

The Department of Pathology and Laboratory Medicine Message from the Chair

Pathology Faculty Picture

Front row from left to right: Dr. Lowell Tilzer, Dr. Rukiyah Van Dross, Dr. Pratima Singh, Dr. Patricia Thomas—Chair, Dr. Fang Fan, Dr. Asraa Namiq, Dr. Ossama Tawfik, and Dr. Douglas McGregor.

Back row left to right: Dr. Kathy Newell, Dr. Howard Hsu, Dr. John Kepes, Dr. Jay Vivian, Dr. F.E. Cuppage, Dr. Jim Fishback, Dr. Diane Persons, Dr. Larry Czarnecki, Dr. Rebecca Horvat, Dr. David Pinson, Dr. H. Clarke Anderson, and Dr. Michael Soares.

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As we look forward to the year ahead and see the School of Medicine centennial celebration on the horizon, the Department of Pathology and Laboratory Medicine can look back with pride not only on the year 2004, but also on our more than 90 years of history.

As we look to one of our own, Dr. Barbara F. Atkinson, take on the added responsibilities of Executive Vice Chancellor, in addition to those of Executive Dean and Vice Chancellor, we can look back to previous pathologist leaders at the University of Kansas Medical Center who helped shape and secure where we are today, i.e. **Dr. Harry Roswell Wahl**, Chair and Professor of Pathology (1914-1949), who also served as Dean of the School (1924-1948).

In the last 18 months, the Department of Pathology and Laboratory Medicine has experienced incredible positive changes growing from 13 to 22 full-time regular faculty members, more than doubling our research capacity and funding, experiencing a steady increase in clinical services and collaboration, turning in a consistently positive "bottom line", enhancing administrative support, renovating the common space in the pathology administrative office and capacity, and increasing our local and national recognition.

Department Highlights:

Administrative Support Services
In this edition, we would like to highlight Department Administration. In the past 18 months, we have seen the administrative common area become one of which we can be proud. We have nearly doubled our administrative staff, adding a Director of Grants Administration and Faculty Support services, Ms. Elwanda Richardson; enhancing the educational

support services position, by creating an Assistant Director of Educational Services, Ms. Karen Rayford; and separate from the Residency Program Coordinator duties, Charla Tunget provides support to the Chair. Bob Gum has taken on the main duties as department administrative assistant and is responsible for ordering, calendar maintenance and reception in the main

in developing the Molecular Pathology core laboratory and improving clinical space; we are set to see positive progress on both in the very immediate future. In fact, things are already happening, i.e. signed contracts, plans for construction, arrival and training on new state of the art equipment including the Ariol ScanScope and the Veridex Circulating Tumor Cell detection system.



Department Administration Mission

The mission of the administrative support team of the Department of Pathology at the University of Kansas is to support the department in providing excellent **teaching, research, patient care and community service** and to **meet the health needs of Kansas and the community at large**. Our

office.

With a nod to the coming centennial of the School of Medicine and in recognition of the tremendous contributions of our own KU pathologists, our ninety-plus years of existence and the contributions of other pathologists to the field, Tone Medoza, who is the Multicultural Information Resource Center librarian, will soon embark on the transformation of the Svoboda Library to make it a local and regional resource of information about the history of Pathology as well as the major contributions and historical works in our field.

Our administrator, Jerry Karasek and the three individuals in the department billing office have worked "record" billing months over the last year, lots of paper, lots of calls, lots of work.

We are in the process of hiring technical support for the Molecular Pathology laboratory to assist faculty and residents in research and other scholarly productivity and we are in the process of improving resident office space near the administrative area. We have worked diligently with the hospital

aim is to provide the **structure and assistance** that ensures a supportive work environment so that each individual can excel and pursue avenues that lead to national and international recognition. We will accomplish this by developing mechanisms that make optimal use of our human and financial resources in a professional and collaborative manner.

Our Values

- Excellence
- Reliability
- Honesty
- Integrity

Long-term goals for the department:

- Stability
- Growth
- National/international reputation and recognition for excellence in diagnostics, scientific discovery and education.



**Patricia A. Thomas, MD,
MA, FCAP**
Professor and Chair

Department of
Pathology and
Laboratory Medicine

**Association of
American Medical
Colleges
Longitudinal
Statistical Summary
Report**

1998-1999—82.4

1999-2000—83.5

2000-2001—84.9

2001-2002—81.4

2002-2003—83.7

2003-2004—83.6

***Numbers correspond
to adjacent New
Curriculum article.**



Dr. Barbara Atkinson (far right) reviews slides with pathology residents in the surgical pathology lab. From left, Soheila Hamidpour, MD; Lisa McLaughlin, MD, JD; Barbara Shideler, MD; and Asraa Namiq, MD.

Michael J. Soares, PhD., Professor of Pathology and Laboratory Medicine received the Dolph Simons Award in biomedical sciences in October 2004

Shilpa J. Buch, PhD, Assistant Professor, received notice of grant award in December 2004 as Principal Investigator on an R21 two year NIH grant for **Development of Neuronal gene therapy for HIV-dementia**

Patricia A. Thomas, MD, Professor and Chair of Pathology and Associate Dean, Office of Cultural Enhancement and Diversity has been accepted to the Harvard University Program Chiefs of Clinical Services and will be attending in January 2005.

Patricia A. Thomas, MD, Fang Fan, MD, PhD, Asraa Namiq, MD, Barbara Shideler, MD and Joan Cangiarella, MD (NYU) have signed a contract to author a book

with Humana Press, Inc., entitled **Breast Cancer and It's Precursor Lesions: Making sense and making it early**, due for print in the Fall of 2006.

Hold These Dates:

- **First Monday of the month at noon**—Grand Rounds (unless otherwise announced).
- **Third Thursday of the month at 4:00 p.m.**—Faculty Meeting.
- **January 5, 2005**—Systemic Pathology Course starts.
- **January 20, 27, 2005—8:30 am**—Research Seminar Series in Cancer and Developmental Biology—Dr. Glen Andrews, and Dr. Leslie Heckert.
- **February 3, 10, and 17, 2005- 8:30 am**—Research Seminar Series—Dr. Linheng Li; Dr. Lewis Chodosh, and Dr. Daniel Wagner.
- **February 5-6, 2005**—

Interview Dermatopathology Candidate—Dr. Wanli Cheng.

- **March 3, and 31, 2005—8:30 am**—Research Seminar Series—Dr. Kun-Liang Guan, and Dr. Kristi Neufeld.
- **April 14, 21, and 28, 2005—8:30 am**—Research Seminar Series—Dr. Colin Stewart, and Dr. Raj Kumar, and Dr. Trevor Williams
- **April 21-23, 2005**—The School of Medicine's Centennial.
- **April 23, 2005**—A Rhapsody in Crimson & Blue, a Centennial Gala for the School of Medicine, 6:00 p.m. @ the Kansas City Hyatt Regency Crown Center Hotel. Proceeds to benefit the Dean's Centennial Scholarship Fund.
- **May 12, 2005—8:30 am**—Research Seminar Series—Dr. Paul Trainor.
- **October 24-26, 2005**—LCME accreditation site visit..

Medical Center Focuses on New Curriculum....

The University of Kansas School of Medicine's current curriculum, revised in 1997, presents normal human structure and function during year one, and the alterations caused by disease in year two. Clinical experiences in all four years of the curriculum reinforce the biomedical sciences and provide the necessary principles of patient assessment, preventive and behavioral medicine, public health, and medical ethics. Clinical training is also conducted in community and ambulatory settings, including sites in rural Kansas communities.

Students have been performing at about the 50th percentile on both Step 1 and Step 2 of the United States Medical License Exam (USMLE). Given our class size and student demographics, we believe this is about where we should be, overall, but would like to move higher. Since clinical skills will now be assessed by the USMLE, in addition to cognitive skills, we have also tried to improve students' psychomotor and patient interview skills with our new Neis Clinical Skills lab, and have been measuring them thru our Clinical Skills Assessment (CSA), which is a comprehensive evaluation of clinical skills that all students must take at the completion of their third year clerkships in order to graduate. The CSA consists of 12 undifferentiated (i.e., not clerkship specific) standardized

patient encounters in which students must use their skills to interview, examine and manage the patients. The same exam is administered on both the Wichita and Kansas City campuses. The CSA is managed by a team of physicians from both campuses, and is held to rigorous standards of inter-rater reliability and performance validity. Students are evaluated in the areas of history taking, interpersonal communication and physical exam skills. Students who perform in the bottom 10% of the exam are further evaluated by video-taped review of their performances. All of these students are given written feedback on ways to improve their clinical skills. Those found to have major deficits are asked to work with an identified clinician on these skill areas.

Overall, the current curriculum has been well-received by medical students, with satisfaction quite high in the AAMC exit survey. Shown left in the Statistical Summary Report shows how our student body has responded to the question: "Overall, I am satisfied with the quality of my medical education." (*Source: AAMC Longitudinal Statistical Summary Report - far left.)

While the current curriculum is intended as an integrated, collabo-

orative curriculum presented by faculty from both basic and clinical sciences, many faculty and students feel it is not all it could be, despite the above AAMC exit data that suggests most of the students feel the curriculum offers a good undergraduate medical education. The curriculum sticks to the classic structure of the Flexner report, and although some innovative new modules have been added over the years, many students complain that the relevance to clinical sciences is not made clear in the pre-clinical basic science courses. Over the last two years, curriculum revision has been sought, with the intention of: 1) reducing lecture hours; 2) integrating abnormal processes into the year one curriculum; 3) integrating all aspects of the basic sciences into each unit of study; and 4) improving students' analytical, critical-thinking skills. This resulted in an all-faculty retreat in June 2004, in which an integrated curriculum plan (Plan A) was announced. Unfortunately, this plan was not felt to be viable by many on the Education Council, and an *ad hoc* committee, headed by Dr. Jim Fishback, was then formed in August 2004, which began work on a compromise plan. This compromise, Plan A++, is now ready for debate and voting in the Education Council, and ultimately the faculty at large. We anticipate passage of the measure by April 1, 2005, with implementation of the year one plan in July, 2006.

Pathology Faculty Publications ...

Sui Y, Potula R, Dhillon N, **Pinson D**, Li S, Nath A, Anderson C, Turchan J, Kolson D, Narayan O, and **Buch S**. Neuronal apoptosis is mediated by CXCL10 overexpression in simian human immunodeficiency virus encephalitis. *Am J Pathol* 164 (5):1557-66, 2004.

Buch S, Sui Y, Potula R, **Pinson D**, Adany I, Li Z, Huang M, Li S, Dhillon N, Major E, and Narayan O. Role of interleukin 4 and monocyte chemoattractant protein 1 in neuropathogenesis of X4 simian human immunodeficiency virus infection in macaques. *J Neurovirol* 10:118-124, 2004.

Hout DR, Gomez ML, Pacyniak E, Mulcahy ER, Gomez LM, Jackson M, Flick M, Fegley B, McCormick C, Wisdom B, Culley N, **Pinson DM**, Powers M, Wong SW, and Stephens EB. Fusion of upstream vpu sequences to the env of simian human immunodeficiency virus (SHIV KUIbMc33) results in synthesis of two envelope precursor proteins, increased number of virus particles associated with the cell surface and is pathogenic for pig-tailed macaques. *Virology* 323:91-107, 2004.

White RA, McNulty SG, Roman S, Garg U, Wirtz E, Kohlbrecher D, Nusumu NN, **Pinson DM**, Gaedigk R, Blackmore K, Copple A, Rasul S, Watanabe M, and Shimizu K. Chromosomal localization, hematologic characterization, and iron metabolism of the hereditary erythroblastic anemia (hea) mutant mouse. *Blood* 104(5):1511-1518, 2004.

Potula R, Dhillon N, Sui Y, Zien CA, Funa K, **Pinson D**, Mayo MS, Singh DK, Narayan O, and **Buch S**. Association of platelet derived growth factor chain with simian-human immunodeficiency virus encephalitis. *Am J Pathol* 165 (3):815-824, 2004.

Zhang M, Norberg M, **Buch S**, and Truog W. Responses of pulmonary platelet-derived growth factor peptides and receptors to hyperoxia and nitric oxide. (*Pediatric Research-In Press*, 2004).

Buch S, Yongjun S, Dhillon N, Potula R, Zien C, **Pinson D**, Li S, Dhillon S, Bicolay B, Sidelnik A, Li C, Villinger R, Bisarriya K, and Narayan O. The enhancing effects of selected host response factors in the pathogenesis of X4 SHIV encephalitis. (*J. Neuroimmunology-In Press*, 2004).

Soares, MJ. (2004) The prolactin and growth hormone families: pregnancy-specific hormones/cytokines at the maternal-fetal interface. *Reproductive Biology and Endocrinology*, 2, 51 (<http://www.rbej.com/content/2/1/51>).

Ain R, Trinch ML, and **Soares MJ**. (2004) Interleukin-11 signaling is required for the differentiation of natural killer cells at the maternal-fetal interface. *Developmental Dynamics* 231:700-708.

Thadani PV, Strauss JF, Dey SK, Anderson VM, Audus KL, Coats KS, Cross JC, Erlebacher A, Ganapathy V, Linzer DI, Miller RK, Novak DA, Rapaka RS, Sadovsky Y, Salafia CM, **Soares MJ**, and Unadkat J. (2004) NIDA conference report on placental proteins, drug transport, and fetal development. *American Journal of Obstetrics and Gynecology* 191:1858-1862.

Asano N, Kondoh M, Ebiara C, Fujii M, **Soares MJ**, Nakashima E, Sato M, and Watanabe Y. (2004) Expression profiles of zinc transporters in rodent placental models. *Toxicology Letters* 154:45-53.

Ain R, Dai G, Dunmore JH, Godwin AR, and **Soares, MJ**. (2004) A prolactin family paralog regulates reproductive adaptations to a physiological stressor. *Proceedings of the National Academy of Sciences, USA* 101:16543-16548.

Rider V, Potapova T, Dai G, and **Soares MJ**. (2004) Stimulation of a rat uterine stromal cell line in culture reveals a molecular switch for endocrine-dependent differentiation. *Journal of Endocrinology* 184:119-127.

Imkie M, Davis MK, **Persons, DL**, and Cunningham, MT. Biphasic acute myeloid leukemia with near-tetraploidy and immunophenotypic transformation. *Archives of Pathology and Laboratory Medicine*, 128:448-451, 2004.

Hsu, HHT, **Tawfik, O**. Sun, F. Mechanisms of dystrophic calcification in rabbit aortas: Temporal and spatial distributions of calcifying vesicles and calcification-related structural proteins. *Cardiovascular Path* 2004, 13: 3-10.

Schloerb PR, Wood JG, Casillan AJ, Tawfik O, and Udobi K. Bowel necrosis due to water in jejunal feeding. Jan-Feb issue of *J Parenteral & Enteral Nutrition* 2004.

Weed J, Adam Graff*, Shoup B, **Tawfik OW**. Small cell undifferentiated (neuroendocrine) carcinoma of the cervix. A clinical study of 15 patients and review of the literature. *Am J Surg* (accepted).

Forster J, **Damjanov I**, LinZ, Sarosiek I, Wetzel P, McCallum RW. Absence of the interstitial cells of Cajal in patients with gastroparesis and correlation with clinical finds. *J Gastrointest Surg*. 2005;9:102-108.

Rakocevic G, Barohn RJ, McVey AL, **Damjanov I**, Morte PD, Vernino S, Lennon V. Myasthenia gravis, thymoma, and intestinal pseudo-obstruction. *J Clin Neuromusc Dis* 2003;5:93-95.



Pathology Grand Rounds Seminar

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The Department of Pathology and Laboratory Medicine Grand Rounds Seminars continues to highlight the diverse interest and expertise in basic science. During the month of August, Dr. Douglas C. Miller, Professor, Neuropathology and Neurosurgery presented a seminar entitled "Pathologist as an Expert Witness." In November, Dr. Roth Barth, Professor in the Department of Pathology at The Ohio State University College of Medicine and Public Health gave a seminar on "New Treatment Approaches for High Grade Brain Tumors with a Focus on Boron

Neutron Capture Therapy." In December, Dr. William Horton, Director of Research at the Shriners Hospital Research Center in Portland, Oregon presented about "The Genetics and Pathogenesis of Human Achondroplasia." Dr. Ossama Tawfik, Professor and Director of Anatomic Pathology at the KUMC will present on January 10, 2005, and Dr. Corrie Brown, Professor and Coordinator of International Activities at the University of Georgia College of Veterinary Medicine will present on February, 7, 2005. Dr. Roy Jensen, Professor and Director, Kansas

Masonic Cancer Research Institute will present on March 7, 2005, and Dr. Debra Leonard, Assistant Professor, Pathology and Laboratory Medicine at Cornell University will present on April 4, 2005. All presentations will be held in Wahl Hall West Auditorium except for January 10, 2005 presentation, which will be held in Wahl Hall East Auditorium.

RESEARCH: Division of Cancer and Developmental Biology Laboratory Focus: Soares Lab

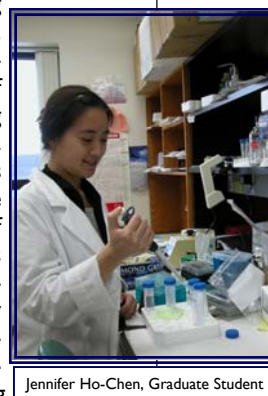
The Division of Cancer & Developmental Biology is a research division within the Department of Pathology & Laboratory Medicine. Scientific investigation within the Division focuses on cell signaling mechanisms controlling cell proliferation, differentiation, and death, which are fundamental to understanding embryogenesis and cancer. The Division is led by Michael J. Soares. Professor Soares is internationally recognized for his novel and innovative scientific achievements in the field of reproductive endocrinology. His laboratory is actively investigating mechanisms that control adaptive responses ensuring successful pregnancy. These efforts include research on: 1) trophoblast cell differentiation and uteroplacental morphogenesis; 2) biology of the uteroplacental prolactin cytokine family; 3)



Brent Canham, Research Assistant

trophoblast cell invasion/preeclampsia; 4) maternal adaptations to pregnancy. His laboratory has identified molecular mechanisms (including ligands,

receptors, intracellular regulatory molecules, and transcription factors) regulating the endocrine, invasive, and transport properties of differentiating trophoblast cells. These findings have facilitated the identification of sensitive junctures in regulatory pathways potentially underlying developmental disorders, including



Jennifer Ho-Chen, Graduate Student

those associated with the initiation of pregnancy, preeclampsia, fetal growth restriction, and gestational trophoblast disease. Professor Soares' laboratory has discovered several members of a cytokine/hormone family produced by the uterus and placenta. The proteins, their post-translational modifications, their cDNAs and genes, their patterns of expression, and their functions have been extensively investigated by Professor Soares' laboratory. Evidence is accumulating that

these cytokines/hormones participate in pregnancy-specific adaptations to physiological stressors. A recent report describing these findings was published in the November 23, 2004 issue of the *Proceedings of the National Academy of Sciences, USA*. Professor Soares' laboratory is funded by the National Institutes of Health and the Hall Family Foundation.

Soares Laboratory

Michael Soares, Ph.D., Professor
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Stacy McClure, Administrative Assistant
Bithika Ray, Animal Technician
Namita Sahgal, MD, Assistant Professor

