Introduction

- Overview of SURF
- The application process
- Important dates
- Questions?
Overview of the Programs

- SURF is:
  - Modeled on the grant-seeking process
  - Introduction to the research environment
  - A full-time commitment

- SURF is *not*:
  - Just a “summer job”
  - Intellectual bottle washing (although you may need to wash some bottles...)
Through their participation in an undergraduate research project, students will be able to:

- develop a research question, problem, or design;
- apply basic principles and knowledge found in the literature related to the research question;
- develop a research proposal to address or resolve a specific research question or problem;
- apply and evaluate methodology throughout the project;
- collect, interpret, and critique data in order to resolve a research question or evaluate a design;
- communicate research findings; and
- appreciate what the process of scientific research entails.
SURF Eligibility for Caltech Students

- Be a continuing undergraduate student
- Have a cumulative GPA of at least 2.0
- Complete the third term at Caltech, or at another school under a program approved by a Dean
- Be eligible for fall term registration before beginning your SURF project and no later than July 1
- Not be under any disciplinary sanction
SURF Eligibility for Visiting Students

- Be a continuing undergraduate student
- Have a cumulative GPA of at least 2.5/4.0
- Complete the second semester or third quarter at your college or university
- Not be under any disciplinary sanction
Overview of Requirements

- Conduct your project *on a full-time basis* over 10 weeks
- Progress reports
- Abstract
- Final technical paper
- Final presentation (oral or poster)
SURF Compensation

- SURF Fellows are considered Caltech student employees and receive $6,000
- Students pay for their own housing
- Campus housing will be available for visiting students
Where can I SURF?

- Caltech
- JPL

For Caltech students only:
- Exchange program sites
  - University of Iceland (UI)
  - Gwangju Institute of Technology (GIST)
- Off-campus, U.S. institution
- Off-campus, international institution
How do I find a mentor?

- Mentors need to be a faculty member or JPL technical staff member
  - Staff scientists, postdocs and grad students can be co-mentors, but ultimately a member of the faculty needs to agree to mentor you
- Announcements of Opportunity (AOs)—note: not all faculty do this
- Seminar Classes and Option Seminars
- Talk to your advisor
- Review 2015 Abstracts—available online at [http://www.sfp.caltech.edu/students/summer_requirements/abstract](http://www.sfp.caltech.edu/students/summer_requirements/abstract)
- Ask housemates, classmates, RAs, and SFP Student Ambassadors
- Talk to faculty/instructors in your courses
- Browse the website and contact faculty of interest
- Be sure to look outside your option, much of the research at Caltech is interdisciplinary
How do I find a mentor at JPL?

- JPL mentors must post Announcements of Opportunity (AOs)
- Talk to your advisor/faculty about collaborators at JPL
- Ask housemates, classmates, SFP Student Ambassadors
- Browse the website and contact scientists of interest
- Talk to SFP staff
How does a Caltech student find a mentor at another school?

- Talk with your advisor and professors who may have collaborators they can refer you to
- Browse websites of schools you are interested in going to
- Talk to your friends who may go to a school you are interested in
- Check-out option seminars - The speakers are usually from other schools
- Ask the SFP office if there have been students at that school before and who their mentors have been
Hints for Finding a Mentor

- Start early.
- Contact multiple possible mentors at once; but don’t spread mass emails. Pursue only research groups you are truly interested in.
- DON’T RELY ON EMAIL!
  - Visit their office.
  - Call as a follow-up to an email.
  - CC the administrative assistant on all emails.
- Contact the faculty’s administrative assistant for help in setting a meeting.
- Contact a graduate student or postdoc in the group and ask for a tour/meeting to learn more about the group.
- Look outside your option.
- Use who you know. Find an undergrad who did research in the lab you want and ask for an introduction.
- If you are having difficulty, come to the SFP office—early.
- Be assertive and professional!
The First Contact

- Be professional
- Have confidence that you have something to offer, but don’t act entitled
- Provide adequate information about yourself—but not too much
- Learn something about the research topic in advance and state your interest in it
- Request additional references
- Request a meeting or telephone interview
- Review interview guidelines on SFP website
  http://www.sfp.caltech.edu/students/getting_started
Overview of Application Process

- Identify a mentor
- Caltech students submit:
  - an application
  - a research proposal
  - two letters of recommendations (not from your proposed mentor)
    - At least one letter must be from a faculty member at Caltech
    - For some, name of a faculty associate mentor
- Visiting students submit:
  - an application
  - a research proposal
  - three letters of recommendation (not from your proposed mentor)
    - All three letters must come from faculty (at least two from faculty in relevant disciplines)
  - an unofficial transcript
The Application

- Who you are, where you live
- Courses you’ve taken or will take
- Extracurricular activities
- Prizes and awards
- Anything else you want to tell us
The Research Proposal

- The proposal explains:
  - what you plan to do in your research;
  - why this work is necessary or desirable;
  - specifically, how you will do it; and,
  - through your preparation and by force of argument, why you are the right person for the job.

- Clear guidelines are available on the SFP webpage.

- Attend proposal writing workshop in February for more details.

- Note: Your proposal will be reviewed by someone in your general field.
Letters of Recommendation

For Caltech students
- At least one from a faculty member, who is not your prospective mentor
- The other could be from someone else in the Caltech community who knows you well (TA, coach, RA, glee club director, etc.)

For Visiting students
- Three letters of recommendation from faculty (at least two in the relevant discipline)
The Mentor Evaluation

- Your prospective mentor will submit the mentor evaluation online after you submit your application.
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<thead>
<tr>
<th>Month</th>
<th>Event</th>
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<tbody>
<tr>
<td>January</td>
<td>Begin looking for a mentor</td>
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<tr>
<td>February 5</td>
<td>Proposal writing workshop</td>
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<td>February 22</td>
<td>SURF application due</td>
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<tr>
<td>April 1</td>
<td>SURF awards are announced</td>
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<td>June 14</td>
<td>SURF begins</td>
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<td>August 18</td>
<td>Summer Seminar Day</td>
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<td>August 19</td>
<td>SURF ends</td>
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<td>October 15</td>
<td>Seminar Day</td>
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Other Dates

- Off-Campus and Exchange SURF Info Session:
  - January 15 at noon
- Exchange Applications Due:
  - February 9
How to Reach Us

URL: www.sfp.caltech.edu
E-mail: sfp@caltech.edu
Phone: x2885
Office: 330 Center for Student Services
FAQs

- Q. What are my chances of getting a SURF? I'm a freshman. Do I have any chance of getting a SURF? I'm not a Caltech student, what are my chances?

- Q. Can I apply for more than one SURF? Can I apply for all of the programs—SURF and an Exchange?

- Q. My potential mentor says he/she has no money to contribute to my award. Can I still be awarded a SURF?

- Q. I'm currently a senior. Can I apply?

- Q. You ask for letters of recommendation from faculty. I'm a freshman and all the classes I've taken had a large number of students, so my professors don't really know me. What should I do?

- Q. How long should the proposal be?

- Q. Can I start late or take a vacation in the middle of SURF?