USC Stem Cell

DSR 610 Current Topics in Regenerative Medicine
"Using stem cells and regenerative medicine to combat aging"

Spring 2019—Tuesdays
PhD Session: 4:00-4:50pm
Location: BCC: TBD

Instructor: Joseph Rodgers
Office: BCC 301
Office Hours: email for appointment
Contact Info: jtrodger@usc.edu

Course Description
This is a journal club style course that focuses on a different topic each year. The topic for Spring 2019 will be "Using stem cells and regenerative medicine to combat aging". The course consists of an introductory lecture by the instructor, followed by the presentation of the primary literature by students in the form of Powerpoint presentations that include dynamic and detailed discussion by participants. The structure of the class will roughly follow an historical trajectory, giving students an in-depth view into the scientific process that developed a field, as well as emerging contemporary research.

Learning Objectives
The primary purpose of this course is to give students an in-depth view into the scientific process that developed an important field within the genres of stem cell biology and/or developmental biology. Students will learn how to identify important unsolved problems, to devise novel experimental methodology to make breakthroughs, and to critically evaluate interpretation of findings. A parallel learning objective is for students to improve their presentation skills by presenting and synthesizing the results of manuscripts within a small group setting.

Prerequisite(s): none
Co-Requisite/Concurrent Enrollment: none
Recommended Preparation: none

Course Notes
Course notes and assignments will be posted on Blackboard and will be updated regularly.

Technological Proficiency and Hardware/Software Required
None.

Required Readings and Supplementary Materials
Links to assigned papers will be posted on Blackboard.
Students will be responsible for identifying and reading background material necessary to understand the conceptual premise and technical details of the paper.

Description and Assessment of Assignments
Each week the class will discuss a topic (a paper) at the intersection of regenerative medicine and aging. Students are expected to read the assigned paper(s) and any background material important to understand the details of the premise and techniques in the paper. Students are responsible for identifying aspects of the paper that they require background reading to understand.

In class discussion will cover all aspects surrounding the assigned paper including, but not limited to, conceptual premise, technical/experimental details, data interpretation, and implications to the field. Students are expected to come to class prepared to discuss and explain conceptual and technical details of the paper and to actively participate and stimulate discussion: ask/answer questions, make comments and critiques, and speculate.

Grading for this course will be based on students' participation and preparation. Students should be prepared to discuss/explain aspects of the assigned paper when called on at random.

Grading Breakdown

Participation in and preparation for class is 100% of the grade.
Attendance is mandatory; each unexcused absence will lower the student's final grade by 10%.

Assignment Submission Policy

none

Additional Policies

Attendance and reading of the assigned manuscript prior to each class is mandatory.

Class schedule.

Class will be held every Tuesday and follow the USC Spring 2019 academic calendar.
https://academics.usc.edu/calendar/academic-calendar-2018-2019/

Topics

The schedule of topics and assigned papers will be announced in class and via blackboard.
Topics will include, but not be limited to:

- -Concepts and theories of aging
- -Different cell and animal models to study aging.
- -Manifestations of aging on stem cells
  - -DNA damage
  - -epigenetics
  - -metabolism
  - -cell signaling
  - -senescence
  - -oxidative stress
- -Genetics of aging.
- -Diseases of aging.
- -Regenerative medicine strategies to combat aging
- -And other topics by popular demand.

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards*https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* http://equity.usc.edu/ or to the *Department of Public Safety* http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.htmlprovides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information http://emergency.usc.edu/*will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.