Microbiology Division in Highlight: Emerging Pathogens Meet Emerging Technologies

Meetting the continuous challenge of well-recognized and emerging pathogens in the setting of a shrinking workforce and burgeoning technologies is the modus operandi for clinical microbiology laboratories worldwide. The Johns Hopkins Medical Microbiology Division is no exception. In the past several years, the world has seen the emergence of several new respiratory viruses including the SARS coronavirus (SARS-CoV), metapneumovirus, and avian influenza strains (H5N1). Vector-borne and parasitic diseases, Mycobacterium tuberculosis, the viral hepatitides and the human immunodeficiency viruses, cause enormous morbidity and mortality worldwide; and little progress has been made in controlling their spread. In addition, laboratories have had to face the threat of bioterrorism, including the reality of the East Coast anthrax outbreak. Our Division had a leading role in Operation Orange planning for JHH and the Department. No less important are the challenges of resistant endemic organisms, such as methicillin-resistant Staphylococcus aureus (MRSA), Staphylococcus with reduced susceptibility to vancomycin, and multidrug-resistant gram-negative bacilli such as Acinetobacter sp. As Johns Hopkins Medicine (JHM) has expanded, Microbiology Division efforts have also increased to provide microbiologic testing for Howard County General Hospital and JHM units and to serve as the primary reference laboratory for Johns Hopkins Bayview Medical Center. Finally, as the population ages and the numbers of immunocompromised hosts expand, previously innocuous, saprophytic organisms, such as molds, are now causing devastating infections.

What are we doing to meet these challenges? Are we up to the task? One of the Microbiology Division’s strengths is the diverse knowledge and range of expertise of our faculty. All major areas of infectious diseases diagnostics are well-covered by this group. This is reflected in the extensive test menu and volume of testing offered in the division (460,000 assays annually); the educational programs provided within the institution and at regional, national and international meetings; and the ongoing basic, translational and clinical research activities. Our administrative team, Anne Maters, Anita Borek and Diane Playhart, maintain 24/7 operations providing excellent service to JHH and JHM patients. They train new generations of technologists and pathologists alike, troubleshoot assays and instruments and perform a multitude of other tasks. Dr. Patricia Charache keeps everyone in touch with institutional issues and the latest regulatory guidelines. The following are highlights from the various sections of the Medical Microbiology Division.
Retirement Announcement for Risa B. Mann, M.D.
Professor of Pathology and Oncology

Dr. Risa Mann, Professor of Pathology and Oncology, has announced her retirement, effective June 30, 2004. Dr. Mann has been a member of the Johns Hopkins Medical Community for 36 years having obtained her medical degree as an AOA graduate of the Johns Hopkins five year medical program in 1971. She completed four years of training in Anatomic Pathology at Hopkins, serving as Chief Resident in 1974-75. After a two year fellowship in Hematopathology at NIH, she returned to join the faculty in 1977, and has been an active member of the staff in Surgical Pathology for 27 years. Dr. Mann has taught medical students in the Year Two course in Pathology over the years and is known for her introduction of Dorothy Reed to all second year Hopkins medical students, making them aware of the fact that a woman, Hopkins Pathologist was involved in the recognition of the malignant cell in Hodgkin’s Disease, the Reed Sternberg Cell in the early 1900’s. Dr. Mann was named Professor of Pathology and Oncology in 1995.

Dr. Mann is a nationally recognized hematopathologist, having served with distinction on the National Pathology Panel for Lymphoma Clinical Studies and on the Hodgkin’s Committee for the World Health Organization (WHO) Handbook for the Histological and Cytological typing of Neoplastic Diseases of the Hematopoietic and Lymphoid tissues. She was a charter member and served on the executive committee of the Society for Hematopathology. She is also a member of the Arthur Purdy Stout Society of Surgical Pathologists.

Dr. Mann’s major research efforts have been in the field of Hematopathology, where she has conducted numerous studies of the relationship of the Epstein Barr virus with Hodgkin’s Disease (Lymphoma). She has also been active in many studies of the classification of Non Hodgkin’s Lymphomas. Dr. Mann gave the School of Medicine’s Dean’s Lecture in the year 2000 on Malignant Lymphomas: Lessons from History, Pathology, and Virology. She has been active in the educational activities of the United States and Canadian Academy of Pathology where she served on the Education Committee and chaired many scientific sessions and Evening Educational Hematopathology Slide conferences.

Within the Department of Pathology Dr. Mann served as Director of the Residency Training Program for 17 years, mentoring large numbers of residents and fellows as they pursued their careers in Pathology. She also was active in the Program Director’s Subcommittee of the Association of Pathology Chairs and served as co-chair of the departmental credentialing committee. Over the years, Dr. Mann, the mother of two now grown children, has served as a role model for young women in medicine who were trying to combine an academic career with a full family life.

She has received numerous honors including the Faculty Teaching Award in pathology, was named one of Maryland’s top 100 women in 1997 and was listed as one of the “Top Docs” in Pathology in Baltimore in 2002. Dr. Mann has served on the Johns Hopkins Professorial Promotions Committee, the Woman’s Leadership Council, numerous Departmental Chairman search Committees and the Committee on House Staff and Post Doctoral Programs.

Director’s Corner

and greater gift giving. On the regulatory side the department had a very successful JCAHO inspection a few months ago, and Pathology faculty had the best billing compliance record of all the clinical departments in the Johns Hopkins University Clinical Practice Association.

As of May 2004, Pathology has been allocated 8,000 sq ft on the second floor of the planned Critical Care Tower for the Blood Bank and Neuropsychology with an additional 14,400 sq ft in the basement of Critical Care Tower and Nelson building for the new Core Lab and Autopsy services. Approximately, 13,500 sq ft of space has been allocated to Pathology for cancer research in the Cancer Research Building II slated to open in the Fall of 2005.

These are all positive accomplishments, but there are also new challenges. NIH extramural funding is expected to increase by only 2.6% this coming year so that grant funding will be more competitive. This will mean that faculty will likely need to submit more grant applications and resubmissions to be successfully funded.

The need to raise the $1.2 billion to build the new clinical and research buildings will continue to put financial pressure on the Hospital and Departments over the next few years. Increasing revenues, operating more efficiently, and maintaining reserves will be necessary.

Increased scrutiny of effort reporting by the federal government will mean that faculty will need to pay particular attention to making sure they are in compliance with these requirements. The School of Medicine leadership is very aware of the difficulties these requirements pose and efforts are underway to change the effort reporting system at the national level so that it is simpler and more realistic.

Continuing to improve patient safety is another major priority. For Pathology, improving turn around time of testing, ensuring correct patient identification at time of phlebotomy, sample labeling, and test reporting will be major areas of focus in the coming year.

Despite these challenges, it is important to realize that by almost any measure Johns Hopkins Pathology is doing wonderfully thanks in large part to all employees in our Department. Given the talent and desire to be the best, I have no doubt that we will be successful in meeting future challenges as well.
Microbiology Division in Highlight: Emerging Pathogens Meet Emerging Technologies

Continued from page 1

Clinical Virology

Alex Valsamakis, M.D., Ph.D., director of clinical virology and molecular microbiology, notes that the greatest challenges faced by the Clinical Virology Laboratory are the expanding population of patients with diverse forms of immune deficiency and the evolution of respiratory viruses with pandemic capacity. To address both problems, the laboratory has built on an already solid foundation of diagnostic tests. The laboratory has recently discontinued ppp5 antigenemia detection in favor of viral load testing for cytomegalovirus, a major pathogen in patients with T cell dysfunction. This has resulted in improved diagnosis, treatment, and monitoring and detection of antiretroviral-resistant strains. In response to emerging respiratory viruses, we have greatly expanded our panel of rapid tests for common respiratory viruses. In the past, rapid diagnostics were offered for influenza A and respiratory syncytial virus. Our new panel detects five additional viruses, allowing us to reassure clinicians that patients presenting with respiratory symptoms are infected with “run of the mill” viruses rather than exotic, epidemiologically worrisome ones. While nucleic acid detection methods have gained an important foothold in this field, we continue to offer culture which should theoretically allow us to detect an uncommon or newly emerged virus.

Molecular Microbiology

Nucleic acid amplification technologies have revolutionized the field of virus detection. The availability of culture systems is no longer a barrier to virus identification, as long as snippets of genomic sequence are known. The original mission of the laboratory was to offer a diversity of tests that would benefit a broad range of patients. In the last five years, the test menu has more than doubled from 10 to 21 assays, and the growth in volume over the past three years has exceeded 20% per year. Automated nucleic acid extraction and real time PCR (simultaneous amplification and detection of nucleic acid) have been implemented to improve throughput and decrease turnaround time. Research in molecular virology is focused on the development and utility of molecular assays for hepatitis viruses and viruses that infect immunocompromised patients. The laboratory has become nationally recognized for its excellence in verification of molecular infectious disease assays. As a result, we have become a beta test site for numerous products and we have participated in FDA clinical trials for HCV quantitative tests (Bayer), high risk HPV assays (Oogene), and blood screening (OIVHCV/HIV) nucleic acid tests (Gen-Probe). Parallel research by John Trochurst, M.D., links long standing interests in hepatitis viruses with recent clinical-virology and molecular activities: 5’ non-translated region (NTR) structure and function among picornaviruses and HCV, and characterization of hepatitis E virus (HEV) infections. Analysis of enteroviral and parenchoviral sequences is based on JHH clinical isolates, the Division’s original PCR-based assays, and collaboration with CIDC. His somewhat analogous effort with Medicine’s Viral Hepatitis Center is identification of temporally-associated nucleotide changes in 5’ NTR and Core sequences that represent incident HCV infections. HEV has emerged as the predominant worldwide cause of sporadic and epidemic acute hepatitis, but has some poorly understood epidemiologic characteristics. JHH-SPH epidemiologists, with Dr. Trochurst, are conducting the first investigation of HEV infections in Bangladesh; it will include nucleotide-sequence characterization of local HEV strains.

Bacteriology

Stacks of plates on laboratory benches attest to the volume of cultures from all body sites, cultures of environmental samples, and identification and susceptibility testing of bacteria that take place 24 hours a day in the bacteriology section. Improvements in existing instrumentation and a pre-marketing evaluation of the BD Phoenix (BD Biosciences, Sparks, MD), the latest in new instruments that combine fluorescence technologies for more rapid antimicrobial identification and susceptibility testing, are in progress. Molecular technologies, likewise, will be making a debut in this section as

mRNA gene detection using the Roche Light Cycler assay will soon be available to confirm the often difficult to detect methicillin-resistance among staphylococci. Laboratories cur-

Continued on page 4
Microbiology Division in Highlight: Emerging Pathogens Meet Emerging Technologies

Continued from page 3

Epidemiology and Infection Control

Recently, we assisted with SARS control plans, selection and ultimate implementation of an infection control computer program, Theracase, and control of a multi-drug resistant Acinetobacter outbreak. Ribotyping (Qualicon) and rep-PCR with microfluidics chip detection of PCR products to create bacterial fingerprints (Bacterial BarCodes, Inc., Houston, TX) have been evaluated. The latter is a continued area of translational research for this section. Future plans include an examination of other PCR technologies for strain typing.

Mycobacteriology

The Mycobacteriology Laboratory performs assays including direct TB testing, culture, susceptibility for Mycobacterium tuberculosis and direct smear evaluations. In the next several months, plans include expanding testing capability to include susceptibility testing on non-tuberculous mycobacteria, evaluation of 16S rRNA sequencing technology as a more rapid means of mycobacteria identification, and evaluation and implementation of an alternative automated system to detect mycobacteria in clinical samples. Ongoing clinical research based projects include investigation of rapid susceptibility testing of mycobacteria using quantitation of mycolic acids by HPLC and development of an enriched media to enhance the growth of mycobacteria.

Dr. Nicole Parrish's basic research focus, in collaboration with James Dick, M.D., is aimed at characterization of the mechanism of action of a novel class of antimycobacterial compounds under development at Johns Hopkins, which have demonstrated potent in vitro efficacy against pathogenic mycobacteria, including multi-drug resistant strains. A variety of methods lead this approach including proteomics, protein and lipid biochemistry as well as current molecular techniques.

Mycology

The Mycology Laboratory analyzes cultures for yeast and filamentous fungi as well as rapid testing for Cryptococcus neoformans. Susceptibility testing for selected fungi is performed as well. This area of the lab, under the direction of William Mez, Ph.D., continues to participate in National surveillance studies on resistant yeast and other clinical research. "Filamentous rounds" with Dr. Merz is a highlight of the pathology residents' microbiology rotation. Dr. Merz's strong commitment to education is reflected in his frequent attendance at CP rounds, his co-direction of the Pathobiology Graduate Program and his formal teaching in the Bloomberg School of Public Health. He has taught many "budding" mycologists.

Parasitology and Vector Borne Diseases

The Parasitology Laboratory analyzes stool for ova and parasites in addition to analyzing blood for infections such as malaria. Such routine testing will always have a place in parasitology diagnosis. However, the availability of genomic data, the high degrees of sensitivity for molecular testing, and the ability to automate will push forward molecular diagnostics nationally. Hopkins Microbiology intends to by implementing a diverse menu of molecular methods for the detection of enteric parasitic pathogens in a multiplexed, real-time format that will supplement, perhaps eventually supplant, the routine screen for ova and parasites.

Likewise, the changing ecology of our natural world and the increasing expansion of human residences into previously pristine environments have allowed the emergence of previously unrecognized zoonotic vector borne infections. Such infections include Lyme disease and a cadre of pathogens that are also transmitted by deer ticks. Steve Dumlur, M.D. was a member of the team that in 1990 discovered a new tick-borne disease of humans, now called human granulocytic anaplasmosis, or HGA for short. The disease is caused by a rickettsia-like obligate intracellular bacterium called Anaplasma phagocytophilum. The biological adaptations of it and the related Ehrlichia chaffeensis that allow intracellular survival and disease development in humans are the major focus of the Dumlur research lab, continuously funded by the National Institutes of Allergy and Infectious Diseases since his arrival in 1996. The spectrum of research activities includes investigation of the relationship between acquiring immunity and disease manifestations to understanding how secreted bacterial proteins gain access to neutrophil heterochromatin and after neutrophil function.

Another venture of the Dumlur lab is the establishment of a center for the study of Lyme disease. First initiated during the "human subject-less" summer of 2001, the Lyme Disease Center has enrolled nearly 100 suspected patients for which complete clinical, laboratory, and microbiological data has been obtained — including isolates of B. burgdorferi. With significant contributions from the medical entomology collaborators in the Bloomberg School of Public Health, the Lyme Disease Center has accrued data proving that the genotypic spectrum of B. burgdorferi spirochetes in local white-footed mouse populations and in Maryland patients with Lyme disease is fundamentally unique from other regions of the U.S. and worldwide. In fact, preliminary data suggest that the spectrum of disease is also different, implying a relationship between disease and our unique microbiological exposure. Regardless, the stage is now set for more intensive investigation conducted in Medical Microbiology by a team with a multi-disciplinary approach including clinical medicine (Greenspring Station), medical entomology (JHU BSHP), molecular epidemiology (JHU SOM), and modern clinical and basic science microbiology (JHU SOM). This exciting new venture promises to enhance the fundamental understanding of the pathobiology of the disease that will foster better clinical diagnosis and management of Lyme disease.

Education

The Microbiology Division has a strong commitment to education in many levels. The entire month of October is dedicated to Medical Student teaching. Several faculty have encouraged the formation of the Pathology Interest Group spearheaded by a second year medical student. We will continue our strong commitments to support of the Infectious Diseases Fellowship Training program through "plate rounds," formal teaching and individual consultation. The AGMIE accredited Medical Microbiology program is fortunate to have Hasan Bhally, M.D. as the clinical fellow this year. This program received excellent comments on the recent internal AGMIE review. Exciting to us is the unprecedented number of applicants who applied for 305's. Once again the Division will have a noticeable presence at several international and national meetings including the American Society for Microbiology and the

Continued on page 5
Microbiology

Continued from page 4

Pan American Society for Clinical Virology, where several faculty, fellows and technologists will be presenting workshops and invited lectures.

A key issue in the ability of the Medical Microbiology discipline to contribute to patient care rests with our ability to educate clinical faculty and resident staff in the pre- and post-analytical understanding of when to use microbiologic information and how to obtain it. The emergence of new pathogens and new technologies, and the development of complex patterns of antimicrobial resistance have resulted in the return to physicians of critical but unfamiliar information that can be misapplied or ignored. The Medical Microbiology group is exploring strategies designed to assist the clinician in understanding when and how to make specific microbial diagnoses, as well as those designed to improve communication, and assist in interpretation of the information being provided.

Quality Assurance and Improvement

Great progress has been made in identifying processes that will enhance the ability to improve our efficiency as a hospital unit. Our Divisional QA program was highlighted by the JCAHO inspectors as one that may qualify for a prestigious national award. To ensure safety for employees and others in the Meyer basement, a capital plan has been submitted for renovating the B23 area (the Mycobacteriology Laboratory) to meet currently recommended standards. This will be essential if we want to be well prepared for another bioterrorism event or the next emerging pathogen. The Therapod software program will provide much needed database support for data mining, epidemiological assessments, and QA. As mentioned above in the section highlights, automation will propel us toward the lab of the future, allow us to streamline algorithms, reduce turnaround times and hopefully improve patient care.

In summary, following a site visit to the laboratory, a recent group so aptly captured the essence of our Microbiology Division by writing, “While its physical plant is old and crumbling, my sense is that people and techniques are the highest caliber. The vast majority of hospital labs will be less sophisticated than JHU.”

Primary Faculty Changes - Since October 2003

New Faculty

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<th>Department</th>
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<tr>
<td>Ansari-Lari, M. Ali, M.D.</td>
<td>Instructor</td>
<td>Surgical Pathology</td>
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<td>Bagnasco, Serena M., M.D.</td>
<td>Associate Professor</td>
<td>Gastroenterology</td>
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<td>Batista, Denise A.S., Ph.D.</td>
<td>Assistant</td>
<td>Molecular Pathology</td>
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<td>Antelman, Gretchen, M.P.H.</td>
<td>Res. Associate</td>
<td>Microbiology</td>
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<tr>
<td>Cai, Min, Ph.D.</td>
<td>Res. Associate</td>
<td>Microbiology</td>
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<td>Fishworth, H., Parry, M.D.</td>
<td>Assistant</td>
<td>G I Pathology</td>
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<tr>
<td>Fijalkowska, Iwona, Ph.D.</td>
<td>Res. Associate</td>
<td>Pulmonary Pathology</td>
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<tr>
<td>Gustafson, Karen S., M.D., Ph.D.</td>
<td>Assistant Professor</td>
<td>Cytopathology</td>
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<tr>
<td>Jarath, Hayan, M.D.</td>
<td>Assistant</td>
<td>Surgical Pathology</td>
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<tr>
<td>Klein, Walter M., M.D.</td>
<td>Assistant</td>
<td>Surgical Pathology</td>
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<tr>
<td>Kulesza, Piotr, M.D., Ph.D.</td>
<td>Instructor</td>
<td>Cytopathology</td>
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<tr>
<td>Movahedi-Lamrani, Saied, M.D.</td>
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<td>Gynecologic Pathology</td>
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<tr>
<td>Nichols, Lynette, M.D.</td>
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<td>Russel, Negar, M.D.</td>
<td>Assistant</td>
<td>Diagnostic Immunology</td>
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<tr>
<td>Yang, Russell, M.D.</td>
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Departures

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<tr>
<td>Alii, Patricia, M.D.</td>
<td>Assistant Professor</td>
<td>Quest Diagnostics, Baltimore, MD</td>
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<tr>
<td>Berg, Karin, M.D.</td>
<td>Assistant Professor</td>
<td>Laboratory Corporation of America, Research Triangle Park, NC</td>
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<tr>
<td>Lujan, Giovani, M.D.</td>
<td>Assistant</td>
<td>Metropolis Pathology Partners, Dallas, TX</td>
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<td>Rodriguez, E., Rene, M.D.</td>
<td>Associate Professor</td>
<td>Cleveland Clinic, Cleveland, OH</td>
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<tr>
<td>Strodin, Monica, M.D.</td>
<td>Assistant</td>
<td>Cytopathology Fellow, JHM</td>
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<tr>
<td>Wettstein, Lamont, M.D.</td>
<td>Assistant</td>
<td>Bay Area Hospital, Goos Bay, OR</td>
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Promotions

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<td>Baldwin, William M., M.D., Ph.D.</td>
<td>Professor</td>
<td>Immunology</td>
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<tr>
<td>Barker, Norman J., B.S.</td>
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<td>Informatics</td>
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<td>Clarke, William, Ph.D.</td>
<td>Assistant Professor</td>
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<tr>
<td>Gabrielson, Edward W., M.D.</td>
<td>Professor</td>
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<td>Geggins, Michael, M.D.</td>
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<td>G. I. Pathology</td>
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<td>Hamad, Abdel-Ramin A., (M.V., Ph.D.)</td>
<td>Assistant Professor</td>
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<td>Iacobuzio-Donahue, Christine, M.D., Ph.D.</td>
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<td>G. I. Pathology</td>
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<tr>
<td>Lee, Maria Teresa, M.D.</td>
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<td>Diagnostic Immunology</td>
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<td>Li, Jinhong, Ph.D.</td>
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<td>Lih, Je Ming, M.D., Ph.D.</td>
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<td>Stroderman, Kimberley A., M.D.</td>
<td>Instructor</td>
<td>Surgical Pathology, Bayview</td>
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<td>Thupari, Jagann, M.D.</td>
<td>Assistant Professor</td>
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<tr>
<td>Tudor, Rubin M., M.D.</td>
<td>Professor</td>
<td>Pulmonary Pathology</td>
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FUNDING OUR FUTURE

Our endowed funds and fellowships continue to grow, and to provide significant support for the training of a number of talented young physician scientists. The importance of the financial support provided by these endowed funds and fellowships will only grow as the Department faces the financial constraints outlined by Dr. Jackson (page 1). Our funds and fellowships do more, however, than simply help with the finances. Our funds and fellowships serve to honor some of the treasured icons of the Department, and to remind our young trainees of their rich heritage. Our funds and fellowships also provide a wonderful mechanism for members of the Department and for alumni to express their gratitude to the Department. Please consider supporting these important activities.

William Welch Award

The William Welch Award has been established to acknowledge the Outstanding Achievement in Pathology by a second year medical student. This award not only recognizes outstanding academic performance in the pathology course, but it also serves to encourage our best students to enter the field.

We are pleased to announce that the first recipient of the William Welch Award is Amy Huberman. Amy received this award at the Annual Pathology Awards dinner held on May 14, 2004.

The Joseph Eggleston Fund in Surgical Pathology

Joe Eggleston was one of the true giants in the field of surgical pathology. His dedication to teaching and diagnostic excellence helped establish Hopkins as a leading center for surgical pathology. We are pleased to announce that Dr. Dengfeng Cao is the third recipient of this award. This award recognizes Dr. Cao’s excellence in diagnostic surgical pathology and his cutting-edge research in onologic surgical pathology.

The John H. Yardley Fellowship in Gastrointestinal Pathology

The John H. Yardley Fellowship in Gastrointestinal Pathology honors “the father of modern gastrointestinal pathologist” and serves to promote the research activities and clinical training of promising pathologists pursuing advanced training in gastrointestinal/liver pathology. Importantly, this endowment helps assure the long-term health of the longest standing fellowship in the department. Dr. Guang-Yu Yang is the Yardley fellow for the 2004-2005 academic year. Dr. Yang came to Hopkins from New York University where he was the chief resident in pathology. In the tradition of previous gastrointestinal/liver pathology fellows, Dr. Yang has already begun significant bench research in addition to his diagnostic duties.

The Yener S. Erozan Fellowship in Cytopathology

Dr. Erozan is one of the true giants in the field of cytopathology and a much-loved member of our faculty. The Yener S. Erozan Fellowship in Cytopathology continues to support promising pathologists pursuing advanced training in cytopathology in the Department. This endowment provides critical stability to the cytopathology fellowship Program as the division transitions to new leadership under Dr. Douglas Clark.

The Robert H. Heptinstall Fellowship

Happy is well known to all of us and no words could adequately describe him. The campaign to endow the Robert H. Heptinstall Fellowship is still ongoing. The Robert H. Heptinstall Fellowship promotes research activities and clinical training of outstanding young pathologists pursuing careers in research.

We sincerely appreciate the significant support our alumni and faculty have provided for these endowments. It is important that we continue to grow these endowments and we ask you to consider supporting one or more of these funds and fellowships. We are enclosing a self-addressed return envelope to facilitate your contribution. For those of you considering a bequest or another mechanism of giving, please contact Dr. Ralph H. Hruban at 410-955-2163 or rhruban@jhmi.edu. If you would like to use a separate envelope, you may send your tax-deductible contributions payable to the Johns Hopkins University to:

Attn: Madeleine Smith
Department of Pathology
The Johns Hopkins Hospital
Carnegie 428
600 North Wolfe Street
Baltimore, MD 21287-6417

(continued on next page)
### New Grants and Contracts Awarded to Pathology Faculty Through May 5, 2004

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Kathleen Burns

Kathleen was born in Birmingham, AL. She attended college at the University of Southern Mississippi where she studied the effects of site-directed mutagenesis on glutaminyl cyclase activity. She then completed a combined MD/PhD program at Baylor College of Medicine (Department of Molecular and Human Genetics) in Texas where she researched gonadal tumorigenesis resulting in numerous publications. When not hard at work in the lab, she enjoys swimming, reading and spending time with family and friends. Ask her for some free "Two-steppin' lessons and help on your grants. Kathy will be training in CP.

Alex Cappello

Alex is originally from New Jersey. She completed her undergraduate studies in biology and chemistry at Wake Forest University in North Carolina before moving to Baltimore, where she completed an MD program at Johns Hopkins University School of Medicine. Her research interests include flow cytometric examination of abnormal populations of T-lymphocytes in patients with Mycosis Fungoides and Sézary Syndrome. Along with her fiancé, she formed an art and book club in which they visit art museums, attend musical performances and read and discuss books; she is fluent in Spanish. She enjoys pumping iron. In the eighth grade, she attended a Bon Jovi concert and had “Jersey hair”. Alex will pursue AP/CP training.

Terina Chen

Terina was born in Portland, OR. She earned bachelor degrees in microbiology and history at the University of Rochester, New York. While there, she received awards for excellence in writing on Victorian literature. She stayed on at Rochester and completed her medical training and a post-sophomore fellowship in pathology. During this time, she initiated a report on renal oncoctysis in a pediatric patient, which this published in the "International Journal of Surgical Pathology". While not hard at work, Terina enjoys scrap-booking and photography, vocal performance and musical theater. Her husband, Joey, is an accomplished actor who will be pursuing career opportunities through auditions on Broadway - and maybe as an extra on "CSI"? Terina will be pursuing AP/CP training.

Steve Cheung

Steve was born in Hong Kong. While in high school, he assisted the NASA Technology Lab in their efforts to put a man on Mars. Steve cried as he recently watched the Mars Lander touch down on that beautiful rust-colored terrain. He attended Harvard University as an undergraduate student where he studied the role of cell cycle regulators in muscle development. His medical training, consisting of a combined MD/PhD program, was obtained from University of Virginia. He was very successful in the laboratory, publishing multiple articles on the phosphorylation of histone proteins and their effects on the cell nucleus. Steve is fluent in Cantonese and Foo Chinese and enjoys chess, cooking, Roman history and basketball. He once dunked on an 8 foot basket. Steve is pursuing AP/CP training.

Hywyn Churchill

Hywyn was born in Denver, CO. He received a bachelor degree in chemistry at the University of Virginia. After graduation, he worked at Merck Research Laboratories designing synthetic chemical processes for novel drug development. Although he brought home a serious paycheck during this period, he felt an emptiness in his soul... he wanted to be a pathologist. His calling sent him to the University of Illinois to earn his MD/PhD in the department of biochemistry, which involved the engineering of immunological receptors to protect host cells from super-antigen-induced pathogenesis. Hywyn enjoys outdoor activities but nothing gets his adrenaline pumping more than throwing darts. Hywyn will be pursuing AP/CP training.

Zarir Karanjawala

Zarir was born in Rockville, NY. He then relocated to the West Coast, obtaining his undergraduate, graduate and medical education in Los Angeles. He earned his MD/PhD at the University of Southern California School of Medicine. His PhD was in the department of pathology, resulting in numerous publications on DNA repair. In his free time, he enjoys reading, fishing, and his true passion, stamp collecting. He needs one more stamp to complete the entire Britney Spears collection. Zarir is interested in AP/CP training.

Continued on page 9
Janis Taube

Janis was born in Gainesville, FL. Following undergraduate studies at Duke University, she studied platelet aggregation in prothrombotic disease states as a research fellow and masters student at Cambridge University/University College of London. She then earned her MD at Tulane University School of Medicine, where she continued to pursue her interests in hematology, developing a method to isolate nucleated RBCs from the peripheral blood of patients with sickle cell anemia. Outside of work, she enjoys horse-back riding, sailing and running.

Danielle Wehle

Danielle was born in Bayshore, NY. She studied chemistry as an undergraduate student prior to moving to Tucson, where she completed a MS in analytical chemistry. Her medical training at the University of Arizona College of Medicine was interrupted by a post-sophomore pathology fellowship at University of Washington. Her research involved Her-2/neu detection in breast cancer microarrays. She is an avid rock-climber, mountain-biker, Ultimate Frisbee player and distance runner. She is an accomplished marathoner and has publicly challenged Dr. Jackson to a race. Danielle will be joining us for AP/CP training.

Johns Hopkins Division of Cytopathology shines at annual American Society of Cytopathology meeting.

This year’s annual American Society of Cytopathology meeting in Orlando, FL, has been a resounding success for the Johns Hopkins Division of Cytopathology. Perhaps the best indicator of our success was the announcement that Hopkins has been designated a Center of Excellence by the ASC. The COE program was recently initiated by this national organization to recognize and promote programs with "extraordinary expertise in all phases of Cytopathology practice, education and research; and through this expertise, can and will provide the opportunities necessary for all levels of Cytopathology education through on-site and distance learning programs...in all areas of cytologic practice, including novel "frontier technologies.” Hopkins joins just three other institutions in this distinction, including the Harvard Medical Institutions Consortium, the Fletcher Allen Medical Center/University of Vermont, and the Medical University of South Carolina. Congratulations to everyone in the Division for this well-deserved recognition, particularly Dr. Syed Ali and Fran Burroughs who worked on the application.

Hopkins was also recognized by another new ASC initiative, the ASC Research Seed Award, designed to support research efforts by outstanding cytopathology fellows. This year Dr. Piotr Kulesza (The Yener Erozan Cytopathology Fellow) was one of just three individuals to receive this prestigious award and stipend. The goal of this award is to "stimulate new research projects using material obtained in routine cytology specimens...and work toward the goal of innovation in diagnostic cytopathology that will improve patient care by improving the quality of the work done by cytopathologists. This includes...application of new technologies to cytopathology.” Piotr’s research focuses on the identification of molecular indicators of responsiveness to targeted therapy in cytologic samples from human tumors.

In addition to these distinctions, the Hopkins cytopathologists, cyto technologists, pathology residents and cytopathology fellows presented two platform presentations, seven posters, and a panel luncheon. Drs. Dorothy Rosenthal and Patti Alli presented a well-received workshop on pancreas cytopathology, and Dr. Syed Ali participated in a special course on lung pathology. The annual Hopkins Cytopathology Alumni breakfast was well attended by the current Hopkins faculty, fellows, and residents, as well as previous fellows, Sherry Li and Robert Pu.

Douglas P. Clark, M.D.
Awards / Recognition

Syed Ali, M.D.
Elected as a member of the Cytopathology Resource Council, American Society for Clinical Pathology (ASCP)

Pedram Argani, M.D.
- Recipient of the School of Medicine Professor's Award for Distinction in Teaching in the Basic and Preclinical Sciences for 2003-2004
- Recipient of the 2004 Pathology Housestaff Faculty Teaching Award for AP

Melissa Brassell, M.D.
Appointed Chief Resident for 2004-2005

Dengfeng Cao, M.D., Ph.D.
Recipient of the Joseph C. Eggleston Award in Surgical Pathology for 2004

Patrizio Caturegli, M.D.
- Appointed Associate Editor for Endocrinology
- Appointed Associate Editor for Discoveries in Medicine

Daniel Chan, Ph.D., DABCC
First Recipient of the Morton K. Schwartz Award for Significant Contributions in Cancer Research Diagnostics, presented by the American Association for Clinical Chemistry

Douglas P. Clark, M.D.
Recipient of the "Center of Excellence Award" from the American Society of Cytopathology: Division of Cytopathology

William Clarke, Ph.D.
Recipient of the 2004 “George Grannis Award for Excellence in Research and Scientific Publication” from the National Academy of Clinical Biochemistry (NACB), which recognizes excellence in research and scientific publication by a young investigator.

Barbara Detrick, M.D.
NIAMS, NIH Study Section, June 10, 2003

Yener Erozan, M.D.
Recipient of the 2004 “Educator of the Year Award” from the Papanicolaou Society of Cytopathology

Kapil Gupta (Graduate Student in Dr. Schneick’s lab)
Recipient of the 2004 “Student Research Achievement Award” from the Biophysical Society

Greg Hostler, M.D., Ph.D.
Appointed Chief Resident for 2004-2005

Amy Huberman B.A.
Recipient of The William H. Welch Award for Outstanding Achievement in Pathology as a Second Year Medical Student for Class of 2006

Walter Klein, M.D.
Recipient of the 2003 “Third place Duel in Dermatopathology” from the American Academy of Dermatopathology

Piotr Kulesza, M.D., Ph.D.
- Recipient of the 2004 “Research Seed Award” from the American Society of Cytopathology
- Recipient of The 2004 Johns Hopkins Dean’s Distinguished Service Award

Alexandra Kleynska B.S.
Recipient of the Pathobiology Chief Graduate Student Award 2005-2004

Frank Kukajda, M.D.
- Invited speaker at the 2004 New York Academy of Science. He will present novel approaches to obesity and diabetes therapeutics
- Invited speaker at the American Society for Pharmacology and Experimental Therapeutics (ASPET), 2004 Ray Fuller Symposium, “The Pharmacology of Obesity: Target and tools for the 21st Century
- Invited speaker at the “Integrative Role of Fatty Acids in the Metabolic Regulation: Implications for Obesity and Diabetes Research Symposium,” sponsored by the American Diabetes Association, April 2004

Anirban Maitra, M.D.
Recipient of the 2004 Castelman Award for best paper published in the English language in the field of pathology from the United States and Canadian Academy of Pathology (USCAP)

Trina McFadden (Lab Tech II, Core lab)
Recipient of a “Catch a Shining Star” Award

William Merz, Ph.D.
Recipient of the Award of Excellence in teaching, leadership and important contributions to their field of clinical mycology, presented by The Medical Mycology Society of NY.

Claudio Mosse, M.D., Ph.D.
Recipient of Chief Resident Award 2003-2004

Gary Pasternack, M.D., Ph.D.
Appointed to the Editorial Board for the American Journal of Pathology

Lorraine Rauches, M.D.
- Nominated for Vice President of the Renal Pathology Society
- Invited to serve on the Program Committee for the 2005 American Society of Nephrology annual meeting

Mark K. Romagnoli
Recipient of the 2004 Housestaff Teaching Award for Staff

Noel R. Rose, M.D., Ph.D.
Appointed Chair of the NIH Autoimmune Diseases Coordinating Committee (ADCC)

Sharon Swierczynski, M.D., Ph.D.
Recipient of Chief Resident Award 2003-2004

Michael S. Torbenson, M.D.
Recipient of the 2004 Pathology Housestaff Faculty Teaching Award for AP

Stina Tucker, R.A.
Appointed Chief Graduate Student, Pathobiology Program for 2004-2005

Edward Weir, M.D.
Recipient of the 2004 Pathology Housestaff Faculty Teaching Award for CP

Philip C. Y. Wong, Ph.D.
Recipient of the 2004 Pathobiology Graduate Program Teaching Award
Alzheimer’s Disease Research Center  
http://www.alresearch.org  
The Alzheimer’s Disease Research Center’s recently re-designed web site offers:  
- an overview of Alzheimer’s Disease and available services and resources for patients and caregivers  
- up to date listings of ongoing Basic Research, Clinical Research and Clinical Trials, and  
- Alzheimer’s Disease related continuing education opportunities for healthcare professionals

3rd Annual Ovarian Cancer Climb for Life  
http://www.ovariancancer.jhmi.edu/climb  
The Johns Hopkins Pathology Ovarian Cancer Web Site continues to flourish during its fourth year of publication. Sean Patrick, the web site’s cofounder, ovarian cancer patient and advocate, and founder of the Health Empowerment, Research and Advocacy (HERA)® Women’s Cancer Foundation is now hard at work planning the third annual Ovarian Cancer Climb for Life benefiting the Johns Hopkins Ovarian Cancer Initiative.  
This year’s event will take place September 16—19, 2004 in beautiful Salt Lake City, UT and attendance is expected to exceed 150 climbers from novice to expert and professional level. Each year the event achieves a higher public profile through cooperation between HERA and corporate sponsors. This past winter, REI and Black Diamond partnered to host the HERA Climb For Life Read Tour at various REI climbing centers in the western United States.  
Last year’s Climb for Life in Salt Lake City raised over $45,000 and we are planning to climb past that benchmark this year. See the web site for information about participating or supporting the event.

Pathology Grand Rounds Online  
http://pathology2.jhu.edu/department/grandrounds.cfm  
The 500th Pathology Grand Rounds is coming up in the Fall of 2004. A selection of these presentations have been recorded and made available on the departmental web site throughout the year. This feature is supported by an unrestricted educational grant from Roche Diagnostics.

Online versions are available for several talks including:
April 1, 2004  
Mark Sulikowski, M.D., Assistant Professor  
Johns Hopkins Medical Institutions  
"Hepatitis C in HIV Infected Persons"

January 15, 2004  
Ie-ming Shih, M.D., Ph.D., Associate Professor  
Johns Hopkins Medical Institutions  
"Molecular genetic pathways in ovarian cancer"

December 4, 2003  
Anna Mae Diehl, M.D., Professor of Gastroenterology  
Johns Hopkins Medical Institutions  
"Regeneration of chronically injured livers"

May 15, 2003  
Edward McCarthy, M.D., Professor of Pathology  
Johns Hopkins Medical Institutions  
"The History of the Pathology Department at Johns Hopkins"

Pathology Employee Appreciation Day  
September 12, 2004  
Registration will be required - Details to follow
Calendar

June 24, 2004 Pathology Young Investigator's Day Awardees present at Pathology Grand Rounds

July 6, 2004 Housestaff Welcome Reception

Sept. 12, 2004 Pathology Employee Appreciation Day at Oregon Ridge Park; Registration required - details to follow

Sept. 19, 2004 Welcome Reception for new faculty, housestaff, fellows, and graduate students

Nov. 5-6, 2004 Seventh Annual Current Topics in Gynecologic Pathology; Sheraton Inner Harbor Hotel, Baltimore, MD

Nov. 7-8, 2004 Fourth Annual Current Topics in Gastrointestinal/Liver Pathology; Sheraton Inner Harbor Hotel, Baltimore, MD

Feb. 26 – Mar. 4, 2005 United States and Canadian Academy of Pathology 93rd Annual Meeting Marriott Hotel, San Antonio, TX

Feb. 27, 2005 Annual Meeting of the Alumni Council of the Department of Pathology, San Antonio, TX

Feb. 28, 2005 United States and Canadian Academy of Pathology Alumni Reception Marriott Hotel, San Antonio, TX

Jun. 2-4, 2005 The Biennial Meeting of the Johns Hopkins Medical & Surgical Association and the School of Medicine Reunion

Congratulations to the 6th Annual Pathology Young Investigators' Day Awardees

The Department of Pathology reached an all-time high of 85 registered posters for this year’s Young Investigators’ Day. You can view the award-winning abstracts online at http://pathology2.jhmi.edu/department/Pyid2003.cfm

For Excellence in Basic Research
Onikepe Adetoun Adegbola, M.D.
Lodewijk Adriaan Anton Brosens
Sarat Kumar Dalai, Ph.D.
Mohamed Hassan Farah, Ph.D.
Tamara Flyx, B.S.
Mehmet Levent Guler, M.D.
Kapil Gupta
Isamu Z. Hartman, B.S.
Sunil Sushas Karhadkar, M.B.B.S.
Jung-Whan Kim, D.V.M.
Fiona Mary Laird, Ph.D.
Ken-Yu Lin, B.S.
Guojun Ma, M.D.
Alan Keith Meeker, Ph.D.
Craig Norman Morell, D.V.M.
Rajni Sharma, Ph.D.
Eduardo Daniel Zavala, M.D.

For Excellence in Clinical Research
Scott James Cameron, Ph.D.
Dengfeng Cao, M.D., Ph.D.
Esther Elisaas, M.D.
Xing Fan, M.D., Ph.D.
Anil Vasdev Parvani, M.D., Ph.D.

For Excellence in Translational Research
Donna Elizabeth Hansel, M.D., Ph.D.
Jens Koopmann, M.D.
Changjun Shi, M.D., Ph.D.