## 2019 JHU Mouse Pathobiology and Phenotyping Short Course

### Monday, July 15, 2019
- **Welcome, Intro, Posters, Exhibits, Reception**

  **8am-5pm**
  - Registration – Turner Concourse

  **8:45-10am**
  - **Brayton** – Introduction: Phenotyping & Famous Mice
  - **Tilghman**

  **10-11**
  - **Brayton** – Common Phenotypes & Disease (Spontaneous /NON infectious)
  - **Tilghman**

  **11-12**
  - **Watson** – Environmental influences on phenotypes - What is in your mouse environment?
  - **Tilghman**

  **12-1**
  - **LUNCH – POSTERS, Meet the Cores**

  **1-2**
  - **Brayton** – Resources for Rigor and Validity in PreClinical Research
  - **Tilghman**

  **2-3**
  - **Brayton** – Microbiome & infectious phenotypes in our research
  - **Tilghman**

  **3-4**
  - **Brayton** – Immunovariability in (immune sufficient and immune deficient) mice
  - **Tilghman**

  **4-5**
  - **Hutchinson** – Research relevant social life and behaviors of mice
  - **Tilghman**

  **5-6pm**
  - **RECEPTION POSTERS, Meet the Cores**

### Tuesday, July 16, 2019
- **GEM & Multidisciplinary Phenotyping**

  **9-10**
  - **Hawkins/Reeves** – Making Mice - traditional and new transgenic technologies
  - **Tilghman**

  **10-11**
  - **Aja** – Metabolic Phenotypes & Phenotyping
  - **Tilghman**

  **11-12**
  - **Mitzner** – Pulmonary/Respiratory Phenotypes & Phenotyping
  - **Tilghman**

  **12-130**
  - **LUNCH & TOURS – CMOR (metabolic) & BRB Imaging, Behavioral + visit Cores/posters**

  **130-230**
  - **Doyle** – Ophthalmic Phenotyping
  - **Tilghman**

  **230-330**
  - **Kim, Schrode/Lauer/May** – Auditory Phenotyping
  - **Tilghman**

  **330-430**
  - **Foss/Gabrielson** – IMAGING for Phenotyping
  - **Tilghman**

  **430-530**
  - **H Adissu (NIH)** – Digital Pathology: options for image analysis and quantitative pathology

### Wednesday, July 17, 2019
- **Practical Phenotyping 1**

  **9-10**
  - **Watson** – Clinical / Physical Exam – Modified SHIRPA
  - **Go3 MRB**

  **10-11**
  - **Brayton** – Clinical Pathology – oversimplified
  - **Go3 MRB**

  **11-1130**
  - **Brayton & al** – Online & other Resources for mouse research, publishing, reviewing
  - **Go3 MRB**

  **1130-1230**
  - **LUNCH BREAK (on your own) & Tours – CMOR (metabolic) & BRB Imaging, Behavioral**

  **1230-3**
  - **LAB 1: Watson / Forbes & al** – Clinical Examination
  - **PCTB G**

  **315-5**
  - **LAB 2: Forbes / Brayton & al** – Clinical Pathology and Specimen collection
  - **PCTB G**

### Thursday, July 18, 2019
- **Practical Phenotyping 2**

  **9-1030**
  - **Brayton/Forbes** - Anatomic Pathology Phenotyping – Necropsy + trimming
  - **Go3 MRB**

  **1030-1130**
  - **Brayton** – Microscopic Anatomy & Pathology – interactive Quiz format
  - **Go3 MRB**

  **1130-1230**
  - **LUNCH BREAK (on your own)**

  **1230-430**
  - **LAB 3: Forbes / Brayton & al** – Anatomic Pathology – Necropsy, tissue collection
  - **PCTB**

### Friday, July 19, 2019
- **Practical Phenotyping 3 Advanced Pathology**

  **9-11**
  - **LAB 4: Forbes / Brayton & al** – Anatomic Pathology – Tissue Trimming for histology
  - **PCTB**

  **11-12**
  - **Mouse Pathobiology** Review – interactive Quiz format
  - **PCTB**

  **12-1**
  - **LUNCH BREAK (on your own)**

  **1-2**
  - **A Meeker** – Immunohistochemistry - principles and protocol development
  - **Go3 MRB**

  **2-3**
  - **B Karim, N Pate (NCI)** – Pathology in Preclinical Cancer Research
  - **Go3 MRB**

  **3-4**
  - **S Elmore (NIEHS NTP)** – Embryo and Developmental Phenotyping
  - **Go3 MRB**

  **5pm**
  - **Quizzes Due! Grad students in course ME680.712**

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**PLEASE COMPLETE & TURN IN EVALUATIONS!**

**Pick up Attendance & RACE forms – THANKS FOR COMING!**
FYI: Important Course Information

**AIMS** – Provide information, practical tools and skills essential to optimal use of mice and GEM in many areas of translational research

♦ **Rigor, Reproducibility, Validity, Translatability** in research involving mice;
♦ **Week of mice & GEM ‘muromics’, ‘mousology’;**
♦ **Meet colleagues.**

**PLAN**

♦ **Lectures - Syllabus Material** will be posted on the website for about 1 month.
♦ **Labs** (Hands on, practical sessions) **Lab Manual** provided.
♦ **Reception** – Meet colleagues, Cores, exhibitors
♦ **Tours** – Sign up on Monday. Space is limited. MEET PROMPTLY at 12 Noon, Tuesday & Wednesday.

**LABS** – Wednesday Afternoon; Thursday Afternoon; Friday morning in PCTB labs.

♦ **GRAD students taking the course for credit, must participate in lab, sessions, and complete and hand in worksheets.**
♦ You should have a printed lab manual if you are participating in labs.
♦ You may download the manual from Website if you are not participating in labs.
♦ Meet in G03 15 min before lab if you don’t know how to get to labs.

**FOOD**

♦ Monday Breakfast, lunch and reception in the registration area
♦ Tue-Fri Snacks, coffee, tea but not a full breakfast or lunch will be provided.
♦ On Thursday there is a farmers market ~1.5 blocks south of this building on the west side of Broadway.

**QUIZ** – **GRAD students taking the course for credit** will receive electronic access to the Quiz available on Monday, due 5pm July 19, 2019

♦ **Open book, JHU honor code applies.**

**EVALUATIONS** – Please complete & turn in by 5pm Friday 7/19 in order to receive attendance certificate (and up to 33 hours of RACE credit).

Constructive suggestions to improve future courses are especially appreciated.
EXHIBITORS

CRC Press
https://www.crcpress.com/

JOHNS HOPKINS MEDICINE

CORES
http://www.hopkinsmedicine.org/Research/core_facilities/

BRB Behavior Core
http://www.brainscienceinstitute.org/index.php/cores/the_behavioral_core_at_the_school_of_medicine/

BRB Imaging Center https://apps.onc.jhmi.edu/cischeduling/
SAIRP Small Animal Imaging Resources Program
http://www.hopkinsradiology.org/sairp

CSMR (CMOR) Centralized Services for Metabolism Research (CSMR)
http://www.hopkinsmedicine.org/institute_basic_biomedical_sciences/research_centers/metabolism_obesity_research/service/

Oncology Tissue Services Core http://tmalab.jhmi.edu/index.html

JHU Phenotyping (& Pathology) Core
http://www.hopkinsmedicine.org/mcp/PHENOCORE/index.html

Transgenic & ES Cell Core http://www.hopkinsmedicine.org/core/home.htm

Flow Cytometry and Cell Sorting Facility /Becton Dickinson Immune Function Laboratory http://jhmmi.jhsph.edu/department/FlowCytometry/FrameForm.cfm