Welcome!

The new department of Integrative Biology & Physiology is an exciting place to be with its focus on the complexities of systems biology in living animals. IBP’s mission for teaching and research is built on the commitment and vision of those who came before us in their quest for knowledge discovery. Our research centers on integrative systems biology of the heart and vasculature, including the close linkages among cardiovascular diseases and obesity, diabetes and metabolism at the whole animal level. We welcome new faculty and students who embrace this vision.

Joe Metzger, PhD, Professor & Chair

2008 Faculty Retreat Produces New Mission Statement for Department

The IBP Faculty Retreat was held in August 2008 at the University Club in St. Paul where faculty met to produce a mission statement for the department.

Newly appointed Department Head Joe Metzger laid out his vision for IBP as the department plays three equally vital roles at the University: in research, in training graduate students, and in teaching undergraduate students. The department faculty then divided into separate groups to make drafts of these pieces as they relate to IBP’s overall mission and vision. Discussion in groups focused on a range of topics, including scholarship and research from the cellular to the whole animal level.

By the end of the day faculty had successfully drafted a new mission statement for the department. All faculty attended the retreat, and everyone felt it a very productive session.

New IBP Mission Statement

Dedicated to an integrative systems biology approach to biomedical discovery.
We partner with colleagues across disciplines to investigate questions ranging from the gene/molecule to the whole animal, striving for excellence in research and dissemination of new knowledge with local, national, and global impact.

Committed to mentoring and training graduate students.
We empower students to develop a deep understanding of the complexity of physiological systems to enable them to pursue unique career pathways spanning from academia to biotechnology.

Devoted to excellence, innovation, and scholarship in education.
We educate students in the integration of structure and function of cells, organ/systems, and living animals, providing a strong foundation for knowledge discovery in basic science and human health fields.
Graduate Program Gets Facelift

At the July 9th meeting, the University of Minnesota’s Board of Regents voted to approve the department’s proposal to change the name of the M.S. and PhD degree in “Cellular and Integrative Physiology” to “Integrative Biology and Physiology.” This change took effect the first week of classes, fall of 2009. Formal notification from Dr. Vicki Field, Director of the Office of Interdisciplinary Initiatives in the Graduate School, is forthcoming.

In an additional change for the IBP Graduate Program, John Osborn has been named the new Director of Graduate Studies. Osborn, a professor with over 7 years of experience in the IBP department and over 20 at the University, has already brought in two new PhD students: Dusty Moore and Jason Foss. Moore and Foss started Fall 2009 and more students are considering the IBP graduate program already for Fall 2010. For a snapshot on the graduate program, see Osborn’s sidebar on page 2.

The department also adopted a new Mission Statement at its 2008 Faculty Retreat (see accompanying story, page 1). This new, more comprehensive mission statement better reflects IBP’s renewed commitment to its graduate program as well as its ongoing tradition of excellence in both research and education.

Meet the New IBP PhD Students

Jason Foss graduated from the University of Minnesota with a B.A. in Physiology in 2009. Jason has extensive experience in cardiovascular research working for three years in Experimental Surgical Services (ESS) in the Department of Surgery. Although Jason started out in the ESS as a student assistant, his skill and passion for research were quickly noted and he was promoted to the position of Study Director. Jason is very interested in cardiac biology and is currently doing a research rotation in the Laizzo lab.

Dusty Moore graduated from Westminster College in Salt Lake City Utah with a B.S. in biology in 2009. He was a Ronald E. McNair Post-Baccalaureate Achievement Scholar in 2007, 2008 and 2009 as well as the recipient of several other scholarships. Dusty comes to us with extensive research experience including a summer internship at the Ecole Polytechnique Federale de Lausanne where he developed a micro-cell culture technique for isolation of individual stem cells. Dusty is very interested in tissue engineering and is currently doing a research rotation in the Metzger lab.

Graduate Program Update from John Osborn

John W. Osborn is the Director of Graduate Studies for the Graduate Program in Integrative Biology and Physiology (IBP). Formally called “Cellular and Integrative Physiology,” this is essentially an entirely new graduate program aimed at training PhD students for successful research careers in basic and clinical research, as well as in the private sector. Fall 2009 marks the official beginning of the IBP program with the entrance of two outstanding students, Jason Foss and Dusty Moore. A new graduate level course in Cellular Physiology is being offered this fall by Dr. Scott O’Grady and new courses are currently under development. The goal is to recruit 2–3 new students/year over the next 3–4 years and eventually apply for an NIH training grant once the program is established. There are several strong applicants already wishing to enter the IBP graduate program in
Steve Katz, IBP Education Chair

Stephen A. Katz is the Associate Chair of Education in the Department of Integrative Biology and Physiology (IBP). The department offers a broad array of Physiology as well as Anatomy courses to undergraduate, graduate, and various professional students including Medical and Dental students. At any time, there are approximately 200 undergraduates who have declared Physiology to be their major. In total, there are approximately 3,000 students per year that take classes offered by IBP with total tuition at over $3,000,000. In addition, IBP is planning to offer 5 new courses.

“Mark your calendar:
First Annual Visscher Symposium June 3, 2010

Christine Seidman, M.D., NAS member and Harvard Professor will be presenting the inaugural Maurice B. Visscher Lectureship in IBP on Thursday, June 3. Reception will follow at the Weisman Art Museum from 5:00 – 8:00 pm.

Dr. Christine (Kricket) Seidman is highly regarded for her discovery of the genetic basis of inherited cardiomyopathy and is currently a Professor in the Departments of Medicine and Genetics at Harvard Medical School and is an Investigator of the Howard Hughes Medical Institute. She was an undergraduate at Harvard College and received an M.D. from George Washington University School of Medicine in 1978. Dr. Seidman served as an intern and resident in Internal Medicine at John Hopkins Hospital and received sub-specialty training in cardiology at the Massachusetts General Hospital. She joined the staff at Brigham and Women's Hospital in 1987 and is currently the Director of the Cardiovascular Genetics Service. Additional details about the Visscher Symposium to follow.”

Students Shower IBP Faculty with High Ratings, Accolades in 08-09

The 2009 graduating medical school class gave highest marks to the instruction received in Gross Anatomy: 63.5 percent of students ranked the course as “excellent.” Ranked second best was Pathophysiology of Disease at 58.8 percent, and nearly tied in third place was Physiology instruction at 56.5 percent.

In keeping with what has become tradition, the 2008 medical school students enrolled in Physiology 6101 gave the course “outstanding” rankings overall, said Professor Doug Wangensteen. In addition, several IBP faculty received similarly high evaluations from students enrolled in the course.

Anatomy faculty received high individual teaching honors as well. Tony Weinhaus, the Director of the Program in Human Anatomy Education and an instructor, was selected by the Medical School’s Class of 2008 to receive the Distinguished Teaching Award, and Mark Cook, an Assistant Professor of Anatomy in IBP, received for the second year in a row, the Outstanding Teacher of the Year Award as voted on by the first-year dental students.
**IBP/Lillehei CV Research Retreat 2009**

The IBP Department faculty and graduate students paired up with the Lillehei Institute for a first-ever research retreat at St. John’s University in Collegeville, MN, on June 26-28, 2009.

IBP Department Chair Joseph Metzger hopes this will be an annual event. “Everyone was really engaged and enthusiastic. It was particularly beneficial for the graduate students to feel more a part of the program,” he said.

The retreat featured 120 attendees, 20 talks and a poster session in the great hall at St. John’s.

The research-intensive symposium provided a platform for sharing research results and for helping form future directions in biomedical research—related to cardiovascular, muscular, stem cell, and genome-related methodologies and initiatives.

Matt Barnabei, a PhD student in Joe Metzger’s lab, won top prize for best poster at the 2009 Research Retreat.

**IBP grant funding increased over 500% from FY2008-2009 and 2009 proved to be a watershed year for applications: $32M in federal and private grants were applied for by IBP PIs.**

**IBP graduate faculty member Dan Garry leads major national stem cell research consortium**

Adapted from reporting by Jessica Van Berkel (MN Daily).

The University of Minnesota is one of 18 research groups to participate in a NIH $170 million study of stem and progenitor cells. The study will focus on challenges in cell transplantation, and characterizing progenitor cell lines, which are the “most primitive offspring,” of stem cells, said Dr. Daniel Garry, principal investigator for the study at the University’s of Minnesota. The University’s research will focus on three phases, including improving heart function in large animal studies, how genes regulate stem cells to become heart or blood cells, and the scaffold of tissues called the extracellular matrix, Garry said. Other schools in the study include Stanford, Harvard and Johns Hopkins, Garry said, “it’s pretty good company to keep.” The UMN study also includes IBP Professor Doris Taylor, PhD, and Cardiology Professor Jay Zhang, MD, PhD.

**IBP Faculty Taylor and Garry Awarded $2M for AHA-Holden DeHaan Foundation Cardiac Myogenesis Research Center**

Two IBP researchers, Doris Taylor and Dan Garry, were selected from a nationwide pool to receive AHA funding over four years to study cardiac myogenesis.

*From AHA press release:*

The American Heart Association, with support from the Jon Holden DeHaan Foundation, has awarded funding for three research centers to study the development and mechanisms of generating new cardiac muscle cells. Over the next four years, the centers will conduct studies to determine how regeneration of those cells can help improve outcomes for heart attack and heart failure patients.

**Randi Lundell Leads New IBP Admin Team:**

- **Randi Lundell**
  - Department & Grants Manager

- **Deb Fergus**
  - Executive Assistant to Joe Metzger

- **Yang Chong**
  - Accountant II

- **Lynn Kaatz**
  - Accountant II

- **Jess Sundin**
  - Undergraduate Student Coordinator

- **Kim Hayden**
  - Anatomy Executive Assistant

- **Sylvia Carlson**
  - Grants Coordinator