

A Plan for Broadening Participation in Chemistry

Purdue University, Chemistry Department

Preamble

The Purdue University Chemistry Department is committed to the preparation of its students, staff and faculty to succeed in a workforce and global community that is becoming increasingly diverse. To do this successfully its climate must foster a culture of inclusion – one that is open, welcoming and nurturing to everyone, regardless of rank or position of authority. All academic departments strive for preeminence, but to be preeminent, a department must create and sustain an environment that is immersed in a rich culture of diversity. Only then can its members be successful, both at Purdue and in our evolving global society. Such a department will foster mutually supportive human relations as well as enable its members to not only identify, but also reject, stereotypical misconceptions and misperceptions. Addressing issues involving harassment and the abuse of authority will foster diversity as well as benefit all members of our departmental community.

In particular, the recruitment and retention of underrepresented students, staff and faculty is essential to creating and sustaining departmental diversity. Retention is enhanced by assuring that service on committees is equitably distributed, salary decisions are transparent and professional advancement is encouraged. Retention in all categories is adversely impacted by the relative isolation experienced by underrepresented groups, both within the department and within the larger academic community.

The goals of the Purdue University Chemistry Department's "Plan for Broadening Participation in Chemistry" are therefore to:

1. Enhance a culture of diversity by increasing the recruitment of students, faculty and staff that will be broadly representative of the people who make up our national and global societies.
2. Sustain this culture of diversity by ensuring that the department's environment is one of inclusivity – an environment which is truly the sum of its human parts and is marked by mutual respect, fairness and accountability regardless of ethnicity, gender, national origin, race, religion, sexual orientation, disability, age, rank or position of authority.
3. Capitalize on these successes of enhanced diversity to maximize the retention and graduation of undergraduate and graduate chemistry majors, categorically and collectively, in the department's programs.
4. Create focused programs that provide opportunities for all faculty and staff to develop and succeed professionally.

We are proud that our Department is dealing from strength as we strive towards these goals. Using the latest available date, we were first in the nation in the number of Hispanic Doctoral recipients in 2004-2005, first in the number of Ph.D degrees granted to members of underrepresented minorities between 2002 and 2006, and first among the top 50 chemistry research departments in the number of women faculty in 2007. We also note that the efforts outlined herein mesh well with analogous goals that are outlined within the Purdue College of Science's recently enacted strategic plan, and the University's plan for diversity entitled MOSAIC.

Strategies for Goal 1: Enhance a culture of diversity by actively recruiting students, faculty and staff that will be broadly representative of the people who make up our national and global societies

A. Faculty

1. Be proactive in soliciting applications from a diverse pool of candidates

- a. Ensure that the department is regularly represented by a faculty member at meetings and workshops that primarily feature talks and posters by students and faculty from underrepresented groups. Examples include the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), National Organization of Black Chemists and Chemical Engineers (NOBCChE), Committee On the Advancement of Women Chemists (COACH) and the American Chemical Society Academic Employment Initiative (ACS AEI). (Implementation: Department Head)
- b. Identify early-stage potential candidates, including those from Purdue, and make, as well as sustain, contact with them during their graduate and postdoctoral studies. (Implementation: Department Head Designate)
- c. Annually obtain a list of Ph.Ds who are members of under-represented groups graduating from CIC Universities and assign a member of the faculty to identify and communicate with potential faculty candidates. (Implementation: Department Head Designate)
- d. Use our alumni to help identify and maintain connectivity with potential candidates (Implementation: Department Head Designate)
- e. Ensure that there are regularly held faculty searches that include all areas of chemistry so as to maximize the possibility of identifying underrepresented candidates and their inclusion on the search short list. (Implementation: Department Head)
- f. Educate search committees about the need for, and the ways to obtain, a broad pool of candidates. (Implementation: Department Head Designate and Search Committee Chairs; Resource: several Purdue offices and staff)

2. Ensure that all candidates are given a fair and equitable evaluation.

- a. Ensure that every search committee has at least one female faculty member. (Implementation: Department Head)
- b. Educate the search committees about procedures that help ensure the fair and equitable evaluation of all candidates. (Implementation Department Head Designate and Search Committee Chairs; Resource: University of Illinois, Chicago Faculty Search Toolkit)

3. Seek out “targets of opportunity” for the hiring of members of underrepresented groups.

- a. Maintain a list of potential faculty from among the underrepresented populations who are at colleges and universities with fewer resources than are available at Purdue, and actively solicit their application to our department. (Implementation: Department Head Designate)
- b. Urge the various levels of the university administration to set aside funds to allow for the timely hire of a “target of opportunity” (Implementation: Department Head; Resource: the University of California program)
- c. When a “target of opportunity” is identified, aggressively seek the resources needed to make that hire. (Implementation: Department Head)

B. Staff

- a. Work with the University Office of Human Resources Services to ensure that ads for all staff openings are broadly placed in national venues likely to be seen by members of underrepresented groups. (Implementation: Department Head designate)
- b. Work with the University Office of Human Resources Services to ensure that the departmental screening committees have available pools of candidates to choose potential staff. (Implementation: Department Head designate)
- c. Educate the screening committees about procedures that help ensure the fair and equitable evaluation of all candidates. (Implementation: Department Head; Resource: several Purdue offices and staff)
- d. Rationalize departmental hiring procedures to ensure consistent and best practices. (Implementation: Department Head)

C. Students

Undergraduate Students

- a. Utilize the network of teachers and schools created by the Department's Science Express instrumentation van program to generate and maintain a list of potential science majors who are members of underrepresented groups and actively recruit them to enroll at Purdue. (Implementation: Outreach Coordinator and Department Head designate)
- b. Develop visitation programs utilizing current students from underrepresented groups and their former high schools to enhance recruitment efforts at these schools. Place special emphasis on high schools located in major metropolitan areas of the state. (Implementation: Department Head designate)
- c. Develop and hold annual high school chemistry teacher workshops in conjunction with one of the two semi-annual meetings of the Indiana Alliance of Chemistry Teachers. (Implementation: Outreach Coordinator and Department Head Designate)
- d. Work with the Indiana Alliance of Chemistry Teachers to utilize that organization's web site to serve as a resource to teachers statewide. Include the opportunity for feedback from the teachers. (Implementation: Outreach Coordinator and Department Head designate)
- e. Explore ways to increase the progression to the West Lafayette campus of students from underrepresented groups who have begun their higher education at one of the Purdue regional campuses or at one of the Indiana Vocational Technical Community Colleges. (Implementation: Department Head Designate)

Graduate students

- a. Ensure that the department is regularly represented by a faculty member at meetings and workshops that primarily feature talks and posters by students and faculty from underrepresented groups. Examples include annual meetings of SACNAS and NOBChe. (Implementation: Department Head designate)
- b. Work with the Campus' Multicultural Centers to enhance the visibility of the Purdue University Chemistry Department among college seniors from underrepresented groups (for example, the current Sloan-funded program for the recruitment of Native-American graduate students to Purdue) (Implementation: Department Head designate)
- c. Build critical masses of underrepresented minority groups by working with others in the Colleges of Science and Engineering to develop ties to, and recruit from, institutions with large numbers of such undergraduates. For example, build on the existing departmental ties with Puerto Rico Chemistry Departments to create a critical mass of Puerto Rican graduate students. (Implementation: Department Head designate)

- d. Increase our efforts to recruit top-level international students by expanding our successful International Graduate Students scholarship program.
- e. Seek funding for the reinstatement of the Department's national "Chemistry Career Planning Workshop for Underrepresented Minorities." (Two were held at Purdue with NSF support in the 1990's). (implementation: Associate Department Head)

Strategies for Goal 2: Sustain this culture of diversity by ensuring that the Department's environment is one of inclusivity – an environment which is truly the sum of its human parts and is marked by mutual respect, fairness and accountability regardless of ethnicity, gender, national origin, race, religion, sexual orientation, disability, age, rank or position of authority.

- a. Ensure that all faculty, staff and graduate students are trained in recognizing, and sensitive to, incidents involving harassment. Ensure that all are knowledgeable about the appropriate responses to reports of bias or harassment consistent with Federal law and Purdue University Policies. These responses include specific prohibitions against any form of retaliation for reporting, or assisting in the investigation of, discrimination and/or harassment. (Implementation: Department Head or designate)
- b. Conduct exit interviews with staff and graduate students before they leave Purdue, especially women and those from underrepresented groups, using a party from outside of the Department. (Implementation: Department Head or designate)
- c. Create a team within the department, consisting of one male and one female full professor and one male and one female staff member, who have been trained in issues of harassment and discrimination consistent with Purdue University policies. The members of this team shall serve as resources for faculty, staff and students within the Department. Ensure that the existence of this team is publicized by the Department Head semi-annually and is prominently featured on the front page of the departmental website. (Implementation: Department Head only)
- d. Conduct a departmental "climate" survey using expertise present in other parts of the University to define current issues and concerns. Regularly conduct such a survey every three years. (Implementation: Department Head or designate)

Strategies for Goal 3: Capitalize on these successes of enhanced diversity to maximize the retention and graduation of undergraduate and graduate chemistry majors, categorically and collectively, in the department's programs.

A. Undergraduate Students

- a. Increase regular engagement activities that provide informal opportunities for

undergraduate majors to interact with faculty and graduate students (Implementation: the Undergraduate Studies committee)

b. Increase communication and collaboration with the campus' Multicultural Centers. (Implementation: Department Head designate)

c. Provide regular opportunities for students to engage in smaller group experiences and active learning within the large gateway courses; for example, by adopting teaching strategies that are designed to actively engage students in collaborative group work during class time. (Implementation: Individual faculty and the General Chemistry and Undergraduate Studies Committees)

d. Utilize undergraduate students as tutors and mentors in chemistry courses. (Models that have been shown to increase performance in historically difficult courses, by providing regularly scheduled, voluntary, peer-facilitated sessions, are supplemental instruction (SI) and peer-led team learning (PLTL)). (Implementation: Undergraduate Studies Committee)

e. Increase collaboration with, and support of, current college and university diversity programs that are already active on campus. Examples include the Women in Science, Women in Engineering, NOBCCChE and Gay, Lesbian, Bisexual, Transgender, Queer (GLBTQ) programs. (Implementation: Department Head designate)

f. Increase collaboration with, and support of, current university summer programs for members of underrepresented groups. Examples include the NSF- sponsored Louis Stokes Alliance for Minority Participation, the Summer Research Opportunities Program and the (partially) NSF-sponsored STEM Academic Boot Camp (for incoming freshmen). (Implementation: Department Head designate)

B. Graduate Students

a. Provide regular help sessions during the summer and the academic year to prepare students for the cumulative examinations. (Implementation: Division Heads)

b. Arrange for separate semi-annual meetings/socials for international students, members of underrepresented groups, and women during which issues and concerns can be shared. Reports from these meetings should be made directly to the Department Head if/when appropriate. (Implementation: the Team created for Strategy c of Goal 2)

c. Provide a graduate student mentor for each incoming graduate student. (Implementation: Department Head Designate).

d. Starting in a student's fourth year, require an annual report to be submitted by the student, and signed off by the professor, that outlines expectations for graduation and progress toward that goal. This report shall be distributed to the student's Advisory Committee. (Implementation: Graduate Studies Committee)

Strategies for Goal 4: Create focused programs that provide opportunities for all faculty and staff to develop and succeed professionally.

- a. Identify faculty and staff development workshops and encourage/facilitate participation by all faculty and staff.
- b. Conduct periodic performance reviews of all faculty and staff with the Head of the Department, Department Head designate or, when appropriate, a faculty member's Promotion Committee Chair. For faculty, the periodicity may vary depending on rank, but should be no less than annually for Assistant Professors. All reviews should be provided both orally and in writing.
- c. Encourage the College of Science to adopt staff promotion policies as soon as they are authorized by the Provost.
- d. Make available information about, and facilitate interaction with, Purdue organizations that may be of interest to faculty and staff from underrepresented groups.
- e. Ensure that all Assistant Professors are assigned mentors
- f. Be judicious in the degree to which Assistant Professors are assigned to departmental committees
- g. Work with industry and foundations to develop seed funding programs for Assistant Professors.