

BIOMG 7940/7800: Stem Cells and Cancer

Instructors: Robert Weiss and Andrew White

Description:

This course is organized as a journal club involving multiple stem cell laboratories on campus. Presentations of primary research papers will be done by members of these and other laboratories, while faculty from these laboratories and all other participants, including enrolled students, will contribute to critique and discussion. This journal club will feature 5 x 1.5 hrs sessions that deal with basic cell and developmental stem cell biology (using all model organisms), cancer, and the connection of stem cells with cancer and aging.

The Spring 2016 offering will focus on the following topics:

- 1) ES and iPS cells: pluripotency/directed differentiation
- 2) ES and iPS cells: human disease modeling
- 3) Adult stem cells
- 4) Cancer cells of origin
- 5) Cancer stem cells.

The specific paper to be presented at each session is chosen in conjunction with the faculty moderator and circulated to all participants at least one week in advance.

Expectations for enrolled students:

Presenting a paper is not required. Students will be required to attend the presentations and actively participate in the discussion. At the end of the course, students will be asked to write a 2 to 3-page paper based on the material discussed in class. Part 1 of the paper will summarize the key concepts that emerged from each of 2 of the 5 presented papers, including defining the question/hypothesis addressed, identifying the central significance of the paper, exposing the experimental flaws and defining potential future directions. Part 2 of the paper will contain up to three Specific Aims to experimentally address the future directions for one of the presented papers. This section should include a clearly stated hypothesis, experimental strategy and expected outcomes. The paper is due on May 19th. Grading is S/U.

The class will meet from noon to 1:30 pm on the following Thursday dates:

January 28 - organizational meeting and 1st session

February 18

March 17

April 21

May 5

Each student in this course is expected to abide by the Cornell University Code of Academic Integrity. Any work submitted by a student in this course for academic credit will be the student's own work.