

CAMB 692 - Spring 2019

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Cells in complex organisms are required to adapt rapidly in a changing environment. Maintaining homeostasis while performing specialized functions requires that cells respond to extracellular signals as well as fluctuations in a host of intracellular metabolites. This course will cover selected topics and general principles related to signal transduction and the control of metabolic flux in living cells. The course format will include student-led discussion sessions both providing an overview of a topic as well as focusing on important papers from the primary literature. Students will be evaluated on their presentations and participation, as well as problem sets.

Classes are held from 10:30 to noon, Mondays and Fridays in Smilow 11-146AB

Week 1 Jan 18 Organizational meeting

Week 2 Jan 21 (MLK – no class)

Jan 25 Intro to metabolism (Joe)

Week 3 Jan 28 Intro to signal transduction (Rob)

Student-led presentations with guidance from directors or guest faculty

Feb 1 GPCRs (Rob)

Week 4 Feb 4 Acetyl-CoA (Katy Wellen)

Feb 8 Mechanobiology of Transcription (Rick Assoian)

Week 5 Feb 11 Branched chain amino acid metabolism (Zolt Arany)

Feb 15 The urea cycle in cancers (Celeste Simon)

Week 6 Feb 18 (President's Day) Metabolic rewiring during immune cell differentiation (Will Bailis)

Feb 22 (Rob away) NAD (Joe)

Week 7 Feb 25 (Rob away) Insulin signaling in muscle (Paul Titchenell)

Mar 1 (Rob away) Nuclear hormone receptors (Mitch Lazar)

SPRING BREAK MARCH 4-8

Week 8 Mar 11 Brown/beige fat metabolism (Patrick Seale)

	Mar 15	Nuclear hormone receptors II (Liming Pei)
Week 9	Mar 18	Hepatic lipid metabolism (Rotonya Carr)
	Mar 22 (Joe away)	T cell metabolism (Ulf Beier)
Week 10	Mar 25 (Joe away)	IRSs and FRS (Rob)
	Mar 29	Wnt signaling 1 (Peter Klein)
Week 11	Apr 1	Wnt signaling 2 (Eric Witze)
	Apr 5	Metabolic consequences of traumatic injury (Carrie Sims)
Week 12	Apr 8	B-cell receptor signaling (Andrei Thomas-Tikhonenko)
	Apr 12	Metabolic consequence of the gut microbiome (Christoph Thaiss)
Week 13	Apr 15	Calcium Signaling (Kevin Foskett)
	Apr 19 (Good Friday)	Raf inhibitor paradox (Joe + Rob)
Week 14	Apr 22	Kidney metabolism (Katalin Susztak)
	Apr 26	Metabolic effects of senescent cells (Brad Johnson)
Week 15	Apr 29	Metformin (Joe) + Coffee and a chat

Faculty Email List

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