UROP Spring 2019 schedule

Trainings:

1/22, MHRC 2005, 9:30am: Week 1: The undergraduate research experience + first key concept
  ● Undergrad research and expectations
  ● DOHAD
    ○ Barker’s Hypothesis
    ○ History of DOHAD: Barker’s Hypothesis

2/7, Rosenau 101, 9:30am: Week 2: library training/ conducting literature searches
Facilitator: Mary White

2/19, MHRC3100, 9:30am: Week 3: Key concepts part 1
Facilitator: Liyah
  ● Epigenetics
    ○ DNA methylation
    ○ Histone modification
    ○ miRNAs

3/7, Rosenau 101, 9:30am: Week 4: Key concepts part 2
Facilitator:
  ● Systems biology key concepts
    ○ Inflammatory and immune response
    ○ Endocrine system
  ● Tools in systems biology:
    ○ What are -omics approaches?
    ○ DNA microarray (measuring transcriptome)
    ○ Bisulphite sequencing and EPIC array (measuring epigenome)
    ○ Pathway analysis: try it out-- DAVID
  ● FEEDBACK form!

3/19, Rosenau 101, 9:30am: Week 5: Key concepts part 3
Facilitator: Hudson
  ● Epidemiology in context of the Fry lab
    ○ What are odds ratios, risk ratios?

4/4, MHRC 3005, 9:30am: Week 6: Working in the lab: lab safety and lab notebook
Facilitator: ask Hadley + Cassie?
  ● Lisa’s Lab notebook slides on dropbox
Organize lab tour with Hadley this week

4/16, MHRC 2005, 9:30am: Week 7: Other topics:
Facilitator: Lauren + Liyah
1. Endnote and citations: managing your literature
2. Presenting your research: conferences and presentations
3. Wrap up, reflect, celebrate

Journal clubs:

1/30, Rosenau 101, 2:30pm, Journal club 1:
Facilitator: Lauren + Liyah
Discuss: Activation of Inflammation/NF-kB Signaling in Infants Born to Arsenic-Exposed Mothers, Fry et al. 2007
1. Abstract
   1.1. What information does this blurb tell us about the study? What do we already know without reading?
2. Introduction
   2.1. Why is this research needed?
   2.2. What is the goal of this analysis?
3. Results
   3.1. What was the setting of the study and who was involved?
   3.2. What were the major findings?
   3.3. Knowing what you know about findings:
      3.3.1. Divide tables and figures, walk through them?
4. Discussion and conclusion
   4.1. What are the implications of this research?
   4.2. Limitations?
5. Methods
   5.1. How did they perform this analysis?


2/27, Rosenau 101, 2:30pm: Journal club 2:
Facilitator: (ask Paige?) *note: Lauren out of town
Discuss: Sexual epigenetic dimorphism in the human placenta: implications for susceptibility during the prenatal period, Martin et al. 2017
Discuss: Effects of prenatal exposure to endocrine disruptors and toxic metals on the fetal epigenome, Bommarito et al. 2017

3/27, Rosenau 101, 2:30pm: Journal club 3:
**Facilitator:** (ask Elizabeth if she can call in maybe?)
Discuss: Placental Cadmium Levels Are Associated with Increased Preeclampsia Risk, Laine et al 2015

Discuss: A cross-study analysis of prenatal exposures to environmental contaminants and the epigenome: support for stress-responsive transcription factor occupancy as a mediator of gene-specific CpG methylation patterning, Martin & Fry 2016

4/24, Rosenau 101, 2:30pm: Journal club 4:
**Facilitator:** maybe Hudson (maybe change a paper to one of Hudson’s?)

Discuss: Distress During Pregnancy: Epigenetic Regulation of Placenta Glucocorticoid-Related Genes and Fetal Neurobehavior, Monk et al.

**UROP Meeting Notes (2/5):**
Balancing desire for research and learning→
Program evaluation (halfway) →
  ● Any modifications?
  ● opinions?