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ARC 2009-2010

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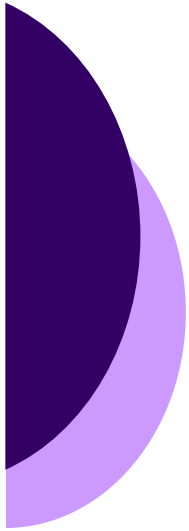
Wesley Yu

The Academics and Research Committee  
presents the

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# Student-Faculty Conference

Monday, April 6, 2009  
8:00 AM–4:30 PM



## SFC History

*The Student-Faculty Conference is an all-day discussion forum between students and faculty about issues important to Caltech undergraduates. Began in 1980, this conference is hosted every other year by the Academics and Research Committee, as a measure of self-scrutiny and review of Caltech education and student life.*

*This year's conference is the culmination of months of investigation by sixteen different student-faculty committees. We are reexamining the Honor Code, discussing the findings of last summer's Student Experience Trip, reevaluating the Core curriculum, as well as proposing changes to all options.*

*We hope the 2009 Student-Faculty Conference continues Caltech's deep-rooted tradition of bringing students and faculty together to address and improve the student experience.*

### **HUMANITIES**

**Students:** Daniel Obenshain\*, Daniel Walter Rowlands, Susan Shen

**Faculty:** Kevin Gilmartin, Cindy Weinstein

### **HONOR CODE**

**Students:** Alexander Hudson\*, Lucas Hartsough, Christopher Watson, Sierra Petersen

**Faculty:** Jared Leadbetter, \* J. Morgan Kousser, Nai-Chang Yeh, Christopher Brennen

### **MATHEMATICS**

**Students:** Ila Varma\*, Abhi Gulati, Casey Jao, Jeff Kuan

**Faculty:** Eric Ryckman, Alexei Borodin, Eric Rains

### **MECHANICAL ENGINEERING**

**Students:** Joules Gould\*, Ishwari Bendre, Michelle Jiang, John Leichty, Stanislava Petkova, Fei Yang

### **PHYSICS/ASTROPHYSICS/APPLIED PHYSICS**

**Students:** Micha Fireman\*, Sarah Marzen, Dahvyd Wing, Ashley Potts, Leon Liu

**Faculty:** Ken Libbrecht, Tom Tombrello, Nic Scoville, Kerry Vahala

### **SOCIAL SCIENCES**

**Students:** Tony Jia\*, Aditya Bhujle, Jie He, Nixon Li, Tommy Morphet, Ryan Newton

**Faculty:** Kim Border, Jaks Cvitanic, Rod Kiewiet

### **STUDENT EXPERIENCE**

**Students:** Caleb E. Ng, Timothy Black, Cliff Chang, Edward Chen, Anthony Chong, Sarvesh Garimella, Abhi Gulati, Paul Fleiner, Ryan Lanman, Maral Mazrooei, Liuyi Pei

### **UNDERGRADUATE RESEARCH**

**Students:** Dvin Adalian\*, Zenan Chang, Ali Ebrahim, Karthik Sarma, Andy Yen, Wesley Yu

**Faculty:** Mani Chandy, Steven Frautschi, Candace Rypisi, Douglas Rees, Sarkis Mazmanian

\* Denotes chair or co-chair

## Committees

### APPLIED AND COMPUTATIONAL MATHEMATICS

**Students:** Brian Go\*, Fan Huang, Kris Kazlowski, Michelle Ton, Esther Wang

**Faculty:** Emmanuel Candes\*, Daniel Meiron, Peter Schröder, Joel Tropp

### BIOLOGY/COMPUTATIONAL AND NEURAL SYSTEMS/BIOENGINEERING

**Students:** Dongkook Lim\*, Lucus Hartsough, Jason Lunn, Karthik Sarma, Ilia Shadrin, Leslie Tong

**Faculty:** David Chan, Marianne Bronner-Fraser, Christof Koch, Niles Pierce, Ellen Rothenberg, Kai Zinn

### CHEMISTRY

**Students:** Pradeep Bugga\*, Laura Decker, Dana Levine, Benji Lin, Andrey Poletayev, Wesley Yu

**Faculty:** Douglas Rees, Mitchio Okumura, Brian Stoltz, John Bercaw, William Goddard, Dennis Dougherty

### CHEMICAL ENGINEERING

**Students:** Muzhou Wang\*, Kara Huang, Jack Lin, Ankita Mishra, Karthik Narsimhan, Qinren Zhen

**Faculty:** Richard Flagan, Julie Kornfield, Anand Asthagiri, Michael Vici

### COMPUTER SCIENCE

**Students:** Chris Kennelly\*, Cheng William Hong, Matthew Maurer, Karthik Sarma

**Faculty:** Chris Umans\*, Al Barr, K. Mani Chandy, Mathieu Desbrun, Adam Wierman

### CORE RE-EVALUATION

**Students:** Neal Bansal, Thomas Gwinn, Andrea Dubin

**Faculty:** Mike Brown\*, Scott Fraser\*, Pamela Bjorkman, Harry Gray, Mitchio Okamura, Warren Brown, Ralph Adolphs, Fiona Harrison, Danny Calegari, Shuki Bruck, Niles Pierce, Alan Weinstein, Paul Bellan

### ELECTRICAL ENGINEERING

**Students:** Gabe Cohn\*, Anuj Arora, Fei Chen, Tom Gwinn, Brian Yu

**Faculty:** Yu-Chong Tai, Michelle Effros, Glen George

### GEOLOGICAL AND PLANETARY SCIENCES

**Students:** Sierra Petersen\*, Nathaniel Borneman, Marie Giron, Alex Krikorian, Veronica Anderson, Sarvesh Garimella

**Faculty:** Robert Clayton, Paul Asimow, Andy Ingersol, Jennifer Jackson, George Rossman, Alex Sessions

## SFC 2009: Schedule of Events

Time	Event	Location
8:00-8:25	Breakfast; Opening Statements: President Chameau, Faculty Board Chair Judy Campbell, Vice Provost Melany Hunt	Ramo Auditorium
8:30-9:25	Core Curriculum Task Force	Ramo Auditorium
9:30-10:25	Undergraduate Research	Ramo Auditorium
10:30-11:55	Student Experience; Speaker: Caleb E. Ng	Ramo Auditorium
12:00-12:55	Lunch	Outside Ramo Auditorium
13:00-13:55	Honor Code	Ramo Auditorium
14:00-14:55	Humanities and Social Sciences	Ramo Auditorium
	Applied and Computational Mathematics	Guggenheim 101
	Biology/Computational and Neural Systems/ Bioengineering	Beckman Institute Auditorium
	Chemistry	Crellin 151
	Chemical Engineering	Spalding 106
	Computer Science	Jorgensen 74
15:10-16:30	Electrical Engineering	Moore 070
	Geological and Planetary Sciences	South Mudd 254
	Mathematics	Sloan 151
	Mechanical Engineering	Thomas 206
	Physics/Astrophysics/Applied Physics	Steele 102

## Discussion Topics

### APPLIED AND COMPUTATIONAL MATHEMATICS

- The role of ACM 101 and ACM 106 and creating ACM 101 "Pizza Course"
- Increasing programming preparedness of ACM students
- Research availability and staffing shortage

### BIOLOGY/COMPUTATIONAL AND NEURAL SYSTEMS/BIOENGINEERING

- Bioengineering and CNS as majors
- Distributing classes evenly throughout the year
- Bi1 and Bi1x experimentation
- Biology sub-options explicitly in transcript

### CHEMISTRY

- Developing undergraduate TA program
- Summer research opportunities for freshmen
- Ch 21 and Ch 4 improvement

### CHEMICAL ENGINEERING

- Industry career opportunities
- Changing Ch21a and general course issues
- Structuring senior thesis

### COMPUTER SCIENCE

- Increasing the number of course offerings
- Changing introductory CS courses
- Increasing focus on industry
- Making research opportunities more available

### CORE RE-EVALUATION

- Should Caltech have Core
- How to determine which parts of core are not working
- Should fundamental changes be made to core

### ELECTRICAL ENGINEERING

- Changing schedules of required courses
- Improving course descriptions in catalog
- Improving student-faculty interactions
- Making changes to commonly problematic courses

### GEOLOGICAL AND PLANETARY SCIENCES

- Making course information easier to find for students
- Welcoming new students into the department
- Matching students with SURF mentors
- Preparing students for industry jobs

### HUMANITIES

- Changing language class uniting
- English composition class
- Language center in Dabney Library
- Freshman Humanities Scheduling

### HONOR CODE

- Increasing outreach to Caltech community on academic honor code issues
- Ensuring fairness and consistency in BoC proceeding
- Structural changes to the Board of Control

### MATHEMATICS

- Undergraduate seminar/pizza course
- Reading Course (Ma 98)
- Exam length and weight
- Availability of Ma 5 to freshmen

### MECHANICAL ENGINEERING

- Changing ME 19, ME 35, ME 65
- Creating more design/robotics classes
- Giving more guidance toward career paths
- Creating and improving student-faculty interaction

### PHYSICS/ASTROPHYSICS/APPLIED PHYSICS

- Restructuring of Ph2 and Ph12 sophomore physics requirements
- Guidelines for material coordination amongst professors, students, and TAs
- Physics "survival guide"

### SOCIAL SCIENCES

- Adding classes in Law, Marketing, and Psychology
- Updating Course Catalog/Major Requirements
- Transferring credit for courses

### STUDENT EXPERIENCE

- Student House System and North House physical infrastructure for reconstruction
- Alumni relations and development
- Academics and research

### UNDERGRADUATE RESEARCH

- Improving research advertisement
- Improving networking opportunities
- Evaluating the time available for research in each option