CIRM-funded Bridges to Stem Cell Research (BSCR) Program

http://biology.fullerton.edu/stemcells/

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What are stem cells (SC)?

- SC are similar to cells present in the embryo during the first 3 – 7 days after fertilization.
- They are undifferentiated and have the potential to differentiate into any cell type (pluripotent).
- They can remain pluripotent indefinitely.
- Thus, SC research is considered to be the most promising new technology for regenerative medicine and/or customized medicine.
- There are various types of SC, and induced pluripotent SC (iPSC) are thought to be the future of translational/biomedical research.
CIRM’s Goals

• CIRM: California Institute for Regenerative Medicine

• CIRM wants students to enter the field of stem cell research because...
  • ...it is the next frontier in biotech
  • ...stem cell research is booming in California, and
  • ...there is lack of personnel with stem cell training

• They are hoping for students to enter the work-force at all levels: technicians, PhD, MD, DDS, MBA, etc.
Prepare students for an intensive, full-time stem cell research internship through:

1. **Essential Techniques in Cell Biology** (BIOL 329)
2. **“Independent Research”** (BIOL 499L) in a selected CSUF lab
3. Stem cell-related course-work (Fall semester)
4. Improved communication, presentation, goal-setting, and strategic planning skills (BIOL 480C)
5. Internship selection process (e.g. find the best “fit”)

**Internship Host sites:** UCI, USC, CHOC & Stanford
BSCR Program: Academic Benefits

• Expertise in Stem Cell Research
• Academic advancement and scholarly gains
• Possibility of additional/stronger recommendation letters for the BSCR Scholar (intern)
• Courses apply to your B.S. in Biology (C&D, MBB)
BSCR Program: Financial Support

The Scholars get:

• tuition reimbursement of $1,100 for spring 2016 semester;
• stipends of $2,575/month during internship (from January 2016 to July 2016), $18,025 total.

These benefits may impact your Financial Aid.

The students are required to support themselves during summer 2015 and fall 2015 semesters. The students have to pay for:

• the summer course (BIOL 329);
• full-time enrollment during fall 2015 semester.
BSCR Program: Timeline

- 03/20/2015 – 5th annual Stem Cell Symposium
- 04/20/2015 – applications due; up to 10 applicants selected
- 04/20/2015 to 04/27/2015 – interviews
- 05/01/2015 – BSCR Scholars announced
- 06/01/2015 to 07/02/2015 – Essential Techniques in Cell Biology (BIOL 329)
- Summer 2015 – Full-time research at CSUF (volunteer)
- Fall 2015 semester – SC-related courses (on the next page)
- 01/04/2016 to 07/29/2016 – Full-time internship (stipend)
BSCR Program: Coursework

Summer 2015 semester:
• BIOL329 – Essential Techniques in Cell Biology
• Full-time research in a CSUF lab (volunteer)

Fall 2015 semester:
• BIOL 427 – Stem Cell Biology (Lecture)
• BIOL 429 – Techniques in Stem Cell Biology (Lab)
• BIOL 480C – Profession Seminar (internship prep.)
• BIOL 499L – Independent Research
• PHIL 314 (or 316) – Medical (or Research) Ethics

Spring 2016 semester: full-time enrollment in internship-related courses (BIOL 299L, BIOL 480, BIOL 495, BIOL 499L)
BSCR Program: Applications

Successful students will have...

• good GPA (>3.0)
• completed BIOL 302, and BIOL 303 or BIOL 309
• Or completed CHEM 421 or 423 (biochem majors)
• a demonstrable interest in stem cell research
• Prior research experience is not needed!
• Integration of stem cell research into your career goals is desired; PhD as a career goal is not a requirement.

DOWNLOAD APPLICATION