

## Annual Anatomic Pathology/Cytology Course Announced May 7-9, 2009 see Page 2

### Faculty Focus: Frank A. Mitros, M.D.

*“Even before I started high school, it seemed to me a wondrous thing to look through a microscope at the world invisible to the naked eye, to see what was going on in one unseen world.”*

Dr. Mitros completed his medical school training at the New Jersey College of Medicine, Jersey City, NJ. He joined the University of Iowa Pathology Department faculty in July 1976 following a residency in Anatomic Pathology at the University of Chicago.

Dr. Mitros specializes in gastrointestinal and liver pathology including gastrointestinal motility disorders, neuroendocrine aspects of the stomach, Barrett’s esophagus, celiac disease, hepatitis C, and hemochromatosis. His current faculty position is the Frederic W Stamler Professor of Anatomic Pathology, Department of Pathology. In the last thirty-two years, Dr. Mitros has trained and inspired many students, residents, and fellows to further their training in gastrointestinal and liver pathology. Leana Guerin MD, R3 AC/CP, is pictured above training under the guidance of Dr. Mitros.



Dr. Mitros’ areas of research interest include clinicopathologic correlations in liver and gastroenterological disease, with particular emphasis on esophagitis, inflammatory bowel disease, gastrointestinal motility, Ito (stellate) cells, celiac disease, and hemochromatosis. He also has interest in the areas of the genetics of juvenile polyposis and neuroendocrine gastrointestinal tumors. His current projects include the evaluation of neuroendocrine tumors (carcinoids), NSAID damage to the ileum, and risk factors for lymphocytic colitis.

Dr. Mitros is actively involved in multiple professional organizations and faculty committees. In addition to his in-house cases and responsibilities, Dr. Mitros reviews pathological materials sent in consultation by outside pathologists (500-600 cases a year).

Outside of work his interests are in literature and family.

**Click here** to see a list of Dr. Mitros’ publications.

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#### VISION STATEMENT

To be an international leader in academic pathology and laboratory medicine

#### MISSION STATEMENT

The Department of Pathology is committed to serving:

- Patients, by providing innovative care, excellent service, and exceptional outcomes, with pathology and laboratory medicine of the highest quality
- Current and future generations of health care providers and biomedical scientists, by providing opportunities to learn using innovative educational methods in a supportive environment
- Society, by using scientific discovery to develop a better understanding of human disease
- Our employees, by providing an environment and culture that supports continuous professional growth, respect for diversity, and acknowledges that their contributions are the foundation for our success

*Sign Up Now!*

**3<sup>rd</sup> Annual Iowa Anatomic Pathology/Cytology  
Combined Course**

**May 7-9, 2009**

**Hotel Vetro and Conference Center  
201 South Linn Street  
Iowa City, IA**

**Speakers will include:**

**Bruce Wenig (Head and Neck Pathology)  
Zsolt Argenyi (Dermatopathology)  
and Kim Geisinger (Cytopathology)**

To register now, **click here**  
or please contact:

**Kelly Flinn**  
Center for Conferences  
(319) 335-4105



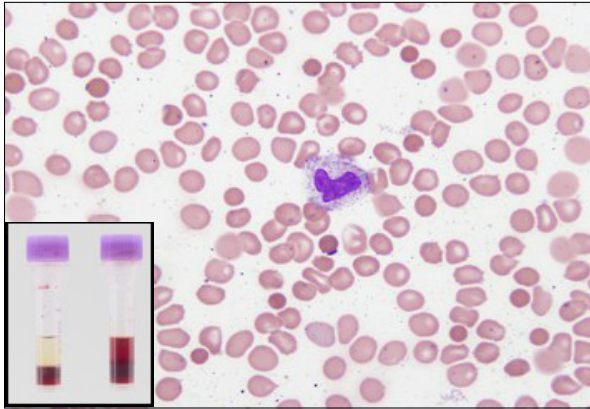
# Pathology Trainee Spotlight: What is Your Diagnosis?

Michelle J. Bleile, M.D., Hematopathology Fellow 2008-2009

Surgical Pathology Fellowship (Iowa) 2009-2010

Pathology AP/CP Resident (Iowa), 2004-2008

Medical School, University of Colorado 2000-2004



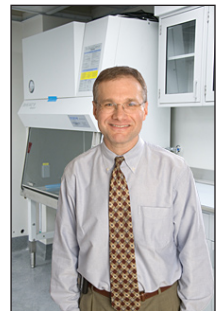
## Patient Case

A term male infant weighing 5 pounds 13 ounces was born by normal spontaneous vaginal delivery to a 22 year old G1P0 woman after an uneventful pregnancy. He was noted to have multiple cardiac anomalies. On day of life 3, he had an apneic episode with respiratory arrest requiring resuscitation and intubation. He was also noted to have marked jaundice and fever with abdominal distension. Blood cultures and CBC with differential and peripheral blood smear were ordered. The peripheral blood smear is shown. INSET: The patient's plasma (EDTA tube) is shown on the right (with a normal comparison on the left). **Diagnosis found on page 6.**

## New Decedent Care Center Opening

Marcus Nashelsky, M.D.

Marcus Nashelsky, M.D., (right) Clinical Associate Professor of Pathology, and Director of Autopsy Services, has been instrumental in attaining administrative support and funding, project planning, facility design, and ultimately the opening the new Decedent Care Center at UIHC. The new state-of-the-art autopsy facility is replacing the 74-year-old facility that was in need of extensive upgrades.



Renovation of an already existing space and architect selection began in 2006. Work on the new facility began in the summer of 2007 with the official opening of the new Decedent Care Center in mid-December 2008.

The new facility has segregated administrative and autopsy areas, and also a large isolation autopsy room and another autopsy room with two adjacent tables, the latter being a better arrangement for an attending pathologist to supervise concurrent resident-performed autopsies. A separate space is dedicated solely to family viewing. In addition, the new facility features a fully independent air-handling system and a secure area for body pickup and delivery.

# Study May Explain Exercise-induced Fatigue in Muscular Dystrophy

Steven A. Moore, M.D., Ph.D., Co-author



A UI study suggests that the prolonged fatigue after mild exercise that occurs in people with many forms of muscular dystrophy is distinct from the inherent muscle weakness caused by the disease.

The research, published in the 27 November 2008 issue of **Nature**, identifies a faulty signaling pathway that appears to cause exercise-induced fatigue in mouse models of muscular dystrophy. Moreover, the study shows that Viagra can overcome the signaling defect and relieve the fatigue. The findings suggest that targeting the signaling pathway may lead to therapies for this type of fatigue.

“This is an exciting finding and our research suggests that there probably are many different neuromuscular conditions where fatigue could be treated by targeting this newly discovered pathway,” said Dr. Kevin Campbell, UI professor and head of molecular physiology and biophysics and a Howard Hughes Medical Institute investigator, who holds the Roy J. Carver Chair of Physiology and Biophysics.

Working with mouse models of muscular dystrophy and normal mice engineered to lack nNOS, the UI team, including lead study author Yvonne Kobayashi, Ph.D., UI research associate in molecular physiology and biophysics, showed that mice with misplaced or missing nNOS exhibited prolonged fatigue after mild exercise.

To determine if nNOS was affected in humans with muscular dystrophy, Steven Moore, M.D., Ph.D., UI professor of pathology and study co-author, examined muscle biopsies from 425 patients with many different forms of muscle disease, predominantly muscular dystrophies. He found that nNOS was missing or reduced in most cases, suggesting a common mechanism of fatigue.

In addition to Campbell, Kobayashi and Moore, the research team included Erik Rader, Ph.D., UI postdoctoral research scholar; Robert Crawford; Nikhil Iyengar, M.D., UI associate in cardiology; Daniel Thedens, Ph.D., UI assistant professor of radiology; Swapnesh, Parikh, M.D., UI fellow in cardiology; and Robert Weiss, M.D., professor of internal medicine. John Faulkner at University of Michigan and Jeffrey Chamberlain at University of Washington School of Medicine also were part of the team.

## 2008 Guide to America’s Top Pathologists

Congratulations to...



Michael Cohen, M.D.  
Professor and Head, Department of Pathology  
Richard G. Lynch Chair of Experimental Pathology



Barry DeYoung M.D.  
Professor, Department of Pathology  
Director of Surgical Pathology



Frank Mitros, M.D.  
Frederic W. Stamler Professor of Anatomic Pathology  
Co-Director of Anatomic Pathology

...who have recently been included in the 2008 Edition of the “Guide to America’s Top Pathologists”.

## UI Diagnostic Laboratories

# UIDL Corner

### *What is the UIDL?*

The UIDL specializes in providing a full range of anatomic, cytologic and esoteric clinical testing services to hospitals, laboratories, and physician practices throughout the region and nation.

### *Why choose the UIDL?*

Our vision is to be your reference laboratory of choice for the highest quality anatomic, cytologic, and esoteric clinical testing. Our Medical Director, Dr. Robert Robinson, and over 30 expert Clinical Consultants are readily available for you to discuss test selection, consultation, and interpretation of results.

### *How can we help?*

If you have any questions, please call us toll-free at 1-866-UIHC LAB (1-866-844-2522) or e-mail **Lisa Rathjen**, UIDL Client Liaison. The UIDL Client Services staff members are happy to assist you at any time. For your convenience, we also have an on-line Test Directory available at: [http://www.healthcare.uiowa.edu/path\\_handbook/rindex.html](http://www.healthcare.uiowa.edu/path_handbook/rindex.html)

## **New Tests Available**

### **FLT3 & NPM1 Mutation Detection Assay**

The UIHC Molecular Pathology Laboratory now offers FLT3 and NPM1 Mutation Detection Assay for three mutations common in acute myeloid leukemia (AML): FLT3 internal tandem duplications (FLT3-ITD), FLT3 point mutations in the tyrosine kinase domain altering Asp835 (FLT3-D835) and, 4bp insertions/duplications in exon 12 in the nucleophosmin gene (NPM1).

The presence or absence of one or more of these mutations confers important prognostic information for newly diagnosed AML. This test is a qualitative, allele-specific multiplex PCR assay followed by PCR fragment analysis; both wild-type (unaffected) and mutant alleles are detected in genomic DNA samples prepared from whole blood, purified leukocytes, or bone marrow. For complete test information go directly to the following web link:

[http://www.healthcare.uiowa.edu/path\\_handbook/rhandbook/test2764.html](http://www.healthcare.uiowa.edu/path_handbook/rhandbook/test2764.html)

### **Epidermal Growth Factor Receptor (EGFR) Sequencing, Exons 18-21**

The UIHC Molecular Pathology Laboratory has added a new gene sequencing test to diagnose somatic EGFR mutation in exons 18-21. These mutations have been shown to be associated with better tumor response, time to progression and overall survival in patients with advanced non-small cell lung cancer who are treated with Gefitinib (Iressa).

For complete test information go directly to the following web link:

[http://www.healthcare.uiowa.edu/path\\_handbook/rhandbook/test2711.html](http://www.healthcare.uiowa.edu/path_handbook/rhandbook/test2711.html)

## Outstanding Educator Award

### **Frank A. Mitros, M.D.**

Congratulations to faculty member Frank Mitros, MD, Surgical Pathology, for receiving this year's Outstanding Educator Award and representing the Department of Pathology.

Each year, every department at the University of Iowa College of Medicine, nominates a faculty member of their own and those members are honored at the Annual Medical Education Celebration Day. This day really is about the contributions of our educators at the Carver College of Medicine.



Dean Rothman & Frank Mitros, M.D.

# Case Report Chosen as “Case of the Quarter–November 2008” by the Society of Hematopathology

Vishala Neppalli, M.D.



Congratulations to Dr. Vishala Neppalli, M.D., Assistant Professor, Department of Pathology, and co-contributors Dr. Nasr and Dr. Link who recently had their case report “Composite Lymphoma, Presenting As B-Cell Follicular Lymphoma and Classical Hodgkin Lymphoma, in a Patient with a History of Methotrexate Therapy” chosen as the **Case of the Quarter – November 2008** by the Society of Hematopathology.

The Case of the Quarter is a quarterly online case report supported by the Society for Hematopathology, demonstrating unusual and/or interesting cases of hemolymphoid disorders. To view the “Case of the Quarter” web page go to <http://socforheme.org/caseqtr.htm> and select November 2008.

# New Cystic Fibrosis Model Developed by UI Researchers

David Meyerholz, D.V.M, Ph.D., Co-Lead Author



In a first, researchers at the University of Iowa and the University of Missouri (MU) have developed a pig model for cystic fibrosis (CF) that appears to closely mimic disease in human infants. The striking similarities between disease manifestations in the CF piglets and human newborns with CF suggest that this new the model will help improve understanding of the disease and may also speed discovery of new treatments. The study is published in the Sept. 26 issue of **Science**.

# What is Your Diagnosis? *(continued from page 3)*

## Diagnosis: Clostridia sepsis

- 3+ spherocytes and toxic granulation of neutrophils suggestive of Clostridia sepsis.
- The hallmark of Clostridial sepsis is rapidly progressive intravascular hemolysis (note evidence of hemolysis in this patient’s plasma) and the presence of microspherocytes in the peripheral blood.
- Mechanism of red cell damage is uncertain. The bacteria produce several hemolytic toxins including  $\alpha$  toxin (a lecithinase that attacks erythrocyte membrane lipids) and  $\theta$  toxin (a cholesterol binding protein that forms membrane pores leading to colloid osmotic hemolysis. Blood cultures in this case came back positive for Clostridia species.
- Clostridial septicemia (Clostridium welchii and C. perfringens) is most often associated with penetrating wounds, septic abortions, visceral perforation with resulting peritonitis, cholecystitis/cholangitis, endocarditis, immunosuppression associated with gastrointestinal or hematologic malignancies and necrotizing enterocolitis in neonates.
- Transfusion therapy may be ineffective. However, antibiotics and hyperbaric oxygen have been occasionally successful in treating clostridial infections.
- Clinical suspicion should be high when fever, jaundice and intravascular hemolysis occur together.
- Quick thinking by the pathologist reviewing the peripheral smear with these findings and evidence of hemolysis by plasma visualization may help to save a patient’s life.
- Blood cultures in this case came back positive for Clostridia species.
- The baby was immediately treated with antibiotics and survived.

# Waldschmidt Named to the Hanson Family Chair in Immunology

Thomas J. Waldschmidt, Ph.D.

Dr. Waldschmidt, Professor, Vice Chair for Research Affairs and Director of the Department of Pathology Graduate Program was recently named to the Clement T. and Sylvia H. Hanson Chair in Immunology. Dr. Waldschmidt is internationally known for his research on B lymphocytes – white blood cells that come from bone marrow and are essential components of the adoptive immune system. In addition to investigating the fundamental biology of these cells, Waldschmidt also studies the reconstitution and function of B cells after bone marrow transplantation, and the basis of B cell loss and dysfunction in long-term alcoholics.



## Pathology Department Student Teaching Awards

Each of the student teaching awards recognize a Pathology faculty member and/or a fellow for their effectiveness as small group facilitator or lecturer, promptness in providing handouts, questions, evaluations and at least above the median for student evaluations.

Introduction to Human Pathology (IHP) Course

Frank Mitros, M.D.

Laboratory Medicine Course

Nancy Rosenthal, M.D.

Michel Nasr, M.D. - special recognition for  
classroom student teaching

Medical Pathology I and II Lecturer

Ramesh Nair, M.D.

Medical Pathology I and II Case Analysis

Robert Robinson, M.D., Ph.D.

Pathogenesis of Human Diseases Course

Sandra Richter, M.D.



L-R: Drs. Nasr, Richter, Mitros, Rosenthal, Robinson, and Nair

## Links of Interest

Resident & Fellows Pictures: <http://www.healthcare.uiowa.edu/pathology/site/residents/index.html>

Pathology Department: <http://www.healthcare.uiowa.edu/pathology/index.html>

Laboratory Services Handbook for PDA or PocketPC: [http://www.healthcare.uiowa.edu/path\\_handbook/pda/index.html](http://www.healthcare.uiowa.edu/path_handbook/pda/index.html)

UIDL: <http://www.healthcare.uiowa.edu/uidl/index.html>

# A Message from The University of Iowa Foundation

## Season's Greetings from Amy Brainard

The first snow has fallen and, its official, the holiday season is here! For many of us, this is the time of year that we make various financial decisions, including charitable contributions. Therefore, it is also a timely opportunity to say thank you for the support that you provide to the Department of Pathology. Your gifts support our important mission of being a leader in patient care, education and creating an environment that fosters staff growth and development.



The present economic downturn prompts us to focus on long term planning. We hope that you might consider supporting the UI Department of Pathology this year by naming the Department of Pathology in your will or trust through The University of Iowa Foundation. As the Department's representative for the UI Foundation, I hope we will have a chance to visit in the coming year. I would love to hear your Iowa story, and to be a resource to you as you shape your philanthropic legacy.

As we look ahead at the next year, we are excited about the differences individual gifts will make to the Department's programs. I encourage you to support the Department of Pathology by giving online **here**.

If you have any questions regarding giving opportunities or Department needs feel free to email me at amy-brainard@uiowa.edu or call me at (800) 648-6973.

"We make a living by what we get, we make a life by what we give."

—Winston Churchill

PathBeat is published for alumni and friends of the Department of Pathology, University of Iowa Carver College of Medicine.

Feedback and suggestions should be directed to Lisa Rathjen

Tel: 319-356-3339

E-Mail: lisa-rathjen@uiowa.edu

For easy contact, please send us your e-mail address.



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