New Name for Department

The Department of Pathology and Laboratory Medicine has been renamed the Department of Pathology and Genomic Medicine to reflect the changing discipline of pathology and Methodist’s continuing commitment to lead medicine.

“The discipline of pathology is changing very rapidly and is expanding into new areas at an unusually brisk pace,” said Dr. James Musser, chair of the Department of Pathology and Genomic Medicine for The Methodist Hospital System. “One key growth area is the application of genome-scale analyses to highly diverse diagnostic and therapeutic problems such as cancer, infectious agents, inherited diseases, and diseases of unknown etiology, to list just a few.”

The Department name change reflects the tectonic shift now underway in pathology, and one that will continue unabated well into the future. The Department plans to expand its genomic medicine capacity by adding infrastructure and faculty in this exciting area as it continues to adapt to the changing diagnostic and therapeutic landscape and better serve its patients and medical colleagues. These plans and their progress will be highlighted in a future issue of this newsletter.

For more information on the Department of Pathology and Genomic Medicine, visit methodisthealth.com/pathologyandgenomicmedicine.

Dr. Philip Cagle is One of America’s Top Doctors

Dr. Philip Cagle, medical director of Pulmonary Pathology for the Department, was selected in July by U.S. News and World Report and Castle Connolly Medical, Ltd. as being among the top 1% in the nation in his specialty. Castle Connolly bases its Top Doctors selections on nominations submitted by other doctors and reviewed by its physician-led research team.

“I am humbled to receive this prestigious designation,” said Dr. Cagle. “It is an honor to be among such a distinguished group of doctors, many of whom are also here at Methodist.”

In addition to being Editor-in-Chief of Archives of Pathology and Laboratory Medicine, Dr. Cagle is on the editorial board of CAP Today and Human Pathology, and is the only pathologist serving on the editorial board of the Journal of the American Medical Association. Dr. Cagle’s research interests focus on biomarkers of prognosis and potential targets of molecular therapy in lung cancer and diffuse malignant mesothelioma, pathogenesis of pulmonary adenocarcinoma, and the pathology of lung transplantation.

To access the U.S. News Top Doctors directory, please visit health.usnews.com/top-doctors. For more information about Dr. Cagle, please visit methodisthealth.com/Cagle.

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First Clinical Genome Sequenced at Methodist

For the first time, pathologists at The Methodist Hospital sequenced the genome of a clinical bacterium obtained from a patient with a life-threatening infectious disease.

“The genome data permitted us to rapidly identify this strain, rule out the likelihood of bioterrorism, and help coordinate an appropriate clinical and public health response. Next-generation genome sequencing is playing an increasingly important role in all areas of pathology, including infectious disease events such as these,” said Dr. James Musser, chair of the Department of Pathology and Genomic Medicine for The Methodist Hospital System and director of the Center for Molecular and Translational Human Infectious Diseases Research at The Methodist Hospital Research Institute.

“Having the full-genome data allows us to determine if the organism has been genetically altered for malicious purposes – and that is vital information. So many members of our department contributed to the success of this investigation, including Drs. Angela Wright, Stephen Beres, Erin Consamus, Randy Olsen, Roberto Barrios, Kathryn Stockbauer, Wesley Long, Rose Anton, and Mukul Divatia. Special thanks to Dr. Phil Cagle, who rapidly handled the manuscript for Archives and assured its timely publication. This was truly a team effort. I couldn’t be prouder of the individuals who contributed so much to this effort.”

The case report and description of the coordinated response to this event were published online in August in the Archives of Pathology and Laboratory Medicine. The print version of the article will appear in the November issue of the journal.

Anthracotic pigment with numerous rod-shaped organisms seen in the patient’s bronchoalveolar fluid stain with an overlay of the genetic dendrogram showing the estimated genetic relationship of the pathogen from the patient with other Bacillus group strains.

For access to the early online release of the article, visit archivesofpathology.org/. For more information on Dr. Musser, visit methodisthealth.com/Musser.

Second Opinion Consultations Improve Outcomes and Save Lives

In healthcare, obtaining the opinion of physician colleagues is a necessary and routine practice, especially when confronted with a rare condition or a potentially misleading disease presentation. Situations like these require a level of pathology diagnostic expertise that is not commonly found in every hospital, referral pathology service, or even some academic medical centers. In many cases, a second opinion can change disease management decisions significantly, whether it be to treat a disease that wasn’t originally diagnosed or to spare a patient a challenging treatment protocol (such as chemotherapy) for a disease that the patient does not actually have.

“To treat a patient effectively, you must start with the correct diagnosis,” said Dr. Alberto Ayala, deputy chief of pathology for the Department.

“We have many pathologists on our faculty that have a rare level of diagnostic expertise that you simply don’t find in many other departments. That is why so many patients and doctors from other hospitals come to us.”

The faculty in the Department of Pathology and Genomic Medicine at Methodist include two Lifetime Achievement Award recipients from the College of American Pathologists, and recipients of the prestigious Koss Medal from the International Society of Urologic Pathology and the Director’s Award from the National Institutes of Health. The faculty expertise is paired with outstanding facilities and instrumentation, including state-of-the-science molecular genetic diagnostic technology.

For more information on the second opinion consultation service, visit methodisthealth.com/secondopinion. For more information about Dr. Ayala, visit methodisthealth.com/Ayala.

Dr. Ayala in his office at The Methodist Hospital.
Dr. Suzanne Powell Receives Resident Advocate Award from CAP

Dr. Suzanne Powell, chief of neuropathology, vice-chair of education, and director of the AP/CP residency program in the Department, received the Resident Advocate Award from the College of American Pathologists (CAP) during an event on September 10th at the CAP Annual Meeting in Grapevine, Texas. The award is presented to a member of the College who has demonstrated outstanding contributions to and support of pathology residents and fellows.

“I am grateful to my peers at the College of American Pathologists and, specifically, the Residents Forum, for this prestigious award,” said Dr. Powell. “Representing the needs of the next generation of pathologists is an important responsibility and something we will all benefit from. These residents and fellows are the future of pathology.”

Dr. Powell is especially involved in the mentoring of pathology trainees. In addition to her leadership roles in the residency programs at Methodist, she is the current chair of the Residency Program Directors of Pathology (PRODS) Council and the Residency Review Committee for Pathology of the ACGME, where she also serves on the Executive Council of Review Committee Chairs as the Representative of Hospital-Based Specialties of the ACGME. She is a member of other national committees including the CAP Neuropathology Resource Committee, the Histology Committee of the American Society of Clinical Pathologists, and is the vice-chair of the CAP Graduate Medical Education Committee.

For more information on the College of American Pathologists, visit cap.org. For more information on Dr. Powell, visit methodisthealth.com/Powell.

New Diagnostic Test Offerings:

Cancer Antigen 19-9

The Cancer Antigen 19-9 (CA 19-9) is an electrochemiluminescent immunoassay that is used to monitor pancreatic, hepatobiliary, gastric, hepatocellular, and colorectal cancers. It tests for the presence of the cancer antigen 19-9 protein that is shed into the circulation by specific tumor cells. The test is not intended to be used to determine the presence or absence of cancer, only to monitor it after its presence has been confirmed by other methods.

The test, which was previously performed at a reference laboratory, was brought in-house in August. Providing the test in-house will allow Methodist physicians faster access to laboratory results so patient care decisions can be made in a more timely manner. Because the relationship between the new in-house test and original send-out test results are not linear, both tests will be orderable in MethOD until November 3rd to allow physicians to re-establish baseline levels for their patients.

For more information on the CA19-9 assay and the transition to the in-house test, please contact Dr. Ping Wang at pwang@tmhs.org.

Mycoplasma pneumoniae molecular assay

The Molecular Diagnostics Laboratory at The Methodist Hospital System has implemented a new real-time PCR assay to detect Mycoplasma pneumoniae. M. pneumoniae is the causative agent of “atypical pneumonia,” due to its characteristically mild but prolonged disease course. Studies suggest that M. pneumoniae may cause up to 50% of adult and pediatric cases of pneumonia. Real-time PCR is a highly sensitive method to detect the presence of DNA in clinical specimens.

M. pneumoniae is the first in a series of new molecular microbiology tests planned for our laboratory. This test, which was previously performed at a reference laboratory, was introduced in-house on September 1st. Performing the test at Methodist will be more cost efficient and improve patient care by significantly decreasing turnaround times.

For more information on this assay or other tests offered by the Molecular Diagnostics Laboratory, contact Dr. Randall Olsen at 713-441-6802 (rolsen@tmhs.org) or Brant Hilson at 713-441-5725 (bhilson@tmhs.org).
New Faculty Join Department

The Department of Pathology and Genomic Medicine continues to grow. Four new physicians have joined our faculty in recent months:

Blythe K. Gorman, M.D.
Staff Pathologist

This is Dr. Gorman’s first faculty appointment. She joins us after completing surgical pathology and cytopathology fellowships here at Methodist. Dr. Gorman received her medical degree from the Louisiana State University School of Medicine in New Orleans in 2005, and completed her residency in anatomic and clinical pathology at The University of Texas Medical Branch (UTMB) in Galveston, TX. She earned numerous honors and awards during her education and training, including the UTMB Department of Pathology Teaching Award in 2007 and a first place medal for her podium presentation at the Texas Society of Pathologists John R. Rainey, MD Trainee Seminar in 2011.

For more information about Dr. Gorman, visit methodisthealth.com/Gorman.

Yingchao Piao, M.D., Ph.D.
Staff Pathologist

Dr. Piao joins the Department from a private pathology practice group in Dallas, Texas. She received her M.D. degree from the Yanbian Medical School in Yanji, China and her Ph.D. in molecular biology from the University of Paris VII in Paris, France. Dr. Piao completed a pathology residency at The State University of New York at Buffalo, a hemopathology fellowship at New York-Presbyterian Hospital of Columbia University’s College of Physicians and Surgeons and Cornell University’s Weill Medical College, and a cytopathology fellowship at The University of Texas M.D. Anderson Cancer Center. She will primarily provide anatomic and clinical pathology services at Methodist Willowbrook Hospital and Methodist West Houston Hospital.

For more information about Dr. Piao, visit methodisthealth.com/Piao.

Nour Sneige, M.D.
Staff Pathologist

Dr. Sneige joins the Department from The University of Texas M.D. Anderson Cancer Center where she is a professor in the Department of Pathology, Section of Pathology/Laboratory Medicine. Dr. Sneige received her M.D. degree from the Damascus University School of Medicine in Syria. She then completed a residency in anatomic and clinical pathology at the Wilmington Medical Center in Wilmington, Delaware and at Barnes Hospital and Washington University School of Medicine in St. Louis, MO followed by a surgical pathology fellowship at M.D. Anderson. She was recently honored with the Harlan J. Spjut Award, bestowed by the Houston Society of Clinical Pathology, and has received many other awards in her career.

For more information about Dr. Sneige, visit methodisthealth.com/Sneige.

Arthur W. Zieske, M.D.
Co-Director, Hematopathology

Dr. Zieske joins the Department from the Louisiana State University Health Sciences Center in New Orleans where he was an associate professor in the Department of Pathology, the director of Hematopathology, and the medical director of flow cytometry and the cytogenetics and FISH laboratories. Dr. Zieske received his M.D. degree in 1993 from the Louisiana State University Health Sciences Center (LSU-HSC) in New Orleans, LA. He remained there for his residency in anatomic and clinical pathology, and then completed a fellowship in hematopathology at the Yale University School of Medicine in New Haven, CT.

For more information about Dr. Zieske, visit methodisthealth.com/Zieske.
The BioTyper MALDI-TOF mass spectrometer identifies bacteria, yeast, and fungi by creating a unique spectral fingerprint based on the molecular mass and charge of intact proteins from the unknown microorganism. The characteristic pattern of each isolate is then electronically compared to an extensive database to identify it. Current methods of pathogen identification rely on a combination of colony morphology, Gram stain interpretation, and biochemical tests. Although these conventional methods are accurate, they can be costly and time consuming.

“The BioTyper is able to go directly from culture to species identification in one step,” said Dr. Bryan Janssen, fourth-year pathology resident.

“The BioTyper pairs greater sensitivity with faster species identification,” said Dr. Daniel Wimmer, second-year pathology resident. “This is critical for enhanced patient care and will be an incredibly useful tool for The Methodist Hospital System.”

For more information on the BioTyper MALDI-TOF MS or to see the new instrument, please contact Patricia Cernoch at 713-441-0333.

Drs. Wimmer (left) and Janssen conduct validation studies on the new MALDI-TOF mass spectrometer.

New Instruments and Laboratory Renovations at San Jacinto

The Pathology Laboratory at San Jacinto Methodist Hospital has been renovated and acquired two new coagulation instruments for hematology.

“The communities of East Houston continue to grow and so must our hospital and department,” said Dr. Joyce Maldonado, medical director of Laboratory Services at San Jacinto Methodist Hospital. “This renovation and the new instrumentation allow us to expand our infrastructure and continue providing the high level of service that our patients and medical staff have come to expect.”

The renovation of the 6,182 sf facility included a 785 sf expansion that added new office and working space for laboratory staff and pathologists, as well as additional storage space.

Two new Sysmex CA-1500 fully automated coagulation analyzers were acquired in June and enable the laboratory to analyze larger volumes of samples in a more efficient manner.

For more information on San Jacinto Methodist Hospital, visit sanjacintomethodist.com.

Dr. Joyce Maldonado with Histology Coordinator, Donna Landrum, in the new laboratory space.
West Houston Laboratory Sees Major Volume Increases

Growth has been the hot topic at the Methodist West Houston Hospital Laboratory this summer. Recent campus openings of the J.C. Walter Transplant Center Clinic and the Methodist Weight Management Center have led to a 500% increase from April to August in the number of outpatients served in the Laboratory Patient Service Center located in the Medical Office Building.

“As expected, with our new hospital growing and continuing to bring new service lines on, we have seen tremendous increases in units of service in the laboratory,” said Dr. Thu Ngo, medical director of Laboratory Services at Methodist West Houston Hospital.

Overall growth continues with anatomical pathology billable tests increasing by 45% and clinical laboratory billable tests having nearly a 70% increase since the beginning of the second quarter of 2011. Noted sources of this growth are the addition of the Cardiovascular Service Line with CABs and other CV procedures each week as well as expansion of the Family Birthing Center with additional OB/Gyn practices on campus.

For more information on Methodist West Houston Hospital, visit methodist-westhouston.com.

Trainee Spotlight:

Angela Wright, M.D.
PGY3 Resident

Dr. Angela Wright, a PGY3 resident, has published her first peer-reviewed manuscript as first author. The paper, entitled “Rapidly progressive, fatal, inhalation anthrax-like infection in a human”, was recently published online and will appear in the November print issue of Archives of Pathology and Laboratory Medicine. It is a case report that includes use of the first clinical genome at Methodist. Dr. Wright has also published a book chapter on lymphangioleiomyomatosis with Dr. Philip Cagle, medical director of Pulmonary Pathology for the Department. That chapter will be published in 2013 by Springer as part of The Encyclopedia of Pathology.

Dr. Wright received her bachelor’s degree in biology from the University of North Texas in Denton and her medical degree from The University of Texas Medical Branch in Galveston. She entered the AP/CP residency program at Methodist as a PGY1 resident in 2009.

Department Adds New Clinical Chemistry Fellowship

The Department recently added a clinical chemistry fellowship program under the direction of Dr. Ping Wang. The program’s first fellow, Irene Shu, Ph.D., began training on September 1st.

“Our program is designed for postgraduate trainees who are interested in pursuing a career in clinical chemistry at a major academic medical center,” said Dr. Ping Wang, medical director of Clinical Chemistry for the hospital. “Our program is particularly strong because it includes special emphasis on laboratory management and self-initiated clinical and translational research. It is important to have training and experience in these areas to assist our patients and support our clinical colleagues.”

Dr. Shu joins the program from the University of Washington where she recently completed her doctoral studies in chemistry. The fellowship is a two-year commitment and offers elective rotations in select laboratory areas of interest, such as molecular diagnostics, clinical microbiology, and flow cytometry.

For more information about training programs offered by the Department, visit methodisthealth.com/pathologytraining.
First Resident Begins Resident Research Program

The Resident Research Program officially launched in 2008 and its first resident, Wesley Long, M.D., Ph.D., began research training on July 1st. Under the mentorship of Dr. James Musser, Dr. Long will spend the next two years developing an independent research focus and the skills to successfully pursue it.

“Wesley is an ideal candidate for this program. He has outstanding research training with Dr. David Walker at UTMB, a strong commitment to patient care, and sustained interest in scholarly inquiry,” said Dr. Musser, chair of the Department of Pathology and Genomic Medicine and director of the Resident Research Program.

“Wesley is an ideal candidate for this program. He has outstanding research training with Dr. David Walker at UTMB, a strong commitment to patient care, and sustained interest in scholarly inquiry,” said Dr. Musser, chair of the Department of Pathology and Genomic Medicine and director of the Resident Research Program. Dr. Long performs experiments in the laboratory with strains of \textit{Staphylococcus aureus}.

“This program is a superb opportunity for Dr. Long and others like him who want to pursue clinical, translational, or basic research as part of their career. We have tremendous faculty and facilities here that allow us to train the next generation of outstanding, NIH-funded practicing pathologists.”

Program trainees are guided by a primary research mentor, an interdisciplinary mentoring committee, and a career development committee to create an individualized program of study. Dr. Long is studying the molecular pathogenomics of infections caused by \textit{Staphylococcus aureus}, which are responsible for life-threatening diseases such as pneumonia, meningitis, and sepsis. Dr. Long’s study focuses specifically on drug-resistant strains of this bacterium. For more information about training programs offered by the Department, visit methodisthealth.com/pathologytraining.

Dr. Amanda Peterson Receives Department Trainee Award

Dr. Amanda Peterson is the newest recipient of the Department of Pathology and Genomic Medicine Trainee Leadership and Innovation Award. She received the award for her efforts to introduce and standardize molecular testing for colorectal cancer throughout The Methodist Hospital System. Multiple national committees now recommend this testing for all newly diagnosed patients.

Testing for Lynch Syndrome (hereditary nonpolyposis colorectal carcinoma) is important for treating a patient’s primary or metastatic cancer and screening their at-risk relatives. Even before her fellowship began, Dr. Peterson conducted an extensive literature review on the subject and began meeting with vendors. After identifying the MSI and BRAF test methodologies that best integrated into our laboratory, she assembled the validation panels and completed the validation studies with an optimized protocol. Both MSI and BRAF testing will be implemented in the Molecular Diagnostics Laboratory in October of 2011.

In the few months since becoming the molecular genetic pathology fellow, Dr. Peterson has also given multiple presentations to laboratory staff and pathology trainee peers.

Dr. Peterson received her M.D. degree from The University of Texas Health Science Center at Houston in 2006 and completed her AP/CP residency there as well. Dr. Peterson then completed a surgical pathology fellowship at Methodist before pursuing a molecular genetic pathology fellowship.

In Our Next Issue...

Dr. Philip Cagle and the Department of Pathology and Genomic Medicine will host a major symposium at Methodist in 2012 - The Spring Symposium of the Houston Society of Clinical Pathologists and the Department’s Seminar on Advances in Lung Cancer will combine for a 2-day event (April 28th and 29th) in The Methodist Hospital Research Institute auditorium. Look for a complete article on the event in the winter issue of \textit{The Laboratory Report}!
The Laboratory Report

Department Acquires New Transmission Electron Microscope

The Department has obtained a JEM-1400 transmission electron microscope (TEM) from JEOL, Ltd. The TEM will be used for both clinical care and research purposes. For clinical applications, the TEM will mostly be used to image tissue from needle core and wedge kidney biopsies.

“Electron microscopy is a valuable diagnostic tool for pathologists,” said Dr. Luan Truong, medical director of Renal Pathology for the Department. “This instrument will be very helpful, especially for certain tissue specimens that are not readily amenable to simple histologic analysis, such as kidney specimens.”

Other diagnostic applications include imaging of muscle, nerve, and heart biopsies. For research, electron microscopy continues to be an important technology for investigating new disease processes and newly-recognized biologic phenomena.

For information on how to access the JEM-1400 at Methodist and for usage charges, contact Gwen Lusk at glusk@tmhs.org.

Office of Academic Development Conducts Writing Seminar

The Office of Academic Development (OAD) held its first writing seminar for trainees on July 5th. The one-hour seminar, presented by Dr. Kathryn Stockbauer, introduced Department residents and fellows to scientific writing and, specifically, how to structure and present research data in a scientific manuscript. The presentation also covered manuscript submission and the peer review process.

“Knowing how to present your research data is a necessary skill in academic medicine, whether it be at a podium or in a poster, manuscript, or grant application,” said Dr. Stockbauer, the manager of OAD. “It is best to develop these skills early in training. Presenting this seminar to residents and fellows during their postgraduate medical training is ideal.”

The OAD in the Department of Pathology and Genomic Medicine provides assistance to faculty and trainees to increase their scholarly activity. OAD staff provides grant, manuscript, and poster editing services, assists in identifying new funding opportunities, and presents seminars and training in areas such as grantsmanship and scientific writing. A seminar on Public Health Service (PHS) grant writing and peer review is planned for October.

For more information on the OAD, visit methodisthealth.com/OAD.

Recent Publications


RECENT PUBLICATIONS continued


Ryu SY, Hong GU, Kim DY, Ro JY. Enolase 1 and calreticulin regulate the differentiation and function of mouse mast cells. Cell Signal. 2011 Jul 23. [Epub ahead of print]

