

Biol 605, Fall 2009

**Cell & Molecular Journal Club**

**M 5:00 – 5:50, Holt 129a**

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The purpose of this class is to give graduate and advanced undergraduate students a chance to present critical analyses of primary-literature research papers.

**Course Objectives:** to learn how primary literature is published via the peer-review process, and how to critically read and critique literature, as well as explain it to other students.

**Grading and Assignments:** Attendance at all classes is required. Each student will present two papers, preferably as a PowerPoint talk. All students should read all the papers, and should come to class with at least a few questions or discussion points (even if it is “I didn’t understand this”).

Presenters: Students should find papers from full-text peer-reviewed journals. Open-access journals such as PLoS (Public Library of Science), or journals for which CSUC has full-text access, are suitable. Reasonably current papers (2000-09) on any topic of cellular and molecular biology are acceptable. Students may use literature that is related to their thesis topic, but topics should not be the focus of their research. Students should email me to verify papers are acceptable at least 2 weeks prior to presentation, so I can send a web link to all members of the class.

Presenters are responsible for giving a brief introduction to their subject, including reading any background papers necessary. Presenters are encouraged to seek out faculty for help with concepts or terms that are not familiar, so long as they do so in a timely manner.

The presentations should take 35-40 minutes and should follow the suggested outline. Presenters will then lead a 10-15 minute discussion and try to answer questions from the class. Finally, presenters will write a brief (1-2 p) review of the paper as if it were a manuscript submitted to the journal.

Discussers: Read the papers carefully. Make a short list of questions about aspects you didn’t understand, and bring it with you. If the presenter doesn’t answer your questions, you should either ask him/her during the presentation, or during discussion. If you understand the subject in detail, develop your own critique and use it to ask questions of the presenter.

**Presentation Outline**

- **brief introduction to main topic**

What is main subject?

- explain subject to other biologists who are not expert in your system, organism, or subject
- **goals of paper**

How does this paper fit in, or represent a new development? Is the study important?

1. overall research goals
2. hypotheses
3. experiments / experimental design
4. technical issues

- **paper results**

What are the main results of this work?

- Interpret and explain data (tables & graphs)
- Are results consistent / persuasive etc? Problems?

Are the methods explicit enough that you could try to repeat the work for verification?

- **critique**

Why do you think the paper is good or bad? If you were reviewing the paper, would you recommend it for publication? How could the researchers have improved on the work? What new questions does this research raise? How could other researchers follow up on this work?