

# CHEM 450: BIOMEDICAL SCIENCE RESEARCH SEMINARS AND PRESENTATIONS

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FALL QUARTER 2009      CALL NUMBER: 16598  
FRIDAYS 1:00 – 1:15 PM BIOLOGICAL SCIENCES 144  
CALIFORNIA STATE UNIVERSITY, LOS ANGELES

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## COURSE INSTRUCTORS

Dr Anthony Fratiello	Physical Sciences 604	(afratie@calstatela.edu; 343-2326)
Dr Scott Grover	La Kretz Hall 269	(sgrover@calstatela.edu; 343-2339)
Dr. Raymond Garcia	La Kretz Hall 271	(rgarcia@calstatela.edu; 343-2144)
Dr. Carlos G. Gutierrez	Physical Sciences 603	(cgutier@calstatela.edu; 343-2356)
Prof. Vicki Kubo-Anderson	Physical Sciences 606	(vkuboan@calstatela.edu; 343-2324)
Dr. Robert Vellanoweth	La Kretz Hall 272	(vllnwth@calstatela.edu; 343-2148)
Dr. Margaret Jefferson	Biological Sciences 210	(mjeffer@calstatela.edu; 343-2059)
Dr. Carlos Robles	Biological Sciences 276	(crobles@calstatela.edu; 343-2067)

## COURSE GOALS

The goal of this course is to develop listening and critical skills so that students become active participants in dialogues with seminar presenters. Research seminars are an important medium for presentation of new scientific results, frequently before they have been published. The intent here is that the student will learn to critically evaluate new information presented in the seminar format, and participate in the give-and-take of scientific discourse.

This weekly seminar series is by design multidisciplinary, and provides opportunities to broaden students' scientific perspectives. These seminars cover the work of academic and industrial biomedical, behavioral, and mathematical scientists. There are also opportunities for students to develop their own communication skills through presentation in poster sessions and oral talks. The course is a developmental activity that requires the students' active participation.

## FALL QUARTER SEMINARS

The seminar series schedule is listed at [http://www.calstatela.edu/centers/moreprograms/biomed\\_sem.htm](http://www.calstatela.edu/centers/moreprograms/biomed_sem.htm), the MORE Programs' website. Clicking on a seminar title links you to an abstract provided by the speaker, and bibliographic reference to pertinent publications. Clicking on the speaker's name connects you to the speaker's website. Clicking on the presenter's department links you to the speaker's departmental webpage. Plan to come to each seminar prepared to participate. Please check this website throughout the quarter. It will be updated as missing information (such as seminar abstracts, titles) is received.

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<b>Friday, Sept. 25</b>	<b>How plants perceive stress?</b> Dr. Katie Dehesh, Department of Plant Biology, UC Davis
<b>Friday, Oct. 2</b>	<b>The evolution of genetic networks in <i>Populus</i>: seeing the forest for the trees</b> Dr. Stacey Thompson, Department of Biological Sciences, Cal State L.A.
<b>Friday, Oct. 9</b>	<b>"The Presentation Presentation"</b> Gary Coyne, Cal State L.A.
<b>Friday Oct 16</b>	<b>Furlough Holiday</b>

- Friday, Oct. 23**      **“Radiation Responses in Drosophila”**  
Dr. Tin Tin Su, University of Colorado, Boulder
- Friday, Oct. 30**      **MORE Programs Poster Session**
- Friday, Nov. 6**      **Life at the 'Tute, or: Why Someone Like You Might Consider MIT**  
Mary Lee, (former Cal State LA Beckman Scholar) Massachusetts Institute of Technology
- Friday, Nov. 13**      **TBA**  
Dr. Antonio De Maio, Medical Center Moores Cancer Center, UC Sand Diego
- Week of Nov 16-20**      **Off-campus Research Seminar Opportunity**
- Friday, Dec. 4**      **A gene-to-molecule approach to the discovery and characterization of natural products**  
Dr. Fischbach, Department of Chemistry, UC San Francisco
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#### **ADMINISTRATIVE NOTES**

These seminars are opportunities for you to interact with a broad range of academic and industrial biomedical scientists, and their work. Some speakers also serve as graduate school recruiters, and can provide an initial contact between you and prospective graduate programs. The University provides some funds for students to join seminar speakers for lunch just before the seminar. Please contact Lisa Bautista, MORE Programs Grant Project Administration Coordinator (lbautis3@calstatela.edu; 343-2395) a week in advance if you are interested in taking advantage of this opportunity to further interact with a particular speaker.

Every seminar is critiqued as a developmental activity. Each session, you will receive a form (a sample is attached to this syllabus). The completed critique form, including your signature, is the official attendance document, and record of your development as an active listener. *Please be sure to turn it in at the conclusion of the seminar to get credit for your participation in that seminar (it will not be accepted at any other time).* If there are multiple speakers, a critique form will be provided for each.

The seminars start at 1 PM. Please plan to be there on time, particularly as a courtesy to the speaker.

**CELL PHONES:** Please put your cell phones on “vibrate” mode or turn them off during seminar. If you receive a call, if possible ignore it and call back after the seminar. If you get a call that you must take, *discreetly* exit the lecture hall.

#### **YOUR ROLE AS ACTIVE PARTICIPANT**

Your role in the Biomedical Sciences Seminar Series is not as part of a passive audience but rather as an active participant. Indeed in its best result, the seminar is a dialog between the presenter and the participants. You are expected to be actively involved extracting information from the seminar and contributing to the dialog. Look at seminars as occasions to explore (hopefully) interesting topics in a more active and satisfying way than either reading or listening to lectures. Research on learning shows that we remember far more of what is orally discussed than what is passively listened to or read.

To get something out of a seminar, be prepared to put something in:

- a) **Do prior reading.** Background information on the seminar - an abstract provided by the seminar speaker, and bibliographic references to pertinent publications - is available to you in advance by clicking on the seminar title on the MORE Programs Biomedical Sciences Seminar web page ([http://www.calstatela.edu/centers/moreprograms/biomed\\_sem.htm](http://www.calstatela.edu/centers/moreprograms/biomed_sem.htm)). If you have no background at the time you come to the seminar, you will be unprepared to be part of the discussion that is the essence and purpose of the seminar.

- b) **Listen carefully.** An important, and obvious, requisite for success in getting a lot out of a seminar is active listening. Stay focused on the topic.
- c) **Take notes** - particularly with a view to points on which you would like to get further clarification or support. An article on taking effective seminar note is attached to this syllabus: Walker, J.H. "Taking notes in seminars - a new improved method" *Biochemical Education* **1999**, 27, 211-213. You may wish to start keeping a journal of your seminar notes.
- d) **Ask questions.** Be prepared to make your views known. You may feel ill-informed or not entirely comfortable with the topic, but what you ask may prompt someone else to speak, and then someone else. Through this process, you and your colleagues, will begin to become better-informed.
- e) **Present a Poster.** Each quarter one third of program participants will present a poster at the MORE programs Poster Session. This is detailed later in this syllabus.
- f) **Present a Seminar.** If you are a graduating senior or second year MS/MA student, plan on presenting your work in the Spring Quarter. Students that spent the summer off-campus present in the Winter or Spring Quarters.
- g) **Suggest.** We welcome suggestions for speakers or topics for future seminars. Please send these to Dr. Carlos Gutierrez at [cgutier@calstatela.edu](mailto:cgutier@calstatela.edu). We also welcome suggestions for improvement of the series. Contact any of the course instructors, or alternatively use the "Comments or Suggestions" box on the seminar webpage [http://www.calstatela.edu/centers/moreprograms/biomed\\_sem.htm](http://www.calstatela.edu/centers/moreprograms/biomed_sem.htm).

### **OFF-CAMPUS SEMINAR WEEK, NOVEMBER 16-20**

This innovation initiated by the MORE Programs Student Advisory Committee allows you to participate in a different seminar in your discipline. Masters and Biomed PREP students must attend a seminar at an off campus site. UCLA, UC Irvine, UC Riverside UC Santa Barbara and UC San Diego as well as USC (main campus and health sciences campus) and Caltech are likely sites. Peruse their seminar web pages and plan to attend. Undergraduates can either attend their Cal State LA major department weekly seminar or at an off campus site. To get credit for the seminar, you must turn in to the MORE Programs Office not later than Monday, November 23, a completed seminar evaluation form that has been countersigned by your research PI.

Seminar websites for UCLA, UC Irvine, UC Riverside UC Santa Barbara, UC San Diego, USC and Caltech are at the end of this syllabus. Website page URLs change frequently. If you are having difficulties accessing the seminars webpages with the URLs provided, just go to the home page of the institutional department you are interested in looking up and click on their seminars button.

### **LUNCH WITH THE SEMINAR SPEAKER**

The University provides a small fund for interested students to accompany seminar speakers to lunch. The intent here is to give students who are particularly interested in the seminar speaker's research topic, or the speaker's institution for PhD study, the opportunity to meet and interact with the speaker in an informal setting. If you are interested in going to lunch with a particular speaker, please let Lisa Bautista know ([lbautis3@calstatela.edu](mailto:lbautis3@calstatela.edu)) not later than one week prior to the seminar.

### **HOSTING THE SEMINAR SPEAKER**

Participating students manage the seminars. A student will be asked to be the official host for the speaker. We will try to match the student host's interest with the seminar speaker's research area. The student host will organize the group of interested students that take the seminar speaker to lunch (the MORE Programs Office will provide the funds for lunch). The student host introduces the speaker before the seminar, and manages the question and answer session. The student host gives preference to student questions, allowing faculty members to ask questions after student questions are exhausted. If you are interested in serving as host to a particular off-campus speaker, let Lisa Bautista know ([lbautis3@calstatela.edu](mailto:lbautis3@calstatela.edu)) as soon as possible, but not later than one two weeks prior to the presentation of the seminar. Student hosts for on-campus speakers will be selected from the presenter's research group.

## FALL 2009 POSTER SESSION- SRIDAY OCTOBER 30

To give students an opportunity to develop skills presenting their research results in a poster format, and to give all participants in the MORE programs a sense of the breadth of research conducted by their colleagues, one seminar period each quarter is devoted to a poster session. All students will participate in this activity each quarter, either as a poster presenter, or as a critic of the presentations.

All students will present a poster on their research results on a schedule where the most experienced one-third of students present in the Fall, the next more experienced in the Winter quarter, and the newest students in the Spring. Only those individuals who have just joined their research group as a freshman, and other individuals who have been in the MORE Programs less than two quarters, will have their presentations delayed until next academic year.

If you were notified by your Coordinator that you are scheduled to present this quarter on October 30, 2009, **please email your poster title and an abstract to Dr. Raymond Garcia (rgarcia@calstatela.edu) not later than Friday October 12** (and copy Maria Manzanares at mmanzan@calstatela.edu) so these are available on the website in advance of the poster session.

Plan to have your poster printed on our large-format printer well in advance, as there will surely be a rush (by 20-25 of your colleagues) on its use close to the October 30 poster session date. Regardless, you must email your file ready for printing to **Matt Anderson** [csla\\_posters@yahoo.com](mailto:csla_posters@yahoo.com) **not later than noon Friday, October 23**. Contact Matt as soon as possible to arrange for printing, since he also has other responsibilities and is not always available (go to <http://www.calstatela.edu/centers/moreprograms/tech.html> for instructions).

Be sure your poster is up in its assigned space in the lobby of the Physical Sciences Building by 12:30 PM and that you are there ready to discuss your work and answer questions at 1PM.

**3-Minute Presentation.** One of the course instructors will come by your poster. Since there are some 20-25 presentations, they will not have much time to spend at your poster. Please prepare and be ready to give a **Three Minute Presentation** that addresses the following:

- a. What is the hypothesis that organizes your research
- b. What experiments did you perform to test the hypothesis
- c. What do you think the results mean, and what further studies do they suggest.

This is a difficult exercise that will likely take you some time to accomplish. It is difficult to organize your thoughts into such a limited time so that they convey the sense of your work to an educated but non-expert audience. Achieving the clarity that the exercise demands will train you in precise and effective communication that will serve you well as you prepare to attend conferences, graduate school interviews, or just conversations about your work with peers and faculty members.

You may want to visit the following URLs that offer tips on preparing effective research posters.

**Advise for Constructing Scientific Posters** Dr. Colin Purrington, Swarthmore University.

<http://www.swarthmore.edu/NatSci/cpurrin1/posteradvice.htm>

**Creating a Poster Using MS PowerPoint** University of Washington School of Public Health and Community Medicine <http://depts.washington.edu/mphpract/ppposter.html>

**Creating Effective Poster Presentations** George R. Hess (NC State University) and Leon H. Liegel (Oregon State University). Includes several examples incorporating various design features along with additional presentation and design resources. <http://www.ncsu.edu/project/posters/IndexStart.html>

**Creating Posters for Humanities & Social Sciences** Lewis-Clark State College. Suggestions on poster design and presentation. <http://www.lcsc.edu/ss150/poster.htm>

**Creating Large Format Posters Using PowerPoint**, Department of Biomedical Communications, Wake Forest University School of Medicine. [http://www.wfubmc.edu/biomed/tipsheets/ppt\\_poster.html](http://www.wfubmc.edu/biomed/tipsheets/ppt_poster.html)

**Guidelines for Preparing Scientific Posters in the Digital Age**, SciFor Inc. -- some good design ideas from an online service that offers poster preparation and printing services. Their Poster Gallery offers some good design examples. <http://www.scifor.com/Guidelines.htm>

**Creating a Large-Format Poster in PowerPoint**, Social Science Research Lab, Brown University. [http://ssrl.brown.edu/support/design/large\\_posters](http://ssrl.brown.edu/support/design/large_posters)

***If you ARE NOT scheduled to present this quarter***, you are required to do on-the-spot brief critiques of two posters, and a more detailed analysis of a third poster. Instructions for the brief critiques, and for the more detailed analysis of posters are available on the Biomedical Sciences Seminar Series webpage < [http://www.calstatela.edu/centers/moreprograms/biomed\\_sem.htm](http://www.calstatela.edu/centers/moreprograms/biomed_sem.htm) >. **The two critiques are due immediately after the poster session on October 30, 2009. The Analysis is due a week later, after the seminar on November 6, 2009.**

## COURSE GRADING

The course is graded Credit/No Credit (Cr/NC) based on your participation, which is evaluated by:

- 1) The degree of your involvement as gauged by the quality of your answers to the seminar critique form (sample attached to this syllabus). This is a developmental activity: graduate students are expected to provide more sophisticated answers than undergrads; those that have been in the MORE Programs a while are expected to write better answers than newer student participants.
- 2) Attendance. To participate, you must be present. Please schedule your other commitments, including conducting research so that it does not conflict with your participation in the seminar course. Attendance is measured only by your turning in a completed critique form. Missing more than one seminar unexcused will result in a NC grade. There are, of course, several situations that are reasonable for missing a seminar, such as medical emergencies, and travel to professional meetings. If you plan to be absent and seek to be excused, please contact your coordinator (listed below) *before* the seminar. Only these individuals are authorized to excuse an absence.

MARC U*STAR Scholars	Prof. Vicki- Kubo-Anderson ( <a href="mailto:vkuboan@calstatela.edu">vkuboan@calstatela.edu</a> ; 343-2324)
Junior/Senior MBRS RISE Scholars	Dr. Scott Grover ( <a href="mailto:sgrover@calstatela.edu">sgrover@calstatela.edu</a> ; 343-2339)
Frosh/Soph MBRS RISE Scholars	Prof. Vicki- Kubo-Anderson ( <a href="mailto:vkuboan@calstatela.edu">vkuboan@calstatela.edu</a> ; 343-2324)
MBRS RISE MS-to-PhD Scholars	Dr. Raymond Garcia ( <a href="mailto:rgarcia@calstatela.edu">rgarcia@calstatela.edu</a> ; 343-2144)
Bridges to the PhD Scholars	Dr. Robert Vellanoweth ( <a href="mailto:vllnwth@calstatela.edu">vllnwth@calstatela.edu</a> ; 343-2148)
Biomed PREP Scholars	Dr. Raymond Garcia ( <a href="mailto:rgarcia@calstatela.edu">rgarcia@calstatela.edu</a> ; 343-2144)
LSAMP Bridges to the Doctorate	Dr. Margaret Jefferson ( <a href="mailto:mjeffer@calstatela.edu">mjeffer@calstatela.edu</a> ; 343-2059) and Dr. Carlos Robles ( <a href="mailto:crobles@calstatela.edu">crobles@calstatela.edu</a> ; 343-2067)
Other Students	Dr. Anthony Fratiello ( <a href="mailto:afratie@calstatela.edu">afratie@calstatela.edu</a> ; 343-2326)

Please do not make your request to the MORE Programs Office Staff; they are not authorized for this.

- 3) Interaction with the speaker: asking questions at the seminar, going to lunch; meeting with him/her before or after the seminar.

## OTHER SEMINAR SERIES

We encourage you to attend the weekly departmental seminar series of your major department at Cal State LA. Websites for these series follow:

Chemistry & Biochemistry	<a href="http://www.calstatela.edu/dept/chem/seminar.htm">http://www.calstatela.edu/dept/chem/seminar.htm</a>
Biological Sciences	<a href="http://www.calstatela.edu/academic/biol/bio510.htm">http://www.calstatela.edu/academic/biol/bio510.htm</a>

In addition, major research institutions in Southern California offer outstanding seminars in a broad range of biomedical and behavioral disciplines. Below are webpages to many of these. If you are aware of other seminar series that should be listed, please inform your coordinator and provide the URL.

## UCLA

Biological Chemistry	<a href="http://www.biolchem.ucla.edu/Symposia/symposia.htm">http://www.biolchem.ucla.edu/Symposia/symposia.htm</a>
Biomathematics/Computational Biology	<a href="http://www.biomath.medsch.ucla.edu/seminars/">http://www.biomath.medsch.ucla.edu/seminars/</a>
Biostatistics	<a href="http://www.ph.ucla.edu/biostat/course/seminars/seminars.htm#current">http://www.ph.ucla.edu/biostat/course/seminars/seminars.htm#current</a>
Bioinformatics	<a href="http://www.bioinformatics.ucla.edu/seminars/seminars.htm">http://www.bioinformatics.ucla.edu/seminars/seminars.htm</a>
Chemistry & Biochemistry	<a href="http://www.chem.ucla.edu/dir/twic.html">http://www.chem.ucla.edu/dir/twic.html</a>
Human Genetics	<a href="http://www.genetics.ucla.edu/home/guest.htm">http://www.genetics.ucla.edu/home/guest.htm</a>
Microbiology Immunology, and Molecular genetics	<a href="http://www.mimg.ucla.edu/events.html">http://www.mimg.ucla.edu/events.html</a>
Molecular Biology	<a href="http://www.mbi.ucla.edu/Events/nextweek.php">http://www.mbi.ucla.edu/Events/nextweek.php</a>

## U of Southern California

Chemistry	<a href="http://chem.usc.edu/dept/events.html">http://chem.usc.edu/dept/events.html</a>
Pharmaceutical Sciences	<a href="http://www.usc.edu/calendar/events/19630.html">http://www.usc.edu/calendar/events/19630.html</a>
Neuroscience Graduate Program	<a href="http://www.usc.edu/dept/nbio/ngp/courses/seminars.shtml">http://www.usc.edu/dept/nbio/ngp/courses/seminars.shtml</a>
Biology	<a href="http://biosci.usc.edu/seminars/">http://biosci.usc.edu/seminars/</a>

## UC Irvine

Chemistry	<a href="http://www.chem.uci.edu/seminars/">http://www.chem.uci.edu/seminars/</a>
School of Biological Sciences	<a href="http://www.bio.uci.edu/events/">http://www.bio.uci.edu/events/</a>
Developmental and Cell Biology	<a href="http://devcell.bio.uci.edu/SEMINARS/SeminarPage.htm">http://devcell.bio.uci.edu/SEMINARS/SeminarPage.htm</a>
Ecology and Evolutionary Biology	<a href="http://ecoevo.bio.uci.edu/seminar%20Fall%202003.htm">http://ecoevo.bio.uci.edu/seminar%20Fall%202003.htm</a>
Molecular Biology and Biochemistry	<a href="http://www.bio.uci.edu/events/mbb.cfm">http://www.bio.uci.edu/events/mbb.cfm</a>
Cognitive Sciences	<a href="http://www.cogsci.uci.edu/colloquia/">http://www.cogsci.uci.edu/colloquia/</a>
Psychology and Social Behavior	<a href="http://www.seweb.uci.edu/psb/calendar/bb/winter2004.uci">http://www.seweb.uci.edu/psb/calendar/bb/winter2004.uci</a>

## UC San Diego

Chemistry and Biochemistry	<a href="http://www-chem.ucsd.edu/Seminars/">http://www-chem.ucsd.edu/Seminars/</a>
Biological Sciences	<a href="http://www.biology.ucsd.edu/events/A.html">http://www.biology.ucsd.edu/events/A.html</a>
Psychology	<a href="http://psy.ucsd.edu/pages/events/index.html">http://psy.ucsd.edu/pages/events/index.html</a>

## Caltech

Caltech lists all of its seminars on its Calendar at <http://today.caltech.edu/calendar/>

## UC Riverside

Chemistry	<a href="http://www.chem.ucr.edu/seminars/seminars.html">http://www.chem.ucr.edu/seminars/seminars.html</a>
Biology	<a href="http://www.biology.ucr.edu/index.php?content=seminars/seminars.html">http://www.biology.ucr.edu/index.php?content=seminars/seminars.html</a>
Psychology	<a href="http://www.events.ucr.edu/cgi-bin/display.cgi?key=thismonth&amp;unit=49">http://www.events.ucr.edu/cgi-bin/display.cgi?key=thismonth&amp;unit=49</a>
Cell Biology and Neuroscience	<a href="http://cbns.ucr.edu/index.php?content=http://neuro.ucr.edu/colloquia_seminars/colloquia_seminars.html">http://cbns.ucr.edu/index.php?content=http://neuro.ucr.edu/colloquia_seminars/colloquia_seminars.html</a>

## UC Santa Barbara

Biomolecular Science and Engineering	<a href="http://www.bmse.ucsb.edu/seminars/seminars.php">http://www.bmse.ucsb.edu/seminars/seminars.php</a>
Molecular, Cellular and Developmental Biology	<a href="http://www.lifesci.ucsb.edu/mcdb/events/events.html">http://www.lifesci.ucsb.edu/mcdb/events/events.html</a>
Chemistry and Biochemistry	<a href="http://www.chem.ucsb.edu/department/calendar.php">http://www.chem.ucsb.edu/department/calendar.php</a>
Bioengineering	<a href="http://www.chem.ucsb.edu/%7Ebioenr/page3.htm">http://www.chem.ucsb.edu/%7Ebioenr/page3.htm</a>
Psychology	<a href="http://www.psych.ucsb.edu/news/seminars.php">http://www.psych.ucsb.edu/news/seminars.php</a>
Ecology, Evolution, and Marine Biology	<a href="http://www.lifesci.ucsb.edu/eemb/calendar/calendar.html">http://www.lifesci.ucsb.edu/eemb/calendar/calendar.html</a>