COURSE READINGS
Biology 532B Winter 2020
DEVELOPMENTAL NEUROBIOLOGY SEMINAR
Wednesday and Friday, 10:00-11:30am
Rm S3/4 Stewart Biology Bldg.

Instructors

Dr. Don van Meyel (Coordinator)
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Jan 8
Introductory Lecture and Course Overview: Dr. van Meyel

Unit 1: Dr. van Meyel

Jan 10
Lecture: Births, Migrations and Deaths

Background reading:


Jan 15
**Student Presentation:**

Jan 17

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**Unit 2: Dr. Kania**

Jan 22
**Lecture: Specification and Diversification of Neurons**

**Background reading:**


Jan 24
Student Presentation:

Jan 29
Student Presentation:

Unit 3: Dr. van Meyel

Jan 31
Lecture: Neuronal Polarity, Neurite Outgrowth, and Dendrite Morphogenesis.

Background reading:


Feb 5
Student Presentation:

Feb 7
Student Presentation:
Feb 12
Lecture: Axon Guidance.

Background reading:
Comer et al. Commissural axon guidance in the developing spinal cord: from Cajal to the present day. Neural Dev 14:9 (2019).

Feb 14
Student Presentation:

Feb 19
Student Presentation:

Feb 21
Lecture: Topographic map formation: activity-dependent plasticity of developing circuits.

Background reading:

Priebe and McGee. Mouse vision as a gateway for understanding how experience shapes neural circuits. Front Neural Circuits 8:123 (2014)
Feb 26
Student Presentation:
Sun et al. Experience-dependent structural plasticity at pre- and postsynaptic sites of layer2/3 cells in developing visual cortex. PNAS 116(43): 21812-21820 (2019).

Feb 28
Student Presentation:

Mar 4 and Mar 6 - No classes – Study Break

Mar 11
Lecture: Formation of Synapses and Neural Circuits.

Background reading:


Mar 13
Student Presentation:
Fossati et al. Trans-synaptic signaling through the Glutamate Receptor Delta-1 mediates inhibitory synapse formation in cortical pyramidal neurons. Neuron 104:1081-1094 (2019). (also see Comment on Fossati).

Mar 18
Student Presentation:
Nagai et al. Hyperactivity with disrupted attention by activation of an astrocyte synaptogenic cue. Cell 177:1280-1292 (2019). (also see Comment on Nagai (1) and Comment on Nagai (2)).
Mar 20  (On-line course evaluation now open)
Lecture:  Axon Regeneration
Background reading:

March 25
Student Presentation:

March 27
Student Presentation:

Apr 1
Lecture:  Neural Stem Cells in Adults, and for Biomedical Research

Background reading:


Apr 3
**Student Presentation:**

Apr 8
**Student Presentation:**
Moreno-Jiménez et al. Adult hippocampal neurogenesis is abundant in neurologically healthy subjects and drops sharply in patients with Alzheimer's disease. Nat Med. 25:554-560 (2019). (also see Comment on Moreno-Jiménez (1) and Comment on Moreno-Jiménez (2)).