Summer Undergraduate Research

Prof. Karl Haushalter
Associate Dean of Research and EL
haushalter@hmc.edu

Introduction

- Why summer research?

- Where to do summer research?

- How to get started?

Summer research in Biology

- One application process for life science projects across the 5Cs in many different departments.

- Projects and application information available mid-January, applications due early-February.

- Project descriptions and applications at: http://goo.gl/lwvNF1

Chemistry 2015 Summer Research
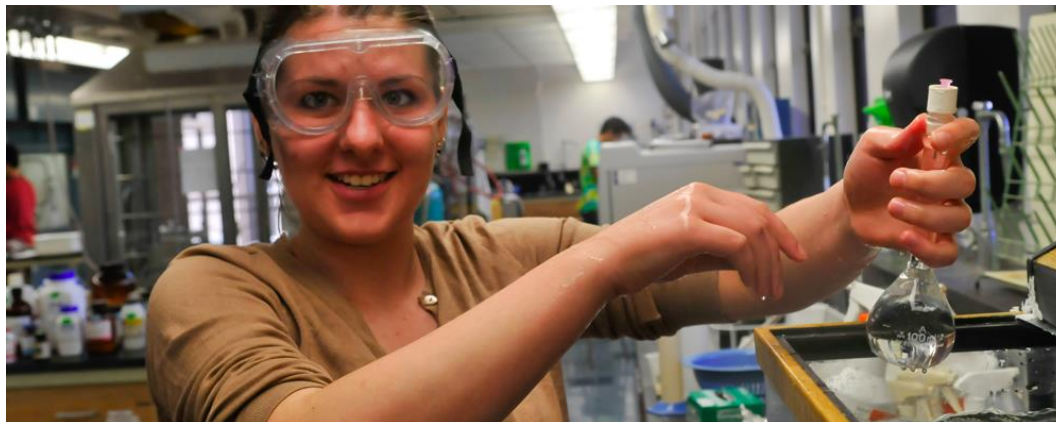
- **Current frosh, sophomores, and juniors are welcome to apply (you don't need to be a chemistry or chem-bio major)**

- **10-week program: May 25 – July 31**

- **Applications welcome January 9 – February 6**

- **See HMC Chemistry website for more information, or speak with a chemistry faculty member!**

Summer Research in CS

~15 projects

~ all are teams (2-10)

~ many have flexible schedules

~ many have spots for first-year students

~ *"homebase"* is the 2nd floor of Sprague

~ sales pitches are on Th., Jan. 22 @ 4:15 pm

Jazz composition
Parallel programming
CS Education
Biological Algorithms
P. Language design
Robotics, Vision
Natural Language Proc.
Game design
Intelligent Agents/Apps
CS Outreach

Engineering Research Programs

- Now:
  - Prof. Bassman (Laspa Fellowship) for materials science (applied mechanics, metal alloys and computation)
  - Prof. Duron (DePietro Fellowship) for civil engineering
- Late Oct/Early Nov:
  - Prof. Clark (Laspa Fellowship) for robotics
  - Prof. Lape (Lewis Fellowship) green building and chemical engineering
- Late Nov:
  - Prof. Dato for materials science (graphene)
  - Prof. Lape for chemical engineering (nanocomposite gas separation membranes, transdermal drug delivery)
  - Prof. Orwin (Engman Fellowship) for bioengineering (tissue engineering, biomechanics and medical device design)
  - Prof. Krauss for design research
  - Prof. Gokli (Riggs Fellowship) for internships in engineering management, manufacturing or design
- March 2015 (for 15-16 academic year):
  - Prof. Harris (Clay-Wolkin Fellowship) for computer engineering and chip design

Contact individual professors (or Prof. Orwin orwin@hmc.edu)

Department of Humanities, Social Sciences, and the Arts

A relatively small number of opportunities for students are available in the HSA department and these are often filled by students who have an existing connection/project with the faculty member, but students can check the HSA webpage in January to see if any additional positions have been advertised.

Summer Research in Mathematics

Watch for announcement on

math-announce-l@hmc.edu

Research Programs in Physics

*Chen: solid state
Donnelly: high-intensity lasers
Eckert: magnetic thin films
Esin: astrophysics
Gerbode: soft condensed matter
Haskell: biophysics
Lynn: quantum optics
Lyzenga: geophysics
Saeta: photovoltaics
Sahakian: string theory
Sparks: magnetic thin films
*Townsend: theoretical particle physics

In the physics department there is no formal application process, or application date, for becoming involved in research. The best way to become involved in a group is to look here (: http://physics.hmc.edu/faculty/) for details about faculty programs. Once you see research programs that look interesting please start knocking on doors. We're really friendly! ☺

International Research Through Study Abroad Providers

Arcadia University – The College of Global Studies

- Program Features
  - Combines rigorous academic research experiences with living and studying in another country with a distinct culture and heritage.
  - Non-paid; students pay for program but study abroad benefits included (housing, excursions, cultural events etc.)
  - Provider scholarships are available

- Locations
  - Glascow, Ireland (Bio, Chem, Phys, Math)
  - London, England (biomedical sciences)
  - Granada, Spain (Environmental Sciences, Math, Phys)
  - Sicily, Italy (Computer Science)

- Requirements: 3.0 GPA, English speaking for all except Granada

- Application: See http://studyabroad.arcadia.edu

DAAD North America

RISE (Research Internships in Science and Engineering)

- Program Features
    - Students work with research groups at universities and top research institutions across Germany for a period of 2 to 3 months during the summer.

    - RISE interns are matched with doctoral students whom they assist and who serve as their mentors.

    - Stipends provided to help cover living expenses and housing.

- Requirements
    - Completion of Sophomore year, current undergraduate status
    - English (German lang. helpful for everyday life)
    - Average GPA of accepted applicants is over a 3.0. Selection is done by the graduate student.

- Application opens Dec. 6, 2015 and ends Jan. 15, 2015

Contact: www.daad.org/rise