Outreach Opportunities

Chemistry Department students and faculty can engage in a number of outreach and educational opportunities with students in K-12 schools to complement their research and teaching assistant responsibilities. Many of these opportunities also span across multiple departments at the university, connecting students in chemistry with peers throughout Brown.

Single Day Outreach

STEM Day
Students from local high schools visit Brown for a half-day conference featuring an interactive panel discussion, breakout sessions, and a college access/success discussion, hosted by Chemistry. Faculty and students may serve as group leaders and lead breakout sessions. Students may also serve on the student Q&A panel.
STEM Day 2018 news
Faculty, postdocs, grad students, undergrads
ESTIMATED COMMITMENT: ½ - 1 DAY IN LATE JANUARY

Student Presentations at Times Squared STEM Academy or 360 High School
Times Squared STEM Academy (Times2) is a K-12 public charter school in Providence. Most of the students are college-bound, and many of them are first generation, meaning they would be the first in their families to attend college. The demographics of Times2 are similar to standard Providence public high schools, and their curriculum is STEM-focused.

Times2 has asked for students in STEM concentrations at Brown to give presentations on life as a college student—particularly studying STEM fields—including coursework, research, accessing college, the college application process, etc. Students may also lead demos or labs, pending availability of supplies. Times2 is also in need of donated equipment, if available. These presentations are currently arranged by Chemistry.
Grad students, undergrads
ESTIMATED COMMITMENT: 1 HR. PER PRESENTATION

RI Science and Engineering Fair (RISEF)
Hundreds of high school students compete at RISEF, held annually in March. The RISEF coordinators are local high school teachers and professors, and need judges each year. The more judges they have, the better. Judges should be STEM-oriented, but do not need to posses a STEM degree at the time of judging. Judging is a crucial component of RISEF, as winners proceed to the national Intel Science and Engineering Fair.
Faculty, postdocs, grad students, undergrads
ESTIMATED COMMITMENT: 4 HRS. ON DAY OF FAIR

Science Conference
Every year, students and faculty from Brown participate in a conference at Vartan Gregorian. The conference features a keynote as well as short breakout sessions, including demos and experiments. Currently, the Science Conferences are coordinated by Prof. Karen Haberstroh. Annually, the event is typically held in early June.
ESTIMATED COMMITMENT: 1-2 HRS. PREP + 2-3 HRS. ON CONFERENCE DAY
Faculty, postdocs, grad students, undergrads

STEM I and II Research Panels / STEM Activities
The School of Professional Studies offers two STEM-oriented programs during the summer: STEM I (middle school) and STEM II (early high school). In addition to working as an instructor designing courses and capstone projects (see “Ongoing Outreach”), students are needed to serve on graduate research panels and/or to lead demonstrations during the course of the program. Participants in STEM I and II are from schools across the US, including Providence!
ESTIMATED COMMITMENT: 1-2 HRS. PREP + 1-2 HRS. ON CONFERENCE DAY
Grad students

Sustained Outreach

STEM Fellows Program
On a regular basis, faculty and students from Brown lead demos and experiments at Vartan Gregorian, a local elementary school. Demos and experiments supplement science education, which is important for sparking an interest in STEM at a young age. Vartan Gregorian is looking for a small team to visit weekly over the course of an academic year. For example, a Brown research group might choose to adopt a classroom and between 4 graduate students, each visiting once per month so that they can cover every week.
Faculty, postdocs, grad students, undergrads
ESTIMATED COMMITMENT: 1-2 HRS PER VISIT (INCLUDING PREP); DEPENDS ON SIZE OF TEAM

The Brown Advocate Program (currently funded by the Jack Kent Cooke Foundation and hosted by Chemistry)
Local public schools have identified the need for slightly older peer mentors to help students through the science fair process one-on-one from September until their local science fairs in February/March. Mentoring involves guiding students through the following: choosing a project, forming a hypothesis, assisting in identifying appropriate data collection techniques, analyzing results and drawing conclusions, communicating data, and mock judging.
ESTIMATED COMMITMENT: 3-4 HRS. PER MONTH
Faculty, postdocs, grad students, undergrads

RI ACS Project SEED
ACS Project SEED is a national program with the theme “hands-on research for high school students.” It brings students from economically disadvantaged backgrounds into college research laboratories for a summer internship. The RI program will commence in Summer 2018, hosting 7 students among Brown, University of RI, and Providence College.
RI ACS SEED website: http://tinyurl.com/acsseedri
Faculty, postdocs, grad students, undergrads [PI must approve of hosting a high school student in their lab]
ESTIMATED COMMITMENT: 6-8 HRS. PER WEEK DURING THE SUMMER

Swearer Tutoring Enrichment in Math and Science (STEMS) Program
STEMS is run by the Swearer Center at Brown. Participants work with students and their teachers at Hope High School to develop skills in math and science classes. Participants also provide mentoring for students, and take part in training related to outreach and developing teaching skills.
Grad students, undergrads
ESTIMATED COMMITMENT: 6 HRS. PER WEEK DURING THE ACADEMIC YEAR

Summer @ Brown
Summer @ Brown is part of the School of Professional Studies’ (SPS) Pre-College Programs. Courses offered through Summer @ Brown are non-credit bearing, and offered on a wide range of subjects in the sciences, arts, and humanities. Sessions are 1, 2, or 3 weeks long, and classes meet daily (M-F) for 2 or 3 hours.

Grad students (teams are welcomed) interested in designing a curriculum and teaching a course should speak to their research advisor one year in advance, as course proposal begins in October. The instructing grad students put together course materials including learning objectives, projects and activities, and assessments. Professional development opportunities are provided through the School of Professional Studies and in collaboration with the Sheridan Center.
Grad students
ESTIMATED COMMITMENT: VARIES, INCLUDES DESIGN AND INSTRUCTION OF COURSE

STEM I and II
STEM I and II are two other SPS Pre-College Programs. They are intensive, 2-week programs, with 3 hours per day of instruction (M-F), an extended day on Tuesday and Thursday for field trips or labs and STEM II includes a mandatory capstone project. Students in the programs also participate in interactive activities throughout their 2 weeks at brown (see “One-Day Outreach”).

Grad students (teams are welcomed) interested in designing a curriculum and teaching a STEM I or II course should speak to advisor one year in advance, as course proposal begins in

October. In addition to a curriculum, instructors in the STEM II program must design a capstone project for participants to complete. Participants present capstone projects to colleagues and their families on the last day of the program.

Grad students

ESTIMATED COMMITMENT: VARIES, INCLUDES DESIGN AND INSTRUCTION OF COURSE