

The Edge

Volume 4, Issue 1

Fall 2009

Science Without Borders

Leading the way in cutting edge live-cell imaging techniques at Indiana University School of Medicine (IUSM), Richard N. Day, Ph.D., Professor of Cellular and Integrative Physiology, is on the path to establishing a



fluorescence lifetime imaging microscope (FLIM) in the Department of Cellular and Integrative Physiology, which will be a unique resource at IU. Dr. Day currently uses Forster resonance energy transfer (FRET) - based microscopy to measure protein-protein interactions in living cells

and is making great strides in the field, as evidence in his recent high profile review in Chemical Society Review, *The fluorescent protein palette: tools for cellular imaging* <<http://www.rsc.org/Publishing/Journals/CS/article.asp?doi=b901966a>> (Richard N. Day

and Michael W. Davidson, Chem. Soc. Rev., 2009, DOI: 10.1039/b901966a). His research spans multiple disciplines: Physiology, Molecular Biology, Endocrinology, and Cell Biology.

Dr. Day is an internationally sought after speaker and will be speaking at the Cambridge Healthtech Institutes High Content Analysis Live-Cell Imaging [meeting](#) in Boston this month, as well as the International Workshop on Physical Principles of Protein Behavior in the Cell in Dresden, Germany, October 26th – 30th, and the Workshop on FLI Microscopy in Taipei, Taiwan, December 15-18. Currently, Dr. Day is recruiting doctoral students and postdoctoral fellows to join his lab and research efforts.

For more information on Dr. Day's research, please visit his IUSM [profile](#) or [web site](#).

Bridges to the Doctorate Receives Funding for Five Additional Years

The IUSM Bridges to the Doctorate initiative has recently received funding by the National Institutes of Health (NIH) for an additional five years. This unique program bridges Masters Students from Jackson State University and California State University, Dominguez Hills to the Ph.D. programs offered at IUSM.

Originally awarded in June 2003, one of the main goals of the program is to increase the number of underrepresented minorities in the biomedical sciences. Since the beginning of the program seven Bridges students have matriculated into IUSM doctoral programs and

six have matriculated into Ph.D. programs at other institutions.

Hal Broxmeyer, Ph.D., Distinguished Professor, Chairman & Professor of Microbiology/Immunology, is the Primary Investigator on the Bridges grant and Randy Brutkiewicz, Ph.D., Assistant Dean for Faculty Affairs & Professional Development, Professor of Microbiology & Immunology, and Dr. David Wilkes, M.D, Professor of Medicine, Microbiology & Immunology, Executive Associate Dean for Research Affairs, are Co-PIs for the program. For more information, [click here](#).



In this Issue

Science Without Borders **page 1**

Bridges to the Doctorate Receives Funding **page 1**

Resources for Prospective Students **page 2**

Student Spotlight **page 2**

Summer Research Student Receives Fellowship **page 3**

IUSM Doctors at New York Stock Exchange **page 3**

Resources for Prospective Students

Top 10 Tips to a Successful Graduate School Application



In an effort to bring clarity to the sometimes elusive application process we have created a flyer on Top 10 Tips for a Successful Application to a Ph.D. program in the Biomedical Sciences and the dual M.D./Ph.D. program. Our hope is that this will increase your understanding of the application

process and ease your apprehension about pursuing a Ph.D. degree or a dual M.D./Ph.D. combined degree.

To view and print the flyer, [click here](#).

Priority Application Date

New this year, the IBMG Admissions Committee has implemented a Priority Application Date of December 15th.

Applications received prior to this date will receive priority review. Once an application is

deemed “complete”, meaning that all components have been received (see <http://grad.medicine.iu.edu/howtoapplyphd>), the application is sent to three Admissions Committee Members (two International Subcommittee members for International Applications) who then make a recommendation to the full committee on if the applicant should receive an interview.

Two campus visits are currently being planned for January and February of 2010, and other interview opportunities are available for international students. Once an applicant has been interviewed evaluations are reviewed by the original committee designees and then by the full committee. Fellowship offers are typically extended by March 15th of each year with the deadline for accepting an offer being April 15th.

For more details on how to apply to the Ph.D. program visit our [How to Apply web page](#).

10 Ph.D. Programs

Anatomy & Cell Biology

Biochemistry & Molecular Biology

Biomolecular Imaging & Biophysics

Cellular & Integrative Physiology

Medical & Molecular Genetics

Medical Neuroscience

Microbiology & Immunology

Pathology

Pharmacology

Toxicology

Student Spotlight

Heather Benson, Ph.D. Candidate

Where are they going?

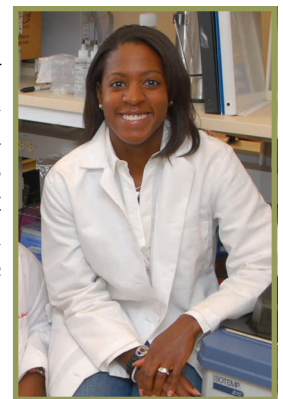
Heather Benson will soon graduate from IUSM with a Ph.D. in Biochemistry and Molecular Biology, under the mentorship of David Wilkes, M.D, Professor of Medicine, Microbiology & Immunology, Executive Associate Dean for Research Affairs. Heather defended her thesis *The Role of Matrix Metalloproteinase 9 in T cell Activation* this past July and will continue in Dr. Wilkes' lab as a post-doctoral fellow.

Heather's ultimate goal is to pursue an M.D. at IU and become a physician-scientist. During her graduate career, Heather published:

Yamada, Yoshito; Sekine, Yasuo; Yoshida, Shigetoshi; Yasufuku, Kazuhiro; Petrache, Irina; **Benson, Heather L.**; Brand, David D.; Yoshino, Ichiro; Wilkes, David S. *Type V Collagen-Induced Oral Tolerance Plus Low-Dose Cyclosporine Prevents Rejection of MHC Class I and II Incompatible Lung Allografts*. *J Immunol* 2009 183: 237-245

Benson, Heather L.; Smith, Gerald N.; Chang, Mayland; Mobashery, Shahriar; Song, Li-Zhen; Kheradmand, Farrah; Shilling, Rebecca; Wilkes, David S. *The Role of Matrix Metalloproteinases in T cell Activation* (in progress)

Heather's husband, Dr. Eric Benson, also recently graduated with a dual M.D./Ph.D. combined degree from IUSM and is currently a resident physician in the Internal Medicine Program on the IUSM Campus.



For the slide show *Dr. Heather and Eric Benson: Dual Careers in Medicine* visit: <http://medicine.indiana.edu/slideshows/bensons>.

Doctors from Indiana University Ring the Bell at New York Stock Exchange Closing

In celebration of the American Society of Clinical Oncology (ASCO) Cancer Foundation's 10th anniversary Olympic swimmer and testicular cancer survivor Eric Shanteau, along with Lawrence Einhorn, M.D. and George J. Sledge, Jr., M.D., both of the IUSM, had the

opportunity to ring the New York Stock Exchange Closing Bell on August 19th.

For more details [click here](#).



Summer Research Student, Merika Treants, Receives MURF Fellowship

The IUSM Graduate Division and the IUPUI Graduate Office partnered with The American Society for Microbiology (ASM) to bring the Microbiology Undergraduate Research Fellowship (MURF) Program to campus this past summer. As a result, Merika Treants from the Colorado School of Mines had the opportunity to conduct research with Randy Brutkiewicz, Ph.D., Assistant Dean for Faculty Affairs and Professional Development, Professor of Microbiology and Immunology, and Masood Khan, Postdoctoral Fellow. The title of Merika's project was: *Role of Co-Stimulatory Molecules on the Status,*

Activation, and Apoptosis of Natural Killer T (NKT) Cells. Merika's home mentor is John Spear, Ph.D. from the Colorado School of Mines. One of the main goals of this fellowship program is to increase the number of underrepresented undergraduate students who wish to pursue a Ph.D. degree or a dual M.D./Ph.D. combined degree in microbiology. Each fellow receives up to a \$3,500 stipend, a two-year ASM student membership and reimbursement for travel expenses to the 2010 ASM General Meeting. Merika leads the way as the first MURF Fellow on the IUSM campus!

Construction Update

On Thursday, October 8th the campus will dedicate Joseph E. Walther Hall (formerly known as Research II). Walther Hall opened its doors spring of this year to Stark Neuroscience Research Institute, Center for Immunobiology, and the Center for

Environmental Health. This building completes what some refer to as the *Great Wall of Science*. For details on what this state-of-the-art facility holds view the [Walther Hall Fact Sheet](#).

Calendar of Events

October 9	Rotation 1 Mentor Agreement Form Due for IBMG Students
	Plagiarism Course Certificate of Completion Due
October 27	Beering Lecture to Students
October 28	Beering Award Lecture
November 25-29	Thanksgiving Break
December 15	Priority Application Date for Prospective Students
January 15	Application Deadline for Prospective Students

Attention Graduate Students

Have You Published Lately?

Want to share the news with your peers and faculty?

Published Students will be Highlighted via

- the IUSM Graduate Division web site
- an annual poster recognizing students and their successes
- etc.

How to Submit Your Published Details

- notify the IUSM Graduate Division of your publication by completing the survey found at: <http://grad.medicine.iu.edu/studentpubs>

Research. Discover. Done.

Message from the Director

Weeding through the materials collected from Graduate School Fairs can be daunting. Among many things a graduate program must stand out from the pack by offering you a personalized approach to the application and admissions process, as well as your graduate career. Many also provide transitional services once admitted to the program, to help you adjust to graduate school life and the unforeseen challenges that come with it.

We here at the IUSM Graduate Division provide applicants and students all the above as well as a well-respected faculty, a large number of potential mentors to choose from, a strong student and post-doc community who can become lifelong friends and colleagues, a collaborative spirit, access to advanced techniques, specialized equipment, and an exciting intellectual environment highlighting translation, biomedical, and basic sciences.

Not only do we have a solid program to ensure that you become a top-notch research scientist we provide a healthy stipend of \$24,000, which according to the Best Places to Live calculator found at <http://www.bestplaces.net/col> adjusts to \$52,633 NYC dollars! In addition to offering a healthy stipend the IUSM is located in one of the most affordable places to live, Indianapolis, IN, according to several resources including [Forbes Magazine](#).

Wherever you choose to go for your graduate studies we wish you the very best and hope that your program will provide you a rich and diverse experience as well as resources to ensure you will thrive in the field of biomedical sciences.

Monica Henry

Monica Henry, Program Director, IBMG Program

