

Introducing our Phenotyping Core

The term 'phenotype' refers to any discernible characteristic of an organism, as determined by its genetic makeup and by environmental influences.

Understanding the role of a gene and its product in the context of a living organism is the ultimate goal of functional genomics initiatives. 'Transgenic' and 'knockout' animals are created to develop phenotypes that clearly result from the intended genetic manipulations.

However, phenotypes reflect genetic influences other than the intended genetic manipulations, as well as environmental influence, including infectious agents. Potential impacts of extra-experimental variables must be considered when interpreting and characterizing phenotypes.

The phenotyping core aims to promote functional genomics initiatives at Johns Hopkins by assisting, collaborating and educating in the characterization and use of genetically and phenotypically

relevant animal models of disease and gene function by:

- 1) Providing pathology support and collaboration, including clinical pathology, anatomic pathology, histopathology;
- 2) Training and educating in evaluation techniques and phenotyping strategies;
- 3) Helping to coordinate diverse JHMI resources in phenotyping efforts.

Cory Brayton, DVM, DACLAM, DACVP in the Department of Molecular and Comparative Pathobiology, was recruited to lead this initiative in 2004.

Find out more about our faculty and resources at <http://www.hopkinsmedicine.org/mcp/phenotypingcore/index.html>. To be included on our mailing list, or as a resource in our collaborative core, contact us at cbrayton@jhmi.edu

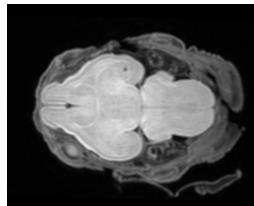
SAIRP Imaging Workshop February 7-8, 2007

The Johns Hopkins Small Animal Imaging Resource Program (SAIRP) and the In vivo Cellular and Molecular Imaging Center (ICMIC) will host a hands-on workshop February 7-8, 2007. The purpose of the workshop is to familiarize investigators with imaging modalities available in the SAIRP/ICMIC program including PET, SPECT, MR, CT, Optical Imaging, and Ultrasound; and to improve understanding of the data and analyses relevant to each imaging modality.

cost: \$250 for both days; \$175 for day 1 (lectures) only; free for students and post doc fellows (day 1 only). **Registration is required. Go to:**

<http://sairp.rad.jhmi.edu/SAIRPworkshop/SAIRPworkshop.html> for program and registration.

Contact Susanne Hemker at shemker2@jhmi.edu or 443-287-2976, for additional information.



New Graduate School Course in 2007: Phenotyping for Functional Genetics

This new course **ME:680.712** is intended for graduate students or postdocs at any level, who are currently working with, or expect to work with genetically engineered mice, or other animals.

Johns Hopkins faculty will introduce students to phenotyping concepts and experimental design, to normal mouse phenotypes, and to new and established phenotyping capabilities in multiple disciplines. Phenotyping expertise and resources at JHMI will be emphasized. Lecture topics will include but are not limited to development of genetically engineered mice (and other animals), traditional and novel imaging strategies, various aspect of neurobehavioral phenotyping, motor phenotyping, metabolic phenotyping, pulmonary phenotyping, clinical pathology and anatomic pathology phenotyping. Laboratory sessions will include but not be limited to clinical and physical examination of

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New Graduate School Course: Phenotyping for Functional Genetics *(cont from Page 1)*

mice, clinical pathology and anatomic pathology. **March 8, 2007; Wednesday & Thursday 2:30pm - 4:00pm; Room: BRB 801; Enrollment limited to 15.** For additional information, contact Dr. Brayton cbrayton@jhmi.edu.
Course # ME:680.712 in the Graduate School Course Catalog **Phenotyping for Functional Genetics**; 3rd quarter/2nd semester: January 10-



Laboratory sessions in the course will include techniques for gentle physical examination of the mouse, as an important early step in phenotype evaluation.

2007 JH Phenotyping Symposium II

We are pleased to announce that the 2007 Phenotyping Symposium will be on Tuesday March 20, 2007, again in the Mountcastle Auditorium in PCTB.

The 2006 Johns Hopkins Phenotyping Symposium was a great success, attracting more than 270 registrants, and a number of sponsors who assisted the Department of Molecular and Comparative Pathobiology (formerly Comparative Medicine) in pro-

viding this free symposium to the scientific community. Approximately half of the registrants were from outside JHU.

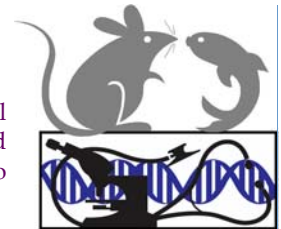
We hope to attract sufficient sponsorship to again provide the program at no charge.

The full day program features Johns Hopkins Faculty and phenotyping resources. In addition Brad Bolon, DVM, PhD, DACVP, will speak on **Phenotypic Analysis of Developing Mice**.

For additional information and registration, go to:

<http://www.hopkinsmedicine.org/JHUphenotyping/index.html>

Contact phenocore@jhmi.edu for sponsorship information.



NIH Launches Knockout Mouse Project: KOMP

The National Institutes of Health (NIH) is embarking on the "knock out mouse project (KOMP)," with the goals of knocking out every functional gene in the mouse genome, and developing a publicly available resource of mouse knockout mutations. Similar large-scale efforts have begun in Canada (NorCOMM: North American Conditional Mouse Mutagenesis Project), in Europe (EUCOMM: European Conditional Mouse Mutagenesis Programme), and in Asia.

Systematic disruption of each of the 20,000 genes in the mouse genome is expected to facilitate the use of knockout mice to develop better models of inherited human disease such as heart disease, neurological disorders, obesity, diabetes, and cancer, and to determine the role of each gene in normal physiology and development.

This fall, NIH awarded two 5-year cooperative agreements totaling up to \$47.2 million for the creation of the knockout

mice lines. Award recipients are Regeneron Pharmaceuticals Inc. in N.Y., and a collaborative team from Children's Hospital Oakland Research Institute, University of California, and the Wellcome Trust Sanger Institute in England.

Additional information about these initiatives can be found at <http://www.nih.gov/science/models/mouse/index.html>, www.knockoutmouse.org, www.eucomm.org and www.norcomm.org.

New Monthly Comparative Pathology Slide Conference

The Department of molecular and Comparative Pathobiology and the Phenotyping Core have initiated an informal monthly slide conference, to emphasize recent phenotyping and comparative pathology cases, and to provide a friendly and educational venue for colleagues within and outside of the JHU community to present and discuss interesting cases.

Date: Usually 2nd or 3rd Tuesday of each month. Date confirmation will be sent to interested individuals 10 days in advance.

Next Conference: January 23, 2007

To be added to our mailing list, contact phenocore@jhmi.edu

Time: 4:00pm-6:00pm.

Place: BRB 801

Recent Cases:

Mice genetically-induced proliferative skin lesions - Dr. Simons.

Rat mammary tumors FNA cytology - Dr. Karim

Mouse intracranial mammary tissue in compatible with hamartoma - Dr. Southard

Mice Vestibular syndrome and brainstem

lesions - Dr. Southard

Xenopus Renal intranuclear inclusion bodies - Dr. Montali

Rabbit endometrial carcinoma - Dr. Montali

Mouse Lung WHAT'S YOUR DIAGNOSIS ?

Answers in next months newsletter.

