



CENTER for  
WORKFORCE DEVELOPMENT



Promoting excellence & innovation in science and engineering through  
research, evaluation & programs to enhance diversity

## Nanotechnology Mentoring and Evaluation Program

### Introduction

In 1997, the University of Washington (UW) created the Center for Nanotechnology (CNT) in response to an increased focus on advances in nanoscience and nanotechnology. The CNT provides opportunities for graduate students to obtain dual degrees in their home departments and nanotechnology, make contact with industry professionals and use state-of-the-art facilities at the CNT. Ten different departments are involved in the CNT: Chemistry, Physics, Electrical Engineering, Material Science & Engineering, Bioengineering, Biochemistry, Chemical Engineering, Microbiology, Genome Sciences and Physiology & Biophysics.

As a part of the CNT, students associated with nanotechnology are tracked throughout their educational careers at UW. In addition, a mentoring program is available for students interested in pursuing faculty or industry careers in nanotechnology. These tracking and mentoring programs are administered by the Center for Workforce Development (CWD), a UW research center that works to diversify the engineering workforce and establish partnerships amongst education, government and industry.

### Student Progress Tracking

Every student funded or associated with the CNT is tracked during their time at UW to monitor their educational progress and to evaluate how being in an interdisciplinary program affects their education and job outcome. The tracking of students in nanotechnology happens in three parts: an initial interview, a continuing interview and an exit interview. These interviews contain questions about how a student came to be involved and interested in nanotechnology, their satisfaction with coursework, opportunities and facilities, and how they feel that being part of this program has affected their graduate experience and their marketability in the workforce. Since 2001, CWD has interviewed approximately 100 students as a part of this student tracking, in six cohorts.

The results of the student tracking show most of the participants are satisfied with the CNT and the resources it has provided them. More than 80% of the participants feel that being in an interdisciplinary degree program had prepared them for both an industry career and an academic career. Many of the participants felt that being involved with the CNT had positively impacted their career development and knowledge of nanotechnology, and that it had expanded their appreciation for academic fields other than their own. Students in the most recent cohort expressed the most interest in working in nanotechnology following degree completion, compared to past cohorts.

### Nanotechnology Mentoring Program

The Nanotechnology Mentoring Program (NMP) is open to any student interested in nanotechnology as a future career. Students apply to the program and are matched with a willing faculty or industry mentor who

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best matches their interests, and these mentors serve as a support system that is different from a traditional advisor. In addition, the NMP offers workshops to stimulate networking within the NMP and within the science and engineering graduate community as a whole. Since 2001, 42 students have been involved in the NMP, but a few are currently unmatched due to a lack of industry mentors involved with nanotechnology.

At the end of every academic year, the CWD sends out an evaluation form to participants in its mentoring programs. This evaluation asks how the mentoring relationship is progressing, what general topics the pair talks about when they meet, and how the participant feels the mentoring program has impacted their academic progress and life. Most students involved with the NMP are very satisfied with their mentor; for those who are not satisfied, the CWD works with the student to find a mentor that is more fitting. In these relationships, students most often talk about career opportunities and options, professional networking tips, and the student's relationship with his or her advisor. Students have conveyed in these evaluations that the mentoring program has helped them increase their self-esteem, gave them more chances for networking, and that the mentoring relationship has served as an alternative support network. A number of the students continue their relationships with their mentors following graduation and entrance into the workforce.