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# 2012 Mouse Pathobiology and Phenotyping Short Course

July 30 - August 3, 2012

Short Course & Workshop on *Mouse Biology, Pathology, Genetics for Phenotyping and Translational Research*  
[\[concurrent with graduate school course ME 680.712\]](#)

At Johns Hopkins University School of Medicine,  
Baltimore, MD USA

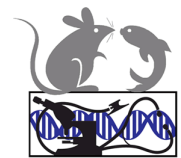
**TARGET AUDIENCE:** Scientists, faculty, postdocs, graduate students, veterinarians, pathologists who use or expect to use mice in translational research.

**AIMS:** To provide information, practical tools and skills essential to the optimal use of mice in translational research.

**FORMAT & TOPICS:** 5 day short-course on mouse biology, pathology, genetics, practical and multidisciplinary phenotyping for translational research, including lectures, 3 hands on laboratory session, exhibits, tours, poster session, pathology slide conference.

**DVM/VMD RACE 36.5 credit hrs.**

**SYLLABUS:** [MOUSE PATHOBIOLOGY & PHENOTYPING MANUAL](#) is the core syllabus material, several sections can be [downloaded \(free\)](#)



Visit Exhibits  
9am Monday  
to  
5pm Tuesday.

**2012  
EXHIBITORS**

[HARLAN  
LABORATORIES  
INC](#)

[Tucker-Davis  
Technologies](#)

[CRC PRESS](#)

Additional syllabus/lecture material will be uploaded before the course, and provided at the course.

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**JHU REGISTRATION - CLOSED**  
**(Grad Students, Postdocs, Faculty and Staff)**

After July 1, call or email for availability of laboratory sessions.  
For graduate students and postdocs, this is graduate school course ME:680.712

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**NON-JHU REGISTRATION - CLOSED**

**Early registration (before July 1):**

\$800 for Lectures + Hands on Laboratory Sessions, \$600 for Lectures Only.  
**After July 1:** \$1,000 for Lectures and Lab Sessions (call or email for availability),  
\$800 for Lectures Only.

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## 2012 Program

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**MONDAY**  
**July 30, 2012**

**INTRODUCTION to Mouse Pathobiology & Phenotyping**  
**+ EXHIBITS + POSTERS**

Web Resources; Summary Tables, references (23 p PDF)

9-10am

Brayton - Introduction to phenotyping, mouse genetics, nomenclature & Famous Mice (16p PDF)

10-11

Brayton - Common Spontaneous Phenotypes and Diseases (non infectious) (10p PDF)

11-12

Watson - Environmental influences on phenotypes 1  
What is in your mouse environment? (lectures 1,2 - 18p PDF)

12-1

**LUNCH - VISIT EXHIBITS + POSTERS**  
**+ Medical Illustration Art Exhibit**

1-2

Watson - Environmental influences on phenotypes 2  
What ELSE can impact your research and phenotypes: Your Surveillance Program ...

2-3

Brayton - Infections & infectious phenotypes that can impact your research (19p PDF)

3-4

Brayton - Immunodeficient Mice - options & challenges (11p PDF)

4-5

Karim - Pathology and Phenotyping GEM intestinal Cancers (7p PDF)

5-7pm

**RECEPTION, EXHIBITS &**  
**POSTER SESSION** (Poster Abstracts - PDF)

**TUESDAY**

**GEM & Multidisciplinary Phenotyping**

[ELSEVIER](#)

[WILEY](#)  
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[TMA &](#)  
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[Transgenic & ES Cell](#)  
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## + EXHIBITS

- 9-10 Hawkins/Reeves – Making Mice - traditional and new transgenic technologies (6p PDF)
- 10-11 Doyle / Shaw - Ophthalmic Phenotyping (6p PDF)
- 11-12 Lauer/May - Auditory/acoustic Phenotyping (5p PDF)
- 12-1** ***LUNCH & Tours - CMOR (metabolic) & BRB Imaging, Behavioral + EXHIBITS + POSTERS***
- 1-2 Potter/Pletnikov – Emotional / Cognitive Phenotyping (6p PDF)
- 2-3 Aja - Metabolic Phenotypes & Phenotyping (6p PDF)
- 3-4 Mitzner – Pulmonary/Respiratory Phenotypes & Phenotyping (12p PDF)
- Pomper - IMAGING for Phenotyping (10p PDF)
- 4-530 Gabrielson - Cardiovascular phenotyping: In vivo functional correlations to pathology (6p PDF)

## **WEDNESDAY** **Practical Phenotyping 1** **DOWNLOAD LAB MANUAL - 41p PDF**

- 9-10 Watson - Clinical / Physical Exam - Modified SHIRPA (*refer to Lab Manual*)
- 10-11 Brayton - Clinical Pathology - oversimplified (13p PDF)
- 11-12 Brayton & al - Online & other Resources (*refer to web resources - above*)
- 12-1** ***LUNCH (on your own) & Tours - CMOR (metabolic) & BRB Imaging, Behavioral***
- 130-3pm Watson / Forbes & al  
LAB 1: Clinical Examination (*refer to Lab Manual*)
- 315-5pm Forbes / Brayton & al  
LAB 2: Clinical Pathology and Specimen collection (*refer to Lab Manual*)

## **THURSDAY** **Practical Phenotyping 2**

- 9-10 Brayton - Anatomic Pathology Phenotyping - Necropsy (*refer to Lab Manual*)
- 10-11 Brayton - Anatomic Pathology Phenotyping - Trimming (*refer to Lab Manual*)
- 11-12 Brayton - Microscopic Anatomy & Pathology by Virtual Microscopy (*refer to Lab Manual*)
- 12-1** ***LUNCH (on your own)***
- 1-4 Forbes / Brayton et al.  
LAB 3: Anatomic Pathology - Necropsy (*refer to Lab Manual*)
- 4-6pm ***Digital/Virtual Slide Conference - with refreshments***

**FRIDAY**      **Practical Phenotyping 3**  
**Advanced Pathology for Phenotyping & Translational Research**

- 9-11      Forbes / Brayton et al.  
LAB 4: Anatomic Pathology - Trimming (*refer to Lab Manual*)
- 11-12      A Meeker - Basic Immunohistochemistry - principles and protocol  
development (9p PDF)
- 12-1**      **LUNCH**
- 1-2      J Ward - Evaluation of Embryos & Pups (14p PDF)
- 2-3      D Haines & M Anver - Pathology Core Support for Basic and  
Translational Research: GEM, Xeno, and Nano (9p PDF)
- 3-4      T Cornish – digital microscopy, quantitative microscopy for research  
applications and publication (10p PDF)
- 5pm**      **Quizzes Due ! for course ME680.712**  
**TURN in to BRB 851**

# MOUSE PATHOBIOLOGY & PHENOTYPING MANUAL

**1st ed. 2009 selected sections available to download here.**

**Register for this course, or [contact Dr. Brayton](#) for updated revisions.**

**Section 1**

Spontaneous Phenotypes and Conditions in  
Common Mouse Strains & Stocks

[Section 2](#)

Infectious Agents and Phenotypes in Mice

[Section 3](#)

Mouse Pathology Glossary: Non Neoplastic; Neoplastic

**Section 4**

Anatomic Pathology - Necropsy & Trimming Protocol

**Section 5**

(Relatively) Non Invasive Phenotyping

**Section 6**

Clinical Pathology Resources

**Section 7**

Metabolic Phenotyping Resources

**Section 8**

Pregnancy, embryo, pup evaluation

For additional Course information or to to order a complete manual, or to provide feedback or suggestions - contact [Dr. Brayton](#).

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