

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)

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| | 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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