WELCOME TO THE 2014 CALTECH TEACHING CONFERENCE

Date: Thursday, September 25, 2014

Time: 9:00 AM-3:00 PM; with concurrent sessions to choose from throughout the day.

Teaching Conference Booklet [pdf]

Please visit the current Teaching Conference page for the latest resources.

First year-graduate students: G1s are automatically registered for the Teaching Conference as part of their orientation week. Please look at your Faculty Option Representatives’ recommendations for particular sessions here.

Check in at Ramo Auditorium 8:30 - 9:00 AM, or at Avery Courtyard throughout the day.

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Opening session

This opening session will provide attendees with perspective on teaching at Caltech from both the student and faculty perspective. Professor Rob Phillips of the Biology Department will share his experience leading nontraditional classes that seek to engage students in new ways. Senior Adam Jermyn will utilize his experiences as both student and TA to discuss effective communication with your students. These engaging presentations will serve as a valuable introduction to teaching at Caltech. Top
Beginning sessions

**Effective Recitations: Computation-Focused Courses**
**10:15am, Moore 070**

- Jessica Ricci, Graduate Student, Biology and Bioengineering
- Bryce Jarman, Graduate Student, Chemistry
- Gemma Mason, Graduate Student, Applied and Computational Mathematics

Recitations are small TA-lead sessions that complement a professor's lecture by reviewing core content and answering students' questions. Often the bulk of student learning happens in recitation, making them key components of any course. Participating TAs will learn good recitation practices, advice for preparing recitations, and classroom management techniques. [Top](#)

**Effective Recitations: Concept-Focused Courses**
**11:30am, Moore 070**

- Jessica Ricci, Graduate Student, Biology and Bioengineering
- Bryce Jarman, Graduate Student, Chemistry
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Recitations are small TA-lead sessions that complement a professor's lecture by reviewing core content and answering students' questions. Often the bulk of student learning happens in recitation, making them key components of any course. Participating TAs will learn good recitation practices, advice for preparing recitations, and classroom management techniques. [Top](#)

**Getting to Know Your Caltech Undergraduates**
**Offered 10:15am & 11:30am, Avery Library**

- Matt Coggon, Graduate Student, Chemistry and Chemical Engineering
- Katherine Fisher, Undergraduate, Biology and Biological Engineering
- Mark Greenfield, Undergraduate, Mathematics
- Grace Leishman, Undergraduate, Geological and Planetary Science
- Amarise Little, Undergraduate, Applied Mathematics
- Suraj Mirpuri, Undergraduate, Chemistry

In order to effectively teach students, it is crucial to understand your population and how they learn. In this session, we will present the "need to know" facts about undergraduate students at Caltech. We will profile the typical life of Caltech students based on student experiences shared by current undergraduates. Session facilitators will also share their thoughts of what makes a good TA and emphasize the key points that will help make you a successful mentor and effective TA. This session will be interactive - groups will be paired with undergraduates to learn about undergraduate life and brainstorm techniques to connect with students in the classroom. [Top](#)
Grading and Feedback
Offered 10:15am & 11:30am, Annenberg 105

- David Case, Graduate Student, Geochemistry
- Laura Harrison, Graduate Student, Computation and Neural Systems
- Derek Smith, Postdoctoral Scholar, Geobiology

As a TA you will be required to grade homework sets, essays, and exams. Although often seen as a time-consuming chore, grading can be an effective form of communication between TAs and students. In this session we will teach you how to give constructive feedback, employ fair grading strategies, and manage your time efficiently. The session will be interactive, with examples of a variety of grading scenarios. Top

Intro to Chemistry TA-ing
10:15am, Moore 080

- Christine Morrison, Graduate Student, Chemistry and Chemical Engineering
- Bryan Hunter, Graduate Student, Chemistry and Chemical Engineering

A session geared specifically toward chemistry TAs led by experienced Caltech TAs. The first part of the session includes a demonstration of a new website that facilitates TA-ing by providing a place to create, share, and archive documents and grades. The second part focuses on the three types of chemistry TA responsibilities: grading, leading recitation sections, and teaching labs. A TA representing each type of TAing will be present to answer questions and pass on useful information for Caltech chemistry TAs. Top

Life as a Lab TA
1:30pm, Moore 070

- Rebekah Silva, Graduate Student, Chemistry
- Annet Blom, Graduate Student, Chemistry
- Emily Blythe, Graduate Student, Biophysics and Molecular Biology
- Kelsey Boyle, Graduate Student, Chemistry
- Carissa Eisler, Graduate Student, Chemical Engineering
- Katie Fisher, Senior, Chemistry
- Peter Hung, Graduate Student, Applied Physics
- Adam Jermyn, Senior, Physics

Lab courses provide undergraduate students with the exciting opportunity to apply theory and learn fundamental techniques that are often useful when joining a research lab. As a Lab TA, you will be an important part of this type of student learning, for example, teaching your students how to navigate safely in a laboratory setting, how to troubleshoot experiments, and how to manage their time in lab. Come join our panel of seasoned lab TAs as we discuss very broadly what responsibilities you can expect as a lab TA, brainstorm how you can effectively carry out those responsibilities, and provide
you with strategies for managing some challenging issues that are unique to TA-ing a lab class. Top

**Successful Office Hours**  
**11:30am, Annenberg 213**  
**1:30pm, Annenberg 105**

- Jennifer Walker, Graduate Student, Environmental Science & Engineering  
- Alicia Rogers, Graduate Student, Biology  
- Brandon Runnels, Graduate Student, Mechanical Engineering

Office hours are a great opportunity for individualized teaching to enhance students' learning. In this session, we will discuss teaching strategies that TAs can use in office hours to clarify concepts, address student questions, and help students develop the skills needed to master the course material and complete assignments. To help prevent the "Lonely Office Hours" syndrome, we'll also provide practical tips for encouraging attendance and creating a welcoming environment. Top

**General interest**

**3 Key Principles of Active Learning**  
**1:30pm, Annenberg 213**

- Julius Su, Program Manager, Community Science Academy  
- James Maloney, Program Manager, Community Science Academy

"Though seeing, they do not see; though hearing, they do not hear or understand." When teaching, we've all encountered blank stares. Are these looks of confused incomprehension? Bored satisfaction? Who knows! Active learning methods integrated into lecture and lab classes have been shown to be highly effective at increasing student performance in science, engineering, and mathematics (Freeman, PNAS 2014). We offer practical methods and activities, grounded in research, to quickly get to the bottom of what your students know and don't know, and to ensure that they understand and remember what you are teaching them. Top

**Micro Teaching: Practice, Assessment, Feedback**  
**Offered 10:15am & 11:30am, Annenberg 107**

- Daniel Thomas, Graduate Student, Chemistry and Chemical Engineering  
- Marco Allodi, Graduate Student, Chemistry and Chemical Engineering  
- Kevin Barraza, Graduate Student, Chemistry and Chemical Engineering  
- Greg Donaldson, Graduate Student, Biology and Biological Engineering

The ability to assess one's teaching performance and make improvements is one of the most crucial components of effective teaching. This session will provide participants with examples of self-assessment and class feedback, followed by interactive "micro"-teaching sessions, in which attendees will practice presenting a concept at the board,
observing, and providing helpful feedback in small groups. Participants will leave this session with a sense of their strengths and weaknesses, along with specific guidance on how to self-assess and continually improve throughout the term. Just a few minutes of practice can be very empowering, and this friendly, supportive session is the perfect venue to try things out! Top

Safe Zone Training for TAs and Instructors
1:30pm, Avery Library

- Jami Grosser, Pride Center Coordinator, Cal Poly Pomona

NOTE: This is an extended session from 1:30-3:45pm (15-minute break at 2:30). Caltech’s Safe Zone Program engages instructors (faculty, TAs), staff, and fellow students in a campus-wide support network for LGBTQ (lesbian, gay, bisexual, transgender, intersex, queer and questioning) students. Safe Zone training prepares you to be a supportive ally, in your role as an instructor or TA, to LGBTQ students, and to all individuals regardless of sexual orientation and gender identity. You will learn specific ways to contribute to an affirming and engaging campus climate, and upon successful completion of the training, you will be an important member of this growing network at Caltech. Top

Using Improv for Improving Presentation Skills
1:30pm, Annenberg 107

- Sara McBride, Lab Manager, Biology and Biological Engineering

Do you get nervous talking in front of people? Do you want to learn some techniques to calm your nerves and improve your classroom presence? This FUN, ENERGETIC, and HIGHLY INTERACTIVE session will teach you improv games to help you think on your feet, boost your confidence, and improve your communication skills. Top

Advanced sessions

Authoring New Problems for Sets and Exams
10:15am, Annenberg 213

- Noelle Stiles, Graduate Student, Computation and Neural Systems
- Peter Hung, Graduate Student, Applied Physics
- Camille McAvoy, Graduate Student, Chemistry and Chemical Engineering

Learning is typically organized in neat problems with the answer in the back of the book. Now rather than answering the questions you are expected to write them. Where do you start and how do know for certain that it is a good question? The designing of clear, contained scientific problems that are challenging but not overwhelming is a difficult skill that is honed for many years by educators. We will cover the basics as well as delve deeper into the underlying challenges and questions of problem design. This session is relevant to teaching as well as excelling in framing problems for scientific research. Top
Creating a Collaborative Classroom  
11:30am, Moore 080

- James Maloney, Program Manager, Community Science Academy  
- Julius Su, Program Manager, Community Science Academy

We often desire a class with students that are actively engaged and participating to create a collaborative classroom environment. We will share teaching methods that support these outcomes and that work in college, as well as K-12 settings. Examples will be shared from college and K-12 classrooms, and session attendees will participate in hands-on activities that demonstrate approaches to creating a supportive environment where everyone is comfortable contributing to the class. We will also share practices for adapting your scientific messages to a range of school-aged audiences, the benefits Caltech graduate students have received through this process, and opportunities for Caltech community members that desire to gain such experiences. Top

Demystifying the Early-Career Teaching Portfolio  
10:15am, Moore 139

- Sonja Francis, Postdoctoral Scholar, Chemistry and Chemical Engineering  
- Cassandra Horii, Director, Center for Teaching, Learning, & Outreach  
- Yoke Peng Leong, Graduate Student, Control & Dynamical Systems

Typically, the content of an outstanding Teaching Portfolio is focused on Teaching, Research, and Service. At Caltech, we have the Research down, but how do we find and use opportunities for Teaching and Service on campus and how can these experiences be translated into an outstanding Teaching Portfolio? This session, tailored for Early-Career Academics (Grad students and Postdocs), outlines the tools required to prepare your Teaching Portfolio in the context of the Caltech campus. Top

Head TA Network  
11:30am, Moore 139

- Cassandra Horii, Director, Center for Teaching, Learning, & Outreach

If you will be a Head/Lead TA for the upcoming academic year, or are interested in being one in the future, please join us for an interactive session and discussion of the many aspects of being a Head/Lead TA, as well as resources to assist you in this endeavor. Top

How to Plan and Run a Tutorial Class  
1:30pm, Moore 139

- Noelle Stiles, Graduate Student, Computation and Neural Systems  
- Audrey Chen, Postdoctoral Scholar, Biology and Biological Engineering  
- Grigorios Oiknomou, Postdoctoral Scholar, Biology and Biological Engineering
The responsibilities of a TA can be broad and wide reaching, however the TA ultimately cannot freely institute their own teaching methods and are not fully independent instructors. In Biology (and potentially in other options) there are opportunities for graduate students and post-docs to run their own course as a tutorial. Designing and running an independent course has its advantages, as well as challenges for new instructors; this session will have a panel of previous tutorial leaders discussing time commitment, tips, and challenges of running a tutorial course on campus. Potential benefits to your career and other outcomes from a tutorial course will also be discussed.

**Responding to Student Writing**  
**10:15am, Annenberg 121**

- Susanne Hall, Director, Caltech Hixon Writing Center

One of the most important ways we learn to write is by getting feedback on our work from thoughtful readers. As TAs, though, responding to the many kinds of writing students produce (e.g. papers, proposals, abstracts, reports, lit reviews, response papers) can be time-consuming and draining. This session will introduce you to research-based findings about the kinds of feedback that are most likely to help students improve as writers and thinkers. Some of these findings are likely to surprise you, as they contradict some very common teaching practices. We will talk together about how to implement response strategies in the real world, where our time and energy for responding to student writers is not limitless.

**Teaching with Technology**  
**1:30pm, Moore 080**

- Leslie Maxfield, Director, Caltech Academic Media Technologies  
- Julia Chamberlain, Chemistry Faculty, Pasadena City College

The technology available for teaching and learning is expanding rapidly, leading to new and exciting possibilities. In this session, you'll get a brief tour of what's new in educational technology, what's available at Caltech, and how best to choose particular technologies and integrate them effectively into your teaching plans.