



JayScope

- **FEATURING:**
Pilot on Web Conferencing
- **SPOTLIGHT:**
Faculty & Research

Winter/Spring 2009
Department of Pathology & Laboratory Medicine



Letter from the Chair

I am happy to report a period of very positive growth and development in our department. Our faculty has increased and is stable; our residency program is strong. A new Surgical Pathology training fellowship joins our longstanding Cytopathology fellowship program, and we plan to add Hematopathology and Dermatopathology programs in the future. Our contributions to medical student education are highly visible and notable; the first KUMC class to sit for Step 1 of the boards after implementation of the newly integrated curriculum, led by

Pathology faculty Dr. Jim Fishback, has performed well. Our Anita Y. Dixon, MD Post Sophomore Fellowship program (endowment fund named in her honor in 2007) continues to attract the highest quality medical students. Our Pathology Student Interest Group is an active channel promoting increased interest and participation in our esteemed profession. In a few months we will launch PathOlogical Life Sciences Training Program for Students and Families, an NIH funded Science Education Partnership Award (SEPA) program that will bring disadvantaged and underrepresented minority high school students into the department and onto the campus to learn about pathology, translational research, clinical trials and the research process.

Our graduate training program has grown and our research efforts are more interdisciplinary. Our research Division of Cancer and Developmental Biology is vibrant, with an active and very popular Seminar Series that draws participants from across the campus and Kansas City metropolitan areas and speakers from across the country. We have more than doubled the number of research laboratories and are now listed among the top 25 public university pathology departments in research funding. We have thriving relationships and interactions with our Kansas City VA Medical Center and Stowers Institute for Medical Research faculty.

Our clinical volumes are growing, our productivity is high and we are financially stable. We have more than doubled our reserves and they remain intact even in this volatile financial environment. We are proud of our accomplishments and are hopeful that you will enjoy reading more about what is happening in our department in our *JayScope* newsletter.

Patricia A. Thomas, MD, MA, FCAP, FASCP
Professor and Chairman

Multidisciplinary Web Conferencing Pilot Project Offers Insight on Current Testing Protocols

Two years ago, the Institute of Medicine (IOM) issued a mandate: that the quality of patient care and safety must be improved. They set a five-year time limit and challenged the medical community to evidence improvement. Without improvement, government intervention would be implemented at both the state and federal levels to address the issue.

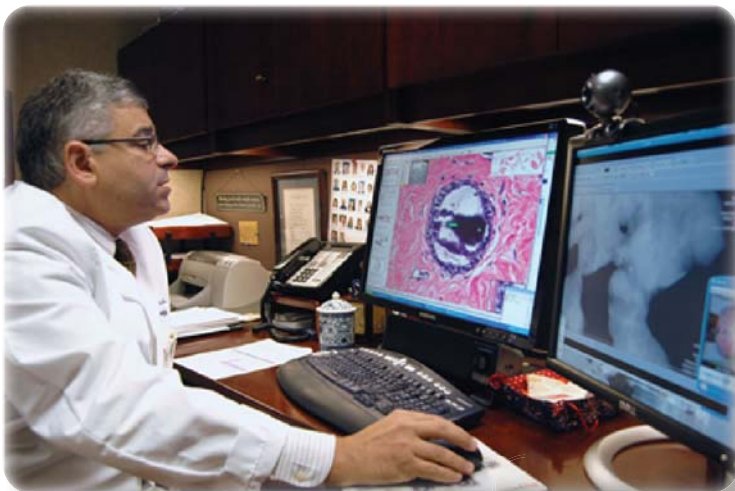
Ossama Tawfik, MD, PhD, professor and director of Anatomic and Surgical Pathology and vice-chair of Outreach and Education at KUMC's Department of Pathology & Laboratory Medicine took the IOM's mandate into consideration, delineating what he considers to be the two most significant obstacles to overcome in the medical workplace: one, that Medicine's physical practice is changing, and two, that traditional communication modalities no longer adequately service these changes.

The physical practice of medicine alone has affected and compounded these obstacles. The advent of localized medicine separates the entire patient "team,"

Web Pilot (continued on Page 2)

Table of Contents

Staff Update	Page 2
NIH/NCI Grants	Page 3
IGPBS Day	Page 4
New Faculty Awards	Page 4
Presentations	Page 5
Publications	Page 5
Events Calendar	Page 6



surgeons via the *Polycom PVX™* video conferencing system, which in combination with a web camera and linked computers allows video conference sharing of desktop items (refer to photo at left).

Initial results as presented at the October *Visions* conference are telling. Of 22 preliminary cases, 13 reached concordance (no change in diagnostic recommendations), and of the remainder, one-third required more extensive work-up. The current findings indicate some need for extending patient care protocol, and provide support towards meeting the IOM's mandate. Changes already implemented at KUMC include the institution of a weekly Pathology/Radiology Breast Conference that readdresses cases, a time and cost-effective measure that further enhances patient care.

Dr. Tawfik Webconferencing pilot project from his office.

Web Pilot (continued from Page 1)

including referring physicians, diagnosticians and surgeons. Effective face-to-face communication is sacrificed in the effort to meet increasing patient demand for neighborhood facilities, and printed reports circumvent valuable input from the diagnostics team. The end result is a potential breakdown in communication that could affect treatment options and patient outcomes.

Keeping all of these issues in mind, Dr. Tawfik developed a pilot research project in collaboration with the Aperio Corporation and KUMC Telemedicine to bridge the communications gap in the current system. The project involving 100 breast core biopsy cases is underway. Dr. Tawfik presented preliminary results in October 2008 at the *Pathology Visions Conference* in San Diego, CA. The project is designed to review and report the impact interactive multidisciplinary conferences have on patients' definitive testing and diagnoses. It overcomes the communication barrier by using currently available computer software, hardware and established web systems to teleconference the patient's physician "team".

Project protocol works as follows: Pathologists, radiologists and surgeons review the patient's diagnostic tests simultaneously via web teleconferencing. Dr. Tawfik projects high resolution digital slide files onto his desktop via the Aperio *ScanScope™* system. Imaging studies are uploaded to the radiation oncologist's desktop. These diagnosticians then communicate with each other as well as the

Dr. Tawfik considers this project a "vision for the future of how to take care of patients." The utilization of modern technology is anticipated to bridge the communication gap in the diagnosis of disease, complement day-to-day office activities, and ultimately provide a permanent, inexpensive digital chart file.

Dr. Tawfik considers this project a "vision for the future of how to take care of patients." The utilization of modern technology is anticipated to bridge the communication gap in the diagnosis of disease, complement day-to-day office activities and ultimately provide a permanent, inexpensive digital chart file. Current plans underway include the expansion of videoconferencing via e-learning ventures to universities in Dr. Tawfik's home country of Egypt. His long-term vision includes establishing a Telepathology Consulting Service through the Kansas Telemedicine Network, which Dr. Tawfik regards as "a duty for our state institution."

Staff Update:

Elwanda C. Richardson, MBA

Elwanda C. Richardson was appointed departmental assistant administrator in July, 2008. She has been with Pathology four years as the Director of Faculty Services, and has worked at KUMC over 22 years. She now oversees the management of the billing division which she considers the "clinical drive of our department." This new role compliments her responsibilities of managing faculty grants, appointments, and recredentialing, as well as human resources and payroll for the department's state and KUPI employees.



Richardson earned a Masters in Business Administration (MBA) this past spring from Avila University. For Elwanda, the path to her MBA was unique and important. She describes it as "one of the best experiences of my life." Elwanda expressed her thankfulness for the mentorship of Dr. Patricia A. Thomas, her faith and her undergraduate experience at Rockhurst University in achieving this important goal.



JayScope Spotlight Faculty & Research

Dr. Julia Zeitlinger Recipient of Prestigious NIH Director's New Innovator Award

Julia Zeitlinger, PhD, an assistant professor of our department since July, 2008 and assistant investigator at the Stowers Institute for Medical Research, is the recipient of the prestigious Director's New Innovator Award from the National Institutes of Health (NIH). This grant is presented to support early-career scientists whose programs address novel and innovative approaches that show promise of significantly impacting current problems in research. Dr. Zeitlinger was among 31 individuals to receive the grant this year. Per NIH Director Elias A. Zerhouni, MD, "these highly creative researchers [New Innovator Award winners] are tackling important scientific challenges with bold ideas and inventive technologies that promise to break through barriers and radically shift our understanding."

Dr. Zeitlinger's research will explore the function of chromatin in the regulation of gene networks controlling cell fates. Her investigation will contribute to the understanding of embryonic development and has implications on the etiology and treatment of a variety of diseases.

"I feel very lucky to be able to use expensive, cutting-edge technologies and to take a more risky genomic approach," says Zeitlinger. "Being in the Pathology department will hopefully help in applying such approaches to human disease models in the future."

Credits: Information: Stowers Institute for Medical Research, <http://www.stowers-institute.org/WhatsNew/pr2008/PR092208.asp>.
Photo: Don Ipock Photography.



New Research Faculty Bring K99/R00 Projects to Pathology Department

Two new Pathology research faculty, Fariba Behbod, PhD, PharmD (photo above, left) and Nikki Cheng, PhD (photo above, right) have been awarded K99-R00 grants through the National Cancer Institute (NCI). These National Institutes of Health (NIH) grants are referred to as the "Pathway to Independence Awards" (<http://www.cancer.gov/researchandfunding/training/K99/allpages/print>). The K99 grant is targeted towards postdoctoral researchers holding less than five years' experience since their doctoral degree. It "facilitates the receipt of an R01 award early in the investigator's research career, thereby encouraging a larger field of NIH-supported independent investigators" (ibid, paraphrased).

Dr. Behbod's research centers on building a model through which molecular pathways involved in human breast pre-invasive to invasive cancer development may be studied. There is currently a great need for such a model, which would provide researchers the ability to delineate unique stem cell pathways that make cancer invasive and ultimately provide better tailoring of individual patient treatment options. Dr. Behbod has been working on this model the

past two years, and brought it with her laboratory when she joined the department in July, 2008. Dr. Cheng's new grant also involves the study of carcinoma *in situ*. She is researching the response of fibroblast connective tissue to inflammatory chemokines, soluble factors that induce motility in cell types. Dr. Cheng's plan is to culture fibroblasts with cancer cells, per her words to "take advantage of the wound healing process and host response." The doctors have received an additional transition grant, where they may be able to combine their research results to promote new opportunities.

Dr. Cheng has as well received a pilot award from the KU Cancer Center (KUCC). She will study molecular and cellular mechanisms of breast tissue within a 3D co-culture model mimicking the breast cancer environment. This will permit her to isolate cell types, culture them *in vitro* and measure the impact on cell growth and invasion. The pilot was awarded at the 2008 Cancer Center Research Symposium, which was held Nov. 7-8, 2008 on the KUMC and Lawrence campuses. Dr. Cheng plans to begin work on this project in early 2009, and the pilot will run throughout the year.

Pathology Graduate Program Promoted at Annual Luncheon and Poster Session

The Department of Pathology hosted a Graduate Program interaction on Sept. 12 for the students in the Interdisciplinary Graduate Program in the Biomedical Sciences (IGPBS). This interaction included a lunch for the IGPBS students along with pathology research faculty and current pathology graduate students. After lunch, a short presentation of the graduate program was provided in Lied Auditorium by departmental faculty Drs. Patricia A. Thomas, Michael Soares and Jay Vivian. The afternoon wrapped up with a poster session, with pathology faculty and current trainees presenting posters describing some of the active ongoing research in the department.

Students are recruited to the department through the IGPBS and the MD/PhD program at the University of Kansas School of Medicine. The Pathology Graduate Program interaction is the first opportunity for the department to present our research and graduate training program in a unified entity to



Above: Part of the Pathology Graduate Program interaction included a research poster session in the Lied Atrium. Posters were presented by faculty, students, and postdocs of the department to the current IGPBS graduate students.

“We use this interaction with the hope that these students will perform research rotations and potentially join the department at the end of their first year of training” says Dr. Jay Vivian. “The Pathology Department offers a rigorous and exciting basic science training environment.”

the new graduate students. “We use this interaction with the hope that these students will perform research rotations and potentially join the department at the end of their first year of training” says Dr. Jay Vivian, director of the Pathology Graduate Studies program. Dr. Vivian adds, “we feel that the pathology department offers a rigorous and exciting basic science training environment.”

The Department of Pathology has experienced a significant period of growth in the past few years, from one student in 2004 to 10 students this year. With these recruiting tools, the department hopes to build on its recent growth and excellent student base.

Left: Drs. Toshihiro Konno and Mohammad Rumi discuss research efforts in the Soares lab with two IGPBS students.



New Faculty Appointments

The Department of Pathology & Laboratory Medicine is pleased to announce the following faculty appointments and their respective affiliation dates:

Clinical Faculty:

Rashna Madan, MD, Assistant Professor effective 7/27/07 and Director of the Post Sophomore Fellowship program
Marjorie Zucker, MD, Clinical Associate Professor effective 7/1/08

Joint Clinical/Basic Science Faculty:

Timothy Fields, MD, PhD, Associate Professor effective 7/1/08 and Director of the MD/PhD Basic Science program

Basic Science Faculty:

Fariba Behbod, PhD, PharmD, Assistant Professor effective 7/15/08
Marco Blanchette, PhD, Assistant Professor effective 7/1/08
Nikki Cheng, PhD, Assistant Professor effective 7/1/08
Toshihiro Konno, PhD, Assistant Professor effective 1/1/08
Cristophe Nicot, PhD, Associate Professor effective 6/15/08
Philippe Prochasson, PhD, Assistant Professor effective 4/15/08
Mohammad Rumi, PhD, Research Assistant Professor effective 7/1/08
Julia Zeitlinger, PhD, Assistant Professor effective July 2008

Congratulations and welcome to all!

In The News: Awards Presentations and Publications

AWARDS SPOTLIGHT

Departmental Chair Patricia A. Thomas, MD, MA, FCAP, FASCP, is the recipient of the following awards and honors:

- Spokesperson, College of American Pathologists
- Re-elected to Executive Council, Association of Pathology Chairs
- Member, US Department of Defense Health Board
- Steering Committee, AAMC Women in Medicine Group
- Senior Editor, American Society of Clinical Pathology Check Sample Cytopathology Section
- 2008 Greater Kansas City Black Achievers Award
- Recipient, Science Education Partnership Award (SEPA)
- Induction, Alpha Omega Alpha Medical Honor Society, University of Kansas Medical Center Chapter

Associate Professor Jim Fishback, MD has been named a member-at-large of the Association of Pathology Chairs' Undergraduate Medical Educators Section (UMEDS).

PRESENTATIONS

Fariba Behbod, PhD, PharmD. Abstract: "Microarray gene profiling of ductal carcinoma *in situ*", University of Kansas Cancer Symposium, Kansas City and Lawrence, KS, Nov. 7-8, 2008.

Nikki Cheng, PhD. Abstract and Poster: "Potential roles for CCL2 and CXCL1 inflammatory chemokine signaling in fibroblast: mammary carcinoma cell interactions", BIRCWH Scholars meeting, Rockville, MD, Nov. 18, 2008 and Interdisciplinary Women's Health Research Symposium, Lister Hill Center at NIH, Bethesda, MD, Nov. 19, 2008.

Ivan Damjanov, MD, PhD and Fang Fan, MD, PhD. "Grading of Tumors, Short Course", American Society of Pathology Annual Meeting, Baltimore, MD, October 2008.

Ivan Damjanov, MD, PhD. "Teratoma", NIH Course Methods in Human Embryonic Stem Cell Research, Jackson Laboratory, Bar Harbor, ME, October 2008.

Jim Fishback, MD. "Web 2.0 and Teaching", Pathology & Laboratory Medicine Grand Rounds, Kansas City, KS, Oct. 6, 2008.

Rebecca Horvat, PhD. Teleconference: "Quantitative Cultures: Do Numbers Count?", American Society for Microbiology, Kansas City, KS, Nov. 19, 2008.

Roy Jensen, MD. "Molecular and Cellular Biology of BRCA1", Pathology & Laboratory Medicine Grand Rounds, Kansas City, KS, Nov. 3, 2008.

Ossama Tawfik, MD, PhD. "Interactive Multidisciplinary Web Conferencing: the use of the Aperio and Polycom PVX Systems", Pathology Visions Conference, San Diego, CA, October 2008.

Lowell Tilzer, MD, PhD. Clinical Laboratory Science Chemistry lecture series, University of Kansas Medical Center, spring 2009.

Leanne Wiedemann, PhD. "Molecular and biological investigations of the *MLL* gene, a chromosomal translocation target in leukemia", Pathology & Laboratory Medicine Grand Rounds, Dec. 1, 2008, Kansas City, KS.

PUBLICATIONS

H. Clarke Anderson, MD: Matrix vesicles are carriers of bone morphogenetic proteins (BMPs), vascular endothelial growth factor (VEGF) and non-collagenous matrix proteins. *J. Bone and Mineral Metab* 2008 (in press).

Zhang M, **Fariba Behbod, PhD, PharmD**, Atkinson RL, Landis MD, Kittrell F, Edwards D, Medina D, Tsimelzon A, Hilsenbeck S, Green JE, Michalowska AM, Rosen JM: Identification of tumor-initiating cells in a p53-null mouse model of breast cancer. *Cancer Research*, Jun 15;68(12):4674-82, 2008.

Nikki Cheng, PhD, Chytil A, Shyr Y, Joly A, Moses HL: Enhanced secretion of HGF by Tgfbr2 deficient fibroblasts promotes mammary tumor cell motility and invasion mediated by Stat3 and p42/44MAPK pathways. *Molecular Cancer Research*, Oct;6(10):1521-33, 2008.

Debasree Dutta, PhD, Ray, S, Jay L. Vivian, PhD and Soumen Paul, PhD: Activation of the VEGFR1 chromatin domain: An angiogenic signal-ETS1/HIF-2alpha regulatory axis. *J. Biol Chem*, 283: 25404-25413, 2008.

Taylor IM and **Christophe Nicot, PhD**: HTLV-1 and apoptosis: role in cellular transformation and recent advances in therapeutic approaches. *Apoptosis*, Jun;13(6):733-47, 2008.

Rosario, GX, **Toshihiro Konno, PhD and Michael J. Soares, PhD**: Maternal hypoxia-activated endovascular trophoblast cell invasion. *Developmental Biology*, 314, 362- 375, 2008.

Tümpel, S, Cambronero F, Sims C, Krumlauf R, and **Leanne M. Wiedemann, PhD**: A regulatory module embedded in the coding region of *Hoxa2* controls expression in rhombomere 2. *Proceedings of the National Academy of Sciences of the United States of America*, 2008 (in press).

Department of Pathology & Laboratory Medicine Hosts Annual Regional Pathology Chairs Meeting

The Department of Pathology & Laboratory Medicine at KU Medical Center hosted the 2008 Western/Midwestern Association of Pathology Chairs and Pathology Department Administrators Section Regional Meeting Nov. 12-15, 2008, in Maui, Hawaii. The meeting, sponsored in partnership with the University of Missouri at Columbia, was held at the Ritz-Carlton Kapalua Resort. Main topics included the fiscal and financial aspects of the medical practice

of pathology. Dr. Patricia A. Thomas, professor and department chair, served as co-host of the event with Dr. Douglas Anthony of the University of Missouri. Allen Bishoff, departmental senior administrator, provided lecture on "Pay for Performance in Pathology" and Ruth Stricklen Pullins, Kansas University Physicians, Inc. chief human resources officer, spoke on positioning strategies through organizational change. The meeting, which included plenary, joint and breakout sessions, provided over

20 presentation topics for attending regional pathology chairs and administrators.

Extracurricular activities included a visit to an authentic Hawaiian lū'au (*The Feast at Lele*). Many thanks to Eva Baughman, Executive Assistant to Dr. Thomas and Elwanda Richardson, Director of Faculty Services & Assistant Administrator, for all their contributions to this event.

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Upcoming Events Department of Pathology & Laboratory Medicine

Grand Rounds: *Upcoming Grand Rounds activities to be held first Monday of the Month from noon - 1 p.m. in Lied Auditorium on the KUMC Campus*

Jan. 5, 2009: "Personalized Approach Using Gene Expression Profiling Microarray in the management of breast cancer", Yun Gong, MD, Department of Pathology, MD Anderson Cancer Center, Houston, Texas

Feb. 2, 2009: "Canadian national quality assurance program for diagnostic immuno-histochemistry", Emina Torlakovic, MD, PhD, Department of Pathology & Laboratory Medicine, University of Saskatchewan, Canada

March 2, 2009: "The Future of Forensic Pathology", Marcella Fierro, MD, Chief Medical Examiner for the Commonwealth of Virginia and Professor and Chair of the Department of Legal Medicine at Virginia Commonwealth University, Richmond, VA.

Masahiro Chiga Memorial Lectureship:

Thursday, Feb. 19, 2009, 6:45 p.m., American Restaurant, Kansas City, Missouri (please call 913-588-7070 for more information). Stephen F. Badylak, DVM, PhD, MD, University of Pittsburgh Medical Center, Pittsburgh, PA. **Title: "Regenerative Medicine"**.

Call for Information:

Are you an alumnus of the Department of Pathology & Laboratory Medicine? We would appreciate updates on your life and career. Please send information of interest to: JayScope@kumc.edu or call 913.588.7070.

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