “This is your brain; this is your brain on informatics” (STP2146/GBSC 703 01E), a two-week long intensive clinical informatics/web computing boot camp. Over fifty medical students, graduate students, residents and fellows have graduated from this course and many have completed clinical informatics projects leading to presentations, and awards, at national meetings and peer-reviewed scholarly publications. Contact Dr. Park (seungp@uab.edu) for additional information on this exciting course. Similarly, Drs. Emidio Caprioti and Malay Basu have developed two courses on computational biology and bioinformatics, one for individuals without programming skills (CB2-201; GBSC 703 01E). Topics covered include high-performance computing, biological data sources and file formats, sequence alignment and next generation sequencing (NGS) data quality assessment and variant calling. Contact either Dr. Caprioti (emidio@uab.edu) or Dr. Basu (malay@uab.edu) for additional information on these courses.

In total, the UAB Department of Pathology continues to support its educational mission by funding exciting career enhancing summer research opportunities and sponsorship of innovative courses to expand training opportunities in clinical informatics and computational pathology.

Best wishes,
Kevin A. Roth, M.D., Ph.D.
Faculty Profile: Elizabeth Brown, Ph.D.

Dr. Brown received her PhD in epidemiology from the Johns Hopkins Bloomberg School of Public Health. She subsequently completed two fellowships at the National Institutes of Health – the first in the Division of Cancer Epidemiology and Genetics at the National Cancer Institute (NCI) and the second, also at the NCI, in the Laboratory of Genomic Diversity, Section of Immunogenetics and Molecular Epidemiology. Dr. Brown was recruited to the Department of Epidemiology in the School of Public Health at UAB in 2006 and served as an Adjunct Scientist at NCI from 2006 to 2010.

Dr. Brown served on several editorial boards and NIH study sections (e.g., NCI, NIAMS, NIMHD), received numerous awards and recognition for her research related to molecular and genetic immunology and serves as Principal Investigator on several NIH-funded grants in support of her research. She was promoted to the rank of full professor in the Department of Pathology (Division of Molecular and Cellular Pathology) at UAB in 2014.

The research conducted in Dr. Brown’s wet and dry laboratories is mainly targeted to advance the understanding of aberrant immune function common to inflammatory-mediated chronic diseases, such as select autoimmune diseases as well as multiple myeloma and its related asymptomatic precursor states, each with underlying B cell pathology. Within this purview, she uses a multidisciplinary functional genomics approach to explore pathways involved in chronic immune perturbation, inflammation as modifiers of disease, and B cell homeostasis. The objective of this research is to identify and validate biomarkers, which may be used to target high-risk populations to improve disease surveillance and modify therapeutic intervention leading to significant reductions in morbidity and mortality associated with advanced stage disease.

While at UAB, Dr. Brown was elected to the Faculty Senate where she served on the Executive Committee and directed the UAB Faculty Development Grant Program and in January 2015, she was appointed as Program Co-Leader for Cancer Control and Population Sciences of the UAB Comprehensive Cancer Center. In addition, as former Chair of the International Multiple Myeloma Consortium (IMMC) Coordinating Committee, Dr. Brown continues to facilitate large collaborative genomics and non-genomics initiatives and shares the role of setting research priorities to identify novel biomarkers of disease susceptibility and progression.

Outside of work, Dr. Brown cherishes time with her family (Lou, Ian, Kate, Piper and Sydney) and friends, and enjoys travelling, outdoor activities including hiking and water sports (i.e., fly fishing, kayaking, rafting and surfing, which require travelling), painting and photography, listening to live music, expanding her “foodie” and “hop-head” horizons, select Netflix series as well as discovering and learning new things.
Dr. Rajeev Samant—Article communicated from his laboratory, on which Hawley Pruitt (HHMI student: Cancer Biology track) is a shared first author, has received a special recognition as the highly accessed and most viewed article by the journal Molecular Cancer. Details of the article: microRNA-29 negatively regulates EMT regulator N-myc interactor in breast cancer Rostas JW*, Pruitt HC*, Metge BJ, Mitra A, Bailey SK, Bae S, Singh KP, Devine DJ, Dyess DL, Richards WO, Tucker JA, Shevde LA and Samant RS. Molecular Cancer 2014, 13:200 (29 August 2014).


Dr. Ona Faye-Petersen—Gave two invited lectures at international meetings: one in London, UK at European Congress of Pathology on Placental Mesenchymal Dysplasia (September 2014) and one at the IAP in Bangkok Thailand (October 2014) “Pediatric and Perinatal Pathology: SY21-1 “Alloimmune Disorders of Pregnancy”. Am Councilor at Large and session moderator for the platform presentations on perinatal pathology at the Spring Society for Pediatric Pathology Meeting in Birmingham, UK (September 2014)


Dr. Faye-Petersen was the Placental Pathology Section Editor (14 chapters) for Pathobiology of Human Disease: A Dynamic Encyclopedia of Disease Mechanisms” Online, ongoing publication August 2014; Elsevier Publisher. Science Direct: ISBN: 978-0-12-386457-4) and co-authored two chapters (Charles AK, Faye-Petersen OM. Chapter 5002: Human placental...
**Accolades: Cont’d...**

- Development from conception to term. Faye-Petersen OM, Ernst L, Chapter 5011: Miscellaneous Placental Pathology—massive perivillous fibrin deposition, fetal thrombotic vasculopathy, and placenta accreta.

- Dr. Joanne Murphy-Ullrich—Elected as President of the American Society for Matrix Biology (www.asmb.net). She will be president-elect in 2015-16 and responsible for planning the 2016 international biennial meeting. She will be ASMB president from 2017-2018.

- Dr. Lalita Shevde-Samant—Two Graduate students in the Cancer Biology Theme conducting their research in Lalita Samant lab have qualified to candidacy.

- Dr. Shi Wei—was invited to speak at the 2nd Princeton Integrated Pathology Symposium on Breast Pathology. His talk is entitled “Papillary Lesions of the Breast”.

- Dr. Adam Wende—Selected as one of the inaugural Pittman Scholars in the UAB School of Medicine.

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**Pathology Professor Co-Authors New Edition of Human Histology Textbook**

The *Human Histology* textbook which has been a popular textbook for health professional students since its first publication in 1991 has always focused strictly on the histology of human tissues. This popular textbook has recently undergone a revision and the fourth edition is now available. Professor of Pathology, Peter G. Anderson, DVM, PhD, was recruited to serve as co-author on this popular text. Although a pathologist by training, Dr. Anderson has had over 15 years’ experience working on the United States Medical Licensing Examination (USMLE) test development committees. In this role he has been part of the transition from traditional histology/structural examination content to the more applied anatomy and clinically relevant anatomy that is seen in the current USMLE examination questions. The USMLE Step examinations now only ask normal anatomy and histology questions in the context of disease processes or experimental vignettes. Thus, structural-functional relationships in the context of disease pathogenesis is a key feature of this fourth edition of *Human Histology*.

This approach is further elucidated by the Preface to the Fourth Edition:

Changes in medical education have resulted in curricula that emphasize integration and application of relevant knowledge. In this new edition of *Human Histology*, we have endeavored to highlight the histology that is relevant to disease processes. While providing a thorough traditional overview of histology, we have also attempted to emphasize the structures and the

Cont’d...
structure–function relationships that are germane to disease pathogenesis. We have tried to highlight histological structures that play key roles in disease pathogenesis in order to help the health professional student learn histology in the context of relevant clinical disease processes. The content, the layout and the add-ons associated with this book are designed to help students learn the histology that informs histopathology and disease pathogenesis.

A Conversation with Undergraduate Neuroscience Program alumnus Austin Luker

Luker, one of the earliest undergraduate neuroscience majors, graduated summa cum laude from UAB and is now a fourth-year student in the UAB School of Medicine.

Where are you from?

“I grew up in Ashland, Alabama, which is a very small town of fewer than 2,000 people in the Talladega/Anniston area. I went to Clay County High School and graduated valedictorian, though this isn’t saying much considering there were only 55 folks in my graduating class! They closed my high school a couple of years after I graduated and consolidated the county schools into a central high school. I made a 30 on my ACT and was fortunate enough to get a scholarship to UAB.”

How did you discover the program?

“I knew I wanted to go to medical school, and I initially declared myself a biology major. ... I very much enjoyed my early coursework in biology, but I wasn’t particularly passionate about it as a major. ... I took Dr. McFarland’s 101 class to see if I might want to be a psychology major instead. I absolutely loved the class, and was on the verge of switching to psychology when I heard about the neuroscience major from a friend, who mentioned Dr. McFarland as one of the key developers. I emailed him right away, and I spoke to him after class the next day, and he gave me everything I needed to apply. He was so excited and passionate about the program, and it was infectious. I am so grateful to him for taking an interest in me and getting me plugged in, because it changed my entire undergraduate experience for the better. But that is the kind of teacher he is, and the kind of person he is. He cares deeply about students and is invested in their success, and he impacted my life for the better through his dedication and support.”

Who was your mentor?

“My research mentor was John Shacka, Ph.D., in the Department of Pathology. He was an excellent mentor and became a good friend through our two years working together. He allowed for a lot of freedom on my part and allotted a lot of ownership and responsibility for the projects I was involved in. I ended up being on two publications from the lab, and presented posters around three times. The highlight was presenting a poster at the Society for Neuroscience meeting in San Diego in 2010 ... a staggering number of presentations filled the exhibition halls every day, and it provided a real sense of just how much the field as a whole was exploding.”

Cont’d...
A Conversation with Undergraduate Neuroscience Program alumnus Austin Luker  Cont’d...

How did the neuroscience program prepare you for medical school?

“I feel like the neuroscience program really gave me the mindset of a basic scientist, which has been very beneficial in how I approach problems. ... The neuroscience program really develops critical thinking, which is invaluable for medical training. I also felt well-prepared for not only biochemistry and cell biology in medical school, but also the behavioral sciences. ... Neuroscience gives you a great background for medical school, regardless of your eventual specialty choice.”

What comes next?

“I graduate in May, and I am applying for psychiatry residency, which is an extension of my interest in neuroscience. I have no doubt that my participation in the neuroscience program influenced what I eventually decided to specialize in. I think that psychiatry is undergoing a period of growth and change, which will only benefit from the continued growth of neuroscience as a field. Our patients are often some of the most ill in medicine, and our treatments, while constantly improving, still often don’t adequately treat some of our most debilitating conditions. As more of our basic science research is translated into the clinical arena, patients reap the benefits of this work.

“In addition to transitioning professionally, my wife and I also just celebrated the birth of our first child this year, so I couldn’t be more excited about the next chapter of our lives!”

--by Jeff Hansen

This article was reprinted from the UAB The Mix website.

From the Chief Residents:

As the recruiting season comes to a close, Jason and I would like to express our sincere gratitude to all residents, faculty, and staff who have assisted us during this very important process. We look forward to a highly successful Match Day in March, with yet another impressive group of first year residents.

In keeping with the UAB tradition, our residents continue to publish outstanding manuscripts and demonstrate a strong presence at national meetings. Congratulations on a job well done!

Jason Brazelton & Matt Cain
Chief Residents, 2014-2015

Residency Program
Director:
C. Bruce Alexander, M.D.

Residency Program Support:
Karen Lewis
934-4060

National Meetings, Presentations, and Awards

American Society of Cytopathology—November 2015. Dallas, TX

Dr. Evan Alston presented a poster titled “Suspicious Cytologic Diagnostic Category in Endoscopic Ultrasound-Guided Fine-Needle Aspiration (EUS-FNA) of the Pancreas: Follow-up and Outcomes.” with faculty mentor Dr. Eltoum.


United States and Canadian Academy of Pathology—March 2015. Boston, MA.

Dr. Zheng Ping will present a poster titled “Genomic Abnormalities Correlated With Histologic Grade of Invasive Ductal Carcinoma of the Breast” with faculty mentor Dr. Shen.


Dr. Zheng Ping will present a poster titled “Using normal saline as part of replacement fluid in therapeutic plasma exchange procedures – A pilot study” with faculty mentors Dr. Williams, Dr. Pham and Dr. Marques.
From the Chief Residents Cont’d….

**Manuscripts:**

**Dr. Matthew Cain** published “Development of Novel Software to Generate Anthropometric Norms at Perinatal Autopsy” in *Pediatric and Developmental Pathology* with faculty mentor Dr. Ona Faye-Petersen, Dr. Joseph Siebert from Seattle Children’s Hospital, Dr. Jonas Almeida, Egiebade Iriabho, and Alexander Gruneberg from the Division of Informatics.

**Dr. Matthew Cain** published “Web Development to Assist Fetal Autopsies” in *ASCP Case Reports* with faculty mentor Dr. Seung Park.

**Dr. Virginia Duncan** published “A possible case of a haemolytic transfusion reaction caused by anti-Le(a) antibody” in *Blood Transfusion* with faculty mentors Dr. Lance A. Williams and Dr. Huy P. Pham.

**Dr. Ruby Ma** published “Solitary, Adult-onset, Intraosseous Myofibroma of the Finger: Report of a Case and Review of Literature” in *Hand* with faculty mentors Dr. Wei and Dr. Seigal.

**Dr. Ruby Ma** published “A Fatal Case of Systemic Lupus Erythematosus complicated with Macrophage Activation Syndrome, Portal Vein Thrombosis and Ischemic Colitis” in *International Journal of Rheumatic Diseases* with faculty mentors Dr. Reilly and Dr. Reddy.

**Dr. Ruby Ma** published “An Extremely Rare Primary Gallbladder Myxoid Liposarcoma Associated with Amplification of DDIT3 Gene” in *Journal of Gastrointestinal and Liver Diseases* with faculty mentors Dr. Peker and Dr. Wei.

**Dr. Vishwas Parekh** published “Primary cutaneous T-cell lymphoma with co-expression of T-cell receptors αβ and γδ” in *American Journal of Dermatopathology* with faculty mentor Dr. Kristopher McKay.

**New Chief Residents!**

We are pleased to announce the new Pathology Chief Residents for 2015—2016, effective April 1, 2015.

**Future Events:**

UAB Department of Pathology has been chosen to host the Academy of Clinical Laboratory Physician and Scientist (ACLPS) meeting for 2016. Our committee is working hard to make this a memorable event. This month, the group toured the impressive McWane Science Center, a possible venue to host the meeting. We look forward to this future event!
Dr. Linda Hsieh-Wilson, Professor of Chemistry at California Institute of Technology gave the inaugural John Lisnisky Endowed Lecture in Glycobiology on December 10th.

A Howard Hughes Investigator, Dr. Hsieh-Wilson obtained her undergraduate degree in chemistry from Yale University and her PhD in organic chemistry from the University of California, Berkeley. She joined the faculty at California Institute of Technology in 2000 and was promoted to Professor in 2010. Dr. Hsieh-Wilson’s research combines organic chemistry and neurobiology to understand the molecular basis of fundamental brain processes. Her laboratory has pioneered the development of novel chemical tools to facilitate the rapid and sensitive detection of specific glycoproteins. Her lecture focused on the identification and characterization of fucosylated glycoproteins as well as the functional roles of O-GlcNAc glycosylation in the brain.

Dr. Lisnisky’s widow, Dr. Catherine Lisnisky and his sister, Ms. Jean Lisnisky attended the lecture and were presented with the lectureship establishment resolution at a reception immediately following Dr. Hsieh-Wilson’s outstanding seminar.
Have a Heart This Valentine’s Day: Give Blood!

Be someone’s valentine and donate blood at the University of Alabama at Birmingham Valentine’s Day blood drive. The drive, in conjunction with the American Red Cross, runs at UAB Hospital and UAB Highlands from Feb. 9-19. The Valentine’s Day drive will be held in the UAB Hospital North Pavilion second-floor atrium Feb. 9-14 and in UAB Highlands Hospital from Feb. 17-19. All blood types are needed. Donors will be eligible for a drawing for one of five $50 Walmart gift cards and other prizes. Every donor will receive a T-shirt.

Drive hours at the North Pavilion, 18th Street and Sixth Avenue North:

- Monday, Feb. 9, 10 a.m.-5 p.m.
- Tuesday, Feb. 10, 10 a.m.-5 p.m.
- Wednesday, Feb. 11, 7 a.m.-2 p.m.
- Thursday, Feb. 12, 10 a.m.-5 p.m.
- Friday, Feb. 13, 10 a.m.-5 p.m.
- Saturday, Feb. 14, 10 a.m.-5 p.m.

Donors should bring a photo ID. Free parking is available in the North Pavilion parking deck and the UAB Highlands parking lot. Reserve your appointment at www.redcross.org; sponsor codes are UABNP or UAB Highlands.

UAB is one of the largest users nationally of blood supplied by the Red Cross. Donors can give blood up to six times a year, every eight weeks. The process takes about 45 minutes; the actual blood collection usually takes less than 20 minutes.

Blood products are used during surgery, transplantation, trauma care, difficult pregnancies and cancer treatment. It is not unheard-of for a single patient to require as many as 100 units.

Hours at UAB Highlands, 1201 11th Ave. South:

- Tuesday, Feb. 17, 9 a.m.-3 p.m.
- Wednesday, Feb. 18, 6:30 a.m.-12:30 p.m.
- Thursday, Feb. 19, 11 a.m.-5 p.m.
**Pathology Grants Awarded:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/Center</th>
<th>Title</th>
<th>Grant Amount</th>
<th>Start/End Dates</th>
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<tbody>
<tr>
<td>JOHN C. CHATHAM</td>
<td>NIH</td>
<td>“Disruption of the Clock O-GlcNAc Axis in Diabetic Cardiomyopathy”</td>
<td>$1,470,000</td>
<td>11/3/14—10/31/18</td>
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<td>YABING CHEN</td>
<td>VA—IPA</td>
<td>“Lu Huang”</td>
<td>$86,208</td>
<td>9/1/14—8/31/16</td>
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<td>WILLIAM GRIZZLE</td>
<td>NIH/Univ. of Colorado</td>
<td>“Pulmonary Hypertension Breakthrough Initiative”</td>
<td>$325,576</td>
<td>9/15/14—6/30/18</td>
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<td>DENNIS KUCIK</td>
<td>VA—IPA</td>
<td>“Kiran Gupta”</td>
<td>$7,756</td>
<td>9/1/14—8/31/16</td>
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<td>SILVIO LITOVSKY</td>
<td>UAB SOM Center for Training &amp; Learning</td>
<td>“Reversed Clinical History: An Innovative Case-Based Learning Technique to Promote Development”</td>
<td>$3,600</td>
<td>1/1/15—6/30/16</td>
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<td>CASEY WEAVER</td>
<td>NIH</td>
<td>“Role of Roryst Innate Lymphoid Cells in Neonatal Intestinal Barrier Development”</td>
<td>$151,566</td>
<td>2/1/15—1/31/19</td>
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<td>MOON NAHM</td>
<td>Merck Sharp and Dohme Corp</td>
<td>“MOPA Results of Serum Samples”</td>
<td>$148,838</td>
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<td>JOHN J. SHACKA</td>
<td>Michael J. Fox Foundation</td>
<td>“Alpha-Galactosidase A as a Therapeutic Target for Parkinson’s Disease”</td>
<td>$125,000</td>
<td>1/15/15—1/14/16</td>
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</tbody>
</table>

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.

Angie Schmeckebier
Dear UAB Department of Pathology Friends and Colleagues:

The UAB Department of Pathology is recognized nationally for excellence in biomedical research, undergraduate and graduate medical education, and diagnostic pathology. This rise to prominence has been accomplished through the hard work and dedication of numerous Department of Pathology faculty and trainees who have made UAB a phenomenal environment for pathology education and clinical practice. Several decades ago, the former Departments of Anatomic Pathology and Clinical Pathology of the University of Alabama School of Medicine merged into a single Department of Pathology of the UAB Health System. More than 250 residents have received their graduate training in Pathology at UAB and have gone on to populate the state, region and the nation. In fact, the vast majority of Pathologists in the state of Alabama have received some or all of their training here at UAB. This program of excellence in graduate medical education has been appropriately balanced by a world-class graduate program that has similarly trained generations of scientists who fill academia, industry and government service. Our department has been bolstered in recent years by an ever increasing number of post-doctoral fellows, clinical fellows and junior faculty members who have achieved academic, research, and/or clinical excellence, and ascended to leadership positions at UAB or other institutions.

Please consider making a gift to the Department of Pathology at UAB to support our missions of clinical practice, teaching, research and service. Any amount would be most gratefully received and would be fully deductible*. One could direct it to a particular area of need, to fund current and future endowed professorships or create new awards, prizes or similar recognition opportunities to honor yourself, a family member, a favorite professor, etc.

We would be pleased to assist you and your professional advisors in including the UAB Department of Pathology in your estate plan or in exploring other giving strategies. A simple tear off sheet is found below.

* One should always check with their tax advisor.

Thank you for your serious consideration of this request.

Please fill out each of the 3 Sections:

A1—Enclosed, please find my contribution to the UAB Department of Pathology in the amount of:

___ $50
___ $100
___ $500
___ $1000
___ Other: _____________________

Please make all checks payable to the UAB Department of Pathology and return them to Ms. Lynne Roden, Departmental Administrator, 500 22nd Street South; Suite JNWB 404, Birmingham, AL 35294-0500.

Cont’d...
A2—Please contact me to discuss further:

Name: _________________________________________

Address: _______________________________________

Telephone Number: ______________________________

E-mail Address: _________________________________

*Please indicate your preferred means of communication.

B—I wish to direct this gift to the Department towards:

___ Where the need is the greatest

___ Teaching

___ Research

___ Named Chairs or Professorships

___ Awards for teaching/research/clinical excellence

___ Naming opportunities (Rooms, collections, equipment, etc.)

C—Person(s) and complete address to be acknowledged for tax purposes:

________________________________________________________________

________________________________________________________________

________________________________________________________________

________________________________________________________________

Do you want this gift to be anonymous? Yes ___  No ___

Do you want to honor a particular person or event?

Specifics: _______________________________________________________

D—If you prefer to donate via credit card, please call the UAB Development office at (205) 975-5659.