Drs. Cagle, Chevez-Barrios, and Schwartz Named Texas Super Doctors

Congratulations to Drs. Philip Cagle, Patricia Chevez-Barrios, and Mary Schwartz on once again being voted to the list of Texas Super Doctors for 2015. They have been selected for this honor many times over the past several years.

Dr. Cagle, medical director of pulmonary pathology for the Department of Pathology and Genomic Medicine is also Editor-in-Chief of Archives of Pathology and Laboratory Medicine, which has the largest circulation of any general pathology journal in the world and was voted the most influential pathology journal of the past 100 years by the Division of Biomedical and Life Sciences of the Special Libraries Association in 2009.

Dr. Chevez-Barrios specializes in ophthalmic pathology and is the director of the ophthalmic pathology fellowship program for the Department. She is also the research co-director for the Retinoblastoma Center of Houston and the current president of the American Association of Ocular Oncologists and Pathologists.

Dr. Schwartz is medical director of anatomic pathology and director of our surgical pathology fellowship. Dr. Schwartz is a recognized leader in pathology education and an invaluable resource to our clinicians.

Super Doctors are nominated by their peers for achieving high levels of recognition and attaining significant achievements in their respective field. The continued recognition of Drs. Cagle, Chevez-Barrios, and Schwartz as Super Doctors is indicative of their contributions to the profession of pathology and their dedication and hard work in the service of our patients and trainees. Congratulations once again!

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Upcoming Conferences and Symposia

3rd International Conference on Hematology & Blood Disorders
November 02-04, 2015 Atlanta, USA

Texas Society of Pathologists 95th Annual Meeting
January 15-17, 2016 Hilton Anatole Hotel Dallas, TX

PMWC 2016 Personalized Medicine World Conference
Jan. 24-27 Silicon Valley

HAOUSTON METHODIST LEADING MEDICINE
Dr. Philip Cagle has once again received a prestigious award from the College of American Pathologists (CAP) for his many contributions to the organization, the profession, and his patients. His most recent award, the President’s Honor Award, is presented by CAP President Dr. Gene Herbek to individuals who have gone above and beyond expectations this past year to assist CAP in meeting its goals. Dr. Cagle received the award at a private reception at CAP 2015 in Nashville in October.

Department Members Recognized at the Inaugural Conference of Pathobiology for Investigators, Students, and Academicians (PISA)

The inaugural Pathobiology for Investigators, Students, and Academicians (PISA) conference, sponsored by the American Society for Investigative Pathology (ASIP), was held in Baltimore, Maryland on October 8-10. The conference “Pathways to Translational Medicine: Recent Advances in Cell Injury, Inflammation, and Neoplasia” was extremely well attended and the Houston Methodist Department of Pathology and Genomic Medicine was represented by several of our faculty and trainees.

Dr. Wesley Long, Associate Director of Diagnostic Microbiology, was awarded the ASIP Award for Junior Faculty for Outstanding Research in Experimental Pathology for his abstract titled: “Population Genomic Analysis of 1,201 *Klebsiella pneumoniae* Human Isolates Reveals Unexpectedly Extensive Diversity”. Other winners from the Department include Dr. Jianguo Wen, Assistant Research Professor of Pathology and Genomic Medicine, for his abstract “Develop a New Aptamer-drug Conjugate to Target Multiple Myeloma”, and Dr. Luchang Zhu, a postdoctoral fellow in the Center for Molecular and Translational Human Infectious Diseases Research, for his abstract “A molecular trigger for intercontinental epidemics of group A *Streptococcus*”.

Houston Methodist Hospital and Research Institute will host the next PISA conference in Houston on October 20-22, 2016. The conference “Breakthroughs in Biology: From Underlying Pathogenesis to Translational Medicine” will be of interest to investigators and trainees from a spectrum of disciplines, and attendance is strongly encouraged. The website for next year’s conference is currently under development, but general information about PISA and this year’s meeting can be found at [http://www.pisa2015.org/](http://www.pisa2015.org/).
Next-Generation DNA Sequence Testing for Cancer Gene Mutations: Improving Patient Care

Molecular diagnostics is a rapidly evolving part of laboratory medicine. In particular, gene mutation testing in cancer has recently undergone dramatic changes. Until a few years ago, molecular assays testing a single cancer-associated gene, such as EGFR in lung cancer, were standard practice. However, our advanced understanding of cancer genetics now requires pathologists to test simultaneously each tumor for many gene mutations that confer key data on diagnosis, prognosis and predicted response to targeted therapy. Several cancer guideline documents published by the College of American Pathologists emphasize the need for pathologists to perform more biomarker testing. In response, the Houston Methodist Department of Pathology and Genomic Medicine’s Molecular Diagnostics Laboratory has implemented “Next-Generation Sequencing” technology, or NGS. Compared to traditional methods, NGS can rapidly and inexpensively test many genes using a very small amount of diagnostic tissue.

The molecular diagnostics team at Houston Methodist was an early adopter of NGS technology, and has extensively validated it in our clinical laboratory. We now offer two NGS assays, including the NGS-50 cancer assay that can detect approximately 2,800 mutations in 50 cancer associated genes, and the NGS-76 breast cancer assay that can detect more than 4,000 mutations in 76 breast cancer-related genes. These NGS assays have been quickly embraced by oncologists throughout the Houston Methodist system, enhancing the care of many patients. Two illustrative examples of positive outcomes directly linked to our NGS assays are outlined below:

**Case 1:** A patient with cancer that did not respond to standard chemotherapy was discussed in tumor board. The team was concerned that without a change in therapy, the tumor would rapidly grow and possibly metastasize. The NGS-50 cancer assay was performed, and identified a mutation that could be selectively targeted with a specific inhibitor drug. Importantly, this result qualified the patient for multiple clinical trials available in the Houston area. The discovery of this gene mutation, made possible with the new NGS gene mutation test, led to a change in treatment and halted progression of disease.

**Case 2:** A patient with a cancer of unknown origin presented with widespread metastasis, causing a treatment dilemma. Without knowledge of the original cancer type, the most effective course of therapy was unknown. A generalized chemotherapy and radiation regimen was initiated. When the disease continued to progress, a tumor of unknown origin test was performed at a reference laboratory, but the results were inconclusive. The NGS-50 cancer assay was then performed in our laboratory. In less than one week, we identified a targetable gene mutation. With this new data, therapy was changed to include an agent that specifically targeted this mutation, resulting in a marked clinical response.

These cases illustrate the power of our NGS gene mutation assays to enhance patient care. Importantly, the results led to changes in therapy and improved outcomes. In the coming months, the molecular diagnostics laboratory will expand our NGS menu to include two new assays that detect the gene mutations most commonly affecting hematologic and endocrine malignancies. A hereditary breast cancer test is also being validated.

For more information contact: Molecular Diagnostics Laboratory 713-441-5727 Dr. Randall Olsen RJolsen@houstonmethodist.org Ms. Heather Hendrickson HLHendrickson@houstonmethodist.org

Congratulations to Dr. Suzanne Powell on the publication of her very important article in the *Archives of Pathology and Laboratory Medicine*: “Employer Expectations for Newly Trained Pathologists: Report of a Survey From the Graduate Medical Education Committee of the College of American Pathologists”. The objective of the study, which surveyed fellows of the College of American Pathologists, was to determine which qualities and attributes of newly-trained pathologists were most valued by potential employers. This is a very informative study for both trainees and employers. You can read the full text article here.

Dr. Powell is Vice Chair of Education, Director of the AP/CP Residency Program, Co-Director of the Neuropathology Fellowship Program, and Chief of Neuropathology for the Department of Pathology and Genomic Medicine.
Department Members Help Underserved in Peru: CerviCusco

Several members of the Department of Pathology and Genomic Medicine, including three faculty, three cytopathologists, two cytotechnologists, and a microbiologist volunteered their expertise to help diagnose and treat cervical cancer this past June in Cusco, Peru. The program, CerviCusco, is supported by the International Cervical Cancer (INCCA) Foundation and Medical College of Georgia, and its mission is to “improve the health and quality of life of women through the primary and secondary prevention of female genital tract cancers”. Cervical cancer is the number one cause of cancer deaths among women in Peru. Many women cannot afford Pap tests and most women already have advanced disease upon diagnosis. CerviCusco provides much needed tests to this underserved community in the Andean Highlands. The programs include vaccination against human papillomavirus (HPV, the causative agent of cervical cancer), physical exams and acute care for women, Pap tests, cervical, endocervical, and endometrial biopsies, and treatment. The group processed 1,500 liquid-based Pap tests and read ~2,000 slides during the week-long mission. Thank you to our dedicated department members who volunteered their time and expertise!

Histology Gets New Automated Immunohistochemistry Instrument

The Department of Pathology and Genomic Medicine recently acquired a new Leica Bond Automated Immunohistochemistry (IHC) instrument, the Leica Bond III. “It is a reliable platform that provides extra capacity and allows us to offer testing of additional antibodies that we were not able to do with the other autostainers,” says Dr. Michael Deavers, co-director of immunohistochemistry. The new system processes samples 50% more rapidly than the previous instrument and is a great asset to the histology lab, which processes all IHC samples for hospitals within the Methodist Hospital System.

Pictured counter-clockwise from left: Drs. Stephen Shen and Michael Deavers, co-directors of IHC, and Candice Hamilton, IHC histotechnician specialist.
Department Welcomes New Faculty

The Department of Pathology and Genomic Medicine welcomes four new faculty members. The department continues to grow to meet the increased patient volume resulting from Methodist's ongoing expansion. Please extend a warm welcome to the following new faculty:

**Matthew Cykowski, MD**

Dr. Cykowski received his MD from the University of Texas Health Science Center (UTHSC) in San Antonio in 2003. He remained at UTHSC-San Antonio to complete a 1-year postdoctoral research fellowship in the Department of Cellular Biology and 3 years of postdoctoral training in the Research Imaging Center, and became a faculty associate in 2009. Dr. Cykowski completed his anatomic pathology residency at the University of Oklahoma Health Science Center where he served as the co-chief resident. He completed a neuropathology fellowship in the Department of Pathology and Genomic Medicine at Houston Methodist Hospital/MD Anderson Cancer Center in 2015, and was appointed as a staff pathologist in the Department of Pathology and Genomic Medicine here at Methodist. Dr. Cykowski’s research interests are focused on neurodegenerative disorders, including ALS, muscular dystrophy, and Alzheimer's disease.

**Mukul Divatia, MD**

Dr. Divatia received his MBBS degree with honors from the Medical College Baroda in India in 2001. After completing his pathology residency there, he completed a fellowship in anatomic pathology at Tata Memorial Hospital in Mumbai, India, where he also held a position as a staff pathologist at Sterling Hospital. Dr. Divatia then completed a fellowship in ophthalmic pathology, and a residency in pathology and genomic medicine at Houston Methodist Hospital, followed by a fellowship in genitourinary pathology at Cedars Sinai Medical Center in Los Angeles. He is currently appointed at Houston Methodist Hospital as a staff pathologist. His research interests include cancer and other diseases of the genitourinary tract.

**S. Wesley Long, MD, PhD**

Dr. Long received his MD degree in 2007 from the University of Texas Medical Branch (UTMB) in Galveston, where he also earned a PhD in experimental pathology. After finishing his doctoral studies, Dr. Long completed a clinical pathology residency at Houston Methodist Hospital. He is a staff pathologist and assistant medical director of the clinical microbiology laboratory in the Department of Pathology and Genomic Medicine. Dr. Long’s research interests center on the genetic underpinnings of multidrug-resistant bacteria and the identification of novel drug targets to treat highly-resistant strains.

**Xin Yi, PhD**

Dr. Yi completed her fellowship training in clinical chemistry at the University of Chicago School of Medicine after completing her PhD in clinical-bioanalytical chemistry at Cleveland State University in collaboration with Cleveland Clinic. Dr. Yi joined the department in September 2015 as associate medical director of clinical chemistry. She is a board-certified clinical chemist (DABCC) with broad expertise in clinical chemistry, endocrinology testing, therapeutic drug monitoring, toxicology, and clinical pharmacogenetics. She will direct mass spectrometry method development and the diagnostic immunology section of the laboratory. Her research interests include exploring potential applications of mass spectrometry in clinical laboratories, and studying pharmacogenomics using microarrays and next-generation sequencing tools.
Researchers Discover Genetic Basis for Epidemic Spread of Highly-Virulent Streptococci

Investigators in the Department of Pathology and Genomic Medicine and the Center for Molecular and Translational Infectious Diseases Research have pinpointed the molecular events leading to a rapid increase of invasive infections in the early 1980’s caused by group A streptococcus (GAS), or the “flesh-eating disease”. By sequencing the genomes of over 3,600 strains from seven different countries, the group was able to identify only 3 single DNA substitutions that result in the over-production of two toxins that help the bacteria colonize and subsequently spread from person to person. These findings were made possible through advances in next generation sequencing technology, which allows simultaneous high-throughput sequencing of hundreds of isolates at a modest cost. The full article is available online. A brief, 5-minute video of Dr. Musser and the research team explaining their findings is available on the JCI website.

Books by Department Faculty

The Atlas of Transplant Pathology, edited by Drs. Philip T. Cagle, Luan D. Truong, and Lisa Yerian, was recently published by the College of American Pathologists (CAP) Press. “In contrast to some other volumes that emphasize more of the underlying science and immunology, this really emphasizes the day-to-day routine diagnosis, and therefore is user-friendly and to the point,” says Philip T. Cagle, MD. Many members of our department (both current and former) contributed chapters. Authors include: Drs. Roberto Barrios, Yimin Ge, Hidehiro Takei, Lillian Gaber, Kevin Burns, Erin Consamus, Suzanne Crumley, Rachel Donohue, Abida Haque, Bryan Janssen, Geoffrey Land, Nathan Lee, Sergio Pina Oviedo, Jordan Roberts, and Haijun Zhou.

Congratulations to Drs. Andreana Rivera and Hidehiro Takei on the outstanding reception and review of their new book Advances in Surgical Pathology: Brain Cancer. The expert reviewer from Doody’s writes “The book assists practicing neuropathologists, surgical pathologists, and pathologists in training with the challenges of diagnosis... Neuro-oncologists, neurosurgeons, and basic scientists who want to update their understanding of all components of the diagnostic process also can benefit from this volume.” Well done Drs. Rivera and Takei!
Department Awards Three New Microgrants

The Department of Pathology and Genomic Medicine awarded three new microgrants to faculty investigators. The Department's microgrant program is designed to fund innovative proposals that will lead to an expansion of our clinical service. The review committee considers several criteria in its assessment, such as clinical need, likelihood of a significant return on investment, involvement of residents and/or fellows and multiple faculty, and likelihood of leading to a peer-reviewed publication.

Congratulations to the following recipients:

Michael Thrall, MD; Chunyan Liu, MD, PhD; Heather Hendrickson, MT(ASCP); Kumar Krishan, MD; Randall Olsen, MD, PhD; and Shannon Butler-Williams, MD, for their proposal “Next generation sequencing as an adjunct for bile duct cytology interpretation”.

Yimin Ge, MD; Chunyan Liu, MD, PhD; Dina Mody, MD; and Mary Schwartz, MD, for their proposal “Contributing factors for negative hrHPV tests in women with histology-confirmed high-grade squamous intraepithelial lesions (HSIL)”.

Yimin Ge, MD; Eric Bernicker, MD; David Bernard, MD, PhD; Philip Cagle, MD; and Chunyan Liu, MD, PhD, for their proposal “Evaluation of cell-free plasma tumor DNA (ptDNA) in molecular characterization of lung adenocarcinoma”.

CAP 2015 Highlights: Poster Presentations by Department Trainees

Several Department of Pathology and Genomic Medicine trainees presented posters at the College of American Pathologists annual meeting held October 4-7 in Nashville, Tennessee.

Congratulations to the following trainees and their faculty mentors:

“Elevated Fecal Calprotectin Levels Predict Active Inflammation on Lower Gastrointestinal Tract Biopsies” by Jordan A. Roberts, MD; David Cohen, MD; and Mary R. Schwartz, MD.

“ALK-Positive Large Cell Lymphoma With Unusual Morphology and Immunophenotype” by Wei Xie, MD, PhD; Arthur Zieske, MD; Yuval Raizen, MD; Bryce Portier, MD, PhD; Youli Zu, MD, PhD; and Suyang Hao, MD.

“Stepping Beyond the Paraffin Curtain: Attitudes and Experience on Error Disclosure Among Pathologists and Trainees” by David A. Cohen, MD; Suzanne Z. Powell, MD; and Timothy C. Allen, MD, JD.

“Tibia Osteoma Presenting as a Radiopaque, Well-Circumscribed Medullary Cavity Lesion” by Paul Christensen, MD, and Alberto Ayala, MD.

“Ovarian Calcified Thecoma With Extensive Adipose Metaplasia: A Rare Entity in a Young Patient” by Ya Xu, MD, PhD; Clifford Sauls; MD; and Michael Deavers, MD.

Dr. David Cohen Elected to CAP Resident Forum

Dr. David Cohen, a PGY3 resident in the Department of Pathology and Genomic Medicine was elected as Secretary to the College of American Pathologists Resident Forum Executive Committee.

Congratulations Dr. Cohen!
Department Welcomes 2015-2016 Residents and Fellows

Residents

Ghadah Al Sannaa, MD
University of Dammam
College of Medicine
Saudi Arabia

Andreia Barbieri, MD
Louisiana State University
School of Medicine
Shreveport

Daniel Duhon, MD
Louisiana State University
School of Medicine
Shreveport

Ziad El-Zaatari, MD
American University of Beirut
Faculty of Medicine

G. Eli Morey, MD, MPH
University of Vermont
College of Medicine

Alejandro Perez, MD
Vanderbilt University
College of Medicine

Fellows

Blood Bank

Eric Salazar, MD, PhD
Chief Fellow
PhD: Pharmacology, Weill Cornell Graduate School of Medical Sciences and Rockefeller University, 2010
MD: Weill Cornell Medical College, 2012
Residency: Houston Methodist Hospital, 2015

Clayton Wilburn, MD
MD: Vanderbilt University, 2012
Residency: University of Texas Medical Branch, 2015

Cytopathology

Shannon Butler-Williams, MD
MD: St. George’s University
School of Medicine, Grenada, 2011
Residency: Medical University of South Carolina, 2015

Steven Goodman, MD
MD: Sackler School of Medicine,
Tel Aviv, Israel, 2010
Residency: UMass Memorial Medical Center, 2014
Fellowship: Surgical Pathology,
MD Anderson Cancer Center, 2015

Hematopathology

Rachel Donohue, MD
MD: University of New Mexico
School of Medicine, 2011
Residency: Houston Methodist Hospital, 2015

Vidya Nagrale, MD
MD: Seth GS Medical College and King Edward Memorial Hospital,
Mumbai, India, 2004
Residency: University of Illinois Hospital and Health Sciences System, 2014

Molecular Genetics

Chunyan Liu, MD, PhD
MD: China Medical University, 1988
PhD: Shinshu University School of Medicine,
Nagano, Japan, 1999
Residency: Creighton University
School of Medicine, 2015
New Scientific Writer Joins the Department

The Office of Academic Development (OAD) is pleased to announce that Dr. Helen Chifotides has joined the office in the role of scientific writer. Dr. Chifotides is an accomplished scientific writer and editor—in leading and managerial roles—with over 12 years of experience. She has authored 2 book chapters and 32 high profile, highly-cited publications, including 3 review articles, which are published in top-tier peer-reviewed scientific journals—with over 2,000 citations to date. Dr. Chifotides received her BS and PhD in Chemistry from the National and Kapodistrian University of Athens, Greece, and was appointed as a senior biochemist in the biochemistry laboratory of the General Hospital for Chest Diseases in Athens. She then became a member of the Chemistry Department at Texas A&M University as a senior research associate and most recently, an assistant research scientist. Her research studies focused on the interactions of anticancer metal complexes with DNA and other biomolecules. She is a member of the American Medical Writers Association, a board-certified Editor in the Life Sciences (ELS), and is completing her Advanced American Medical Writers Association certificate.

The OAD provides editorial services to the Department's trainees and faculty, assists with the identification and procurement of research funding, helps in the writing and submission of IRB protocols, and offers training in grantsmanship and scientific writing. For more information on the OAD services or if you need assistance, please contact Dr. Chifotides (HChifotides@houstonmethodist.org) or Dr. Kathryn Stockbauer (KStockbauer@houstonmethodist.org).
Recent Publications


Recent Publications (continued)


Recent Publications (continued)

