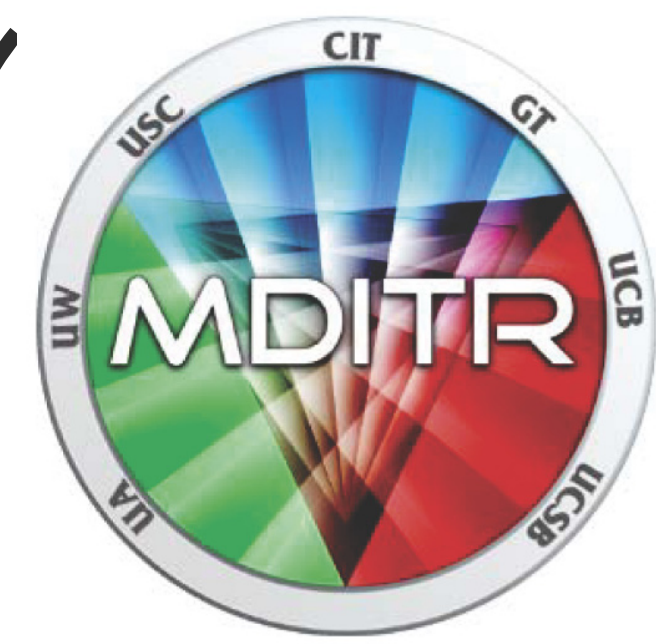


# An Array of Programs Aimed at Making STEM Disciplines Inclusive Communities for Both Students and Faculty.

The University of Washington is committed to promoting respect for the rights and privileges of others, the understanding and appreciation of human difference, and the constructive expression of ideas. As the University's President, Mark A. Emmert asserts, "An education experience that fails to expose students - majority and minority - to multicultural perspectives or that does not include interaction in a diverse community simply cannot measure up. All students leaving the University have to be able to take their places in the global village. We must continue to build a multicultural academic community because it is an inherent ingredient in an excellent education."

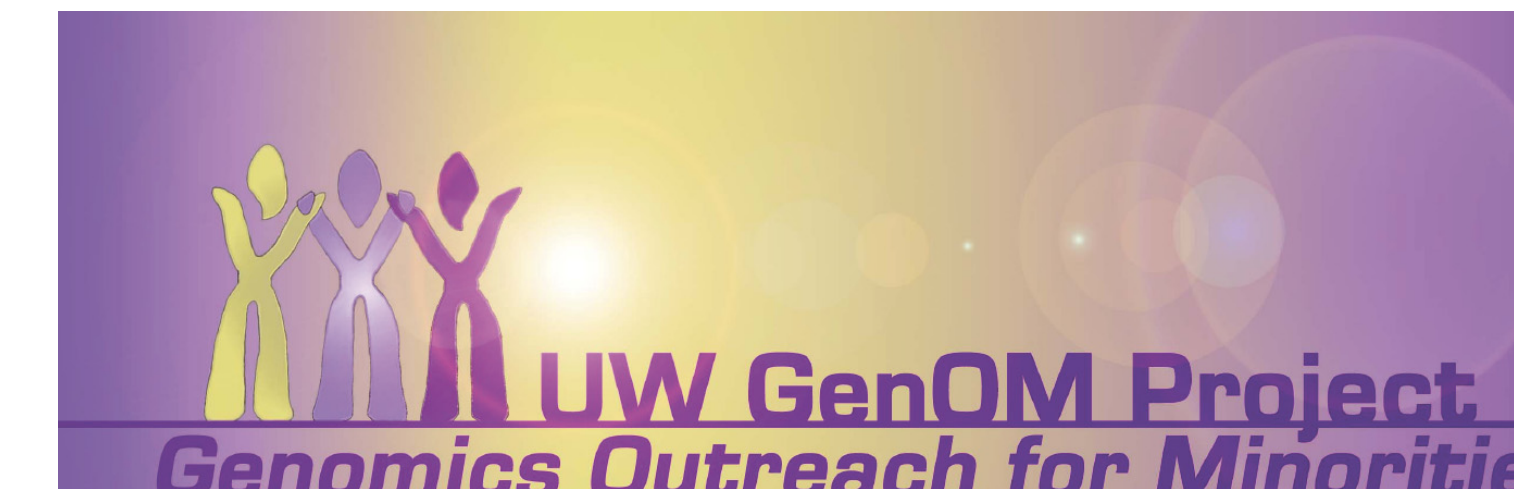
In the STEM disciplines we have built several successful programs for the recruitment, support, and retention of women and minority students and faculty. Here at the University of Washington we know that we cannot achieve our diversity goals for the student body without also diversifying our faculty. Programs that are integrated throughout the UW STEM departments are helping to create an academic community that not only supports and honors diversity but also takes full advantage of the many benefits that human difference provides.



Disabilities  
Opportunities  
Internetworking  
Technology



CENTER for  
WORKFORCE DEVELOPMENT



UWADVANCE  
University of Washington Center for Institutional Change



B...R...I...D...G...E...S<sup>4</sup>  
BIOMEDICAL RESEARCH IDENTIFICATION OF GRADUATE EDUCATION SUCCESSFUL STUDENT SUPPORT SERVICES



## NSF ADVANCE at the University of Washington

The goal of the ADVANCE institutional transformation program is to increase the participation of women in the science, engineering, and mathematics (SEM) workforce through the increased representation and advancement of women in academic SEM careers. UW ADVANCE serves 21 SEM departments - 10 in the College of Engineering and 11 in the Science Division of the College of Arts and Sciences.

- Leadership Development for UW Department Chairs and Emerging Leaders, Mentoring-for-Leadership Lunch Series for Women Faculty
- Department Cultural Change through Department Transformation Grants, the Cross-Department Cultural Change Program, the Faculty Retention Toolkit, the Faculty Recruitment Toolkit, and Assistance with Faculty Searches
- Mentoring through Professional Development Workshops, Regular Networking Opportunities for Women Faculty, and Professional Development Consultants for Women Faculty
- Policy Transformation including Part-Time Tenure Track Policy Exploration, Best Practices for Facilitating Dual Career Opportunities, and Best Practices for Family Leave
- Transitional Support Program (TSP) Grants available to faculty in ADVANCE departments undergoing significant transitions

## Center for Instructional Development and Research (CIDR)

Since 1984, CIDR has provided instructional support for UW faculty, TAs, and departments on questions of teaching, learning, and assessment. CIDR staff consult individually with instructors, support department-based instructional initiatives, and initiate campus-wide activities on teaching and learning. More than 100 UW departments and programs are represented among CIDR clients each year; approximately one-half of our clients represent STEM disciplines.

CIDR works on the basis of a learning-centered model, examining teaching and learning in terms of the alignment of four factors: (1) the background, preparation, and expectations of the instructor, (2) the nature and demands of the content for a course, (3) the expectations, abilities, and perceptions of students, and (4) the contexts—disciplinary, institutional, cultural, and social—in which a course occurs.

Because CIDR staff ask questions and frame teaching and learning in terms of the alignment of these four dimensions, questions of diversity among students and instructors, characteristics of the discipline, and features of the context for teaching and learning are part of every consultation.

## Genomics Outreach for Minorities (GenOM)

The Genomics Outreach for Minorities (GenOM) Project provides educational and research opportunities for underrepresented minority students interested in genomics. These programs target pre-college, undergraduate, and graduate students. Ambitious in scope, the project includes the following activities:

- 4th-6th grade genetics curriculum designed by MESA
- High school student research opportunities
- Undergraduate research and travel scholarships
- A life sciences tutor at the Instructional Center (IC)
- Undergraduate advising, mentoring, course clustering, and graduate school preparation
- Graduate recruitment fellowship and financial support
- Professional development workshops, including research ethics

## BRIDGES<sup>4</sup>

BRIDGES<sup>4</sup> is a series of innovative services and support mechanisms which will dramatically increase the ability of our biomedical graduate programs to attract, retain, and promote the success of under-represented minority students. BRIDGES<sup>4</sup> Program's goals are:

- To provide early exposure to the health sciences and rigorous academic preparation for under-represented entering students interested in science and engineering.
- To increase the retention rates of under-represented undergraduate students in science and engineering and to prepare them for application to health sciences graduate programs through sustained academic support, career development activities and research opportunities.
- To assure the retention, success and career development of under-represented students in biomedical science graduate programs.
- To provide information, counsel, and technical assistance to departmental faculty administrators, and advisors on effective practices and policies that promote student success/retention and will ultimately increase the number of under-represented students in biomedical science graduate programs.
- To establish collaborative relationships with local and regional higher educational institutions and scientific industry within the Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI) consortium to assist in fostering the interests, talents, and career goals of under-represented students interested in pursuing biomedical research careers.

## Center for Workforce Development

The Center for Workforce Development is committed to creating a supportive academic and social climate for diverse graduate students in science and engineering. To facilitate and ensure student success, CWD manages three mentoring programs to introduce graduate students to experienced individuals, who act as advisors and role models, in their respective fields of interest.

- The Faculty and Graduate Mentoring Program collaborates with the UW ADVANCE Program to increase the recruitment and retention of female graduate students interested in faculty careers.
- The Chemistry Mentoring Program works to match graduate students in the UW Chemistry Department with mentors in industry and academic settings.
- The Nanotechnology Mentoring Program pairs graduate students affiliated with the Center for Nanotechnology with mentors in industry to learn about practical applications in nanotechnology.

## Disabilities, Opportunities, Internetworking, and Technology (DO-IT)

DO-IT (Disabilities, Opportunities, Internetworking and Technology) services to increase the participation of people with disabilities in challenging academic and employment fields. One of our more recent initiatives is to help students with disabilities pursue science, technology, engineering and mathematics. AccessSTEM is funded by the National Science Foundation (cooperative agreement #HRD-0227995) provides high school and college students with research and internship, mentoring, peer support, and tutoring opportunities in a Northwest regional alliance that includes Washington, Oregon, Idaho and Alaska. The AccessSTEM project supports a comprehensive website and searchable knowledge base of FAQs, Case Studies and Promising Practices that can be reached from the DO-IT website at [www.washington.edu/doit](http://www.washington.edu/doit).

## Health & Sciences Minority Student Programs

In 1978, recognizing the need for increased minority participation in health related professional fields, the University of Washington Health and Sciences Minority Students Program (H&S-MSP) was initiated. Today the H&S-MSP is located in the Warren B. Magnuson Health Center, Room T341.

An advocacy program, the H&S-MSP supports high school through professional/graduate school students in fulfilling their career goals through innovative support programming and academic counseling.

The goals and objectives of the H&S-MSP are reflective of the needs identified by students of color, academic advisers, counselors, faculty, and administrative staff within the various health sciences schools and departments. This alliance with the various schools and departments, as well as with other programs for minority, underrepresented, and disadvantaged students, has allowed for continual updating of program components which assist students of color in successfully meeting the challenges within the academic setting.

## Center for Engineering Learning and Teaching (CELT)

The Center for Engineering Learning and Teaching (CELT) was created to fulfill the College of Engineering's fundamental goal of graduating exceptional engineers by seeking to answer the following question: "Are we utilizing the best possible methods to teach engineering?" CELT conducts research on how engineering students learn - from examining how students solve design problems to studying their ability to take acquired knowledge and apply it to practical, real world situations. The findings are then incorporated into new teaching methodologies that are shared with faculty members as well as other colleges and universities around the world. Through CELT, the COE is leading the nation as an engine for education innovation, creating more effective ways to teach engineering and ultimately, providing our students with experiences and skills they need to be successful - in school and in life.

We believe that improving teaching and learning in engineering involves the creation of inclusive learning environments and an understanding of learner-centered teaching. We are committed to the idea that exceptional engineering graduates come from organizations whose faculty, staff, and students embody diverse cultures and points of view in their educational programs.

## Diversity & Student Services at the College of Engineering

The College of Engineering is dedicated to producing the world's best engineers. To accomplish that goal we have instituted a number of programs to help maintain a diverse faculty and student body through community outreach and education programs and support services:

- **MSEP (Minority Science & Engineering Program):** From innovative outreach and summer bridge programs to academic enhancement and career assistance, MSEP provides continuous comprehensive support to students from minority communities.
- **WiSE (Women in Science & Engineering):** Works to increase the recruitment and retention of women of all ethnic backgrounds in science and engineering and to create an academic and social climate at the UW which is conducive to both men and women in science & engineering at the undergraduate and graduate levels.
- **Engineering Advising and Student Center:** Provides academic advising and support services to students interested in engineering, performs community college outreach, and conducts events centered around exploring engineering majors and careers.
- **CO-OP (Engineering Co-Op Program):** Developing and promoting opportunities that provide pre-engineering and engineering students with credit for degree-related, paid work experience

## Materials and Devices for Information Technology Research (CMDITR)

Funded by the National Science Foundation's Science and Technology Center, the CMDITR at the University of Washington is helping to lead a revolution in the development of new photonic and organic electronic materials and devices. NSF holds high expectations for all eleven of its current Science and Technology Centers (STC) in the areas of education and diversity enhancement. CMDITR is particularly proud of its progress in these areas:

- Currently the Center's 32 funded faculty will include 5 women, 6 African-Americans, and 3 Hispanics yielding a leadership that draws 44% from underrepresented groups.
- Currently about 60 graduate students and postdocs receive over \$1.5M in support. Half of this amount supports students and postdocs from underrepresented groups.
- CMDITR sponsors over 20 summer REU participants each year, drawing heavily from community colleges.
- The Center has assumed a leadership role among 7 STCs to partner with GEM (Graduate Degrees for Minorities in Engineering and Science), a non-profit consortium of universities and corporations dedicated to placing minority students in S&E graduate programs.
- At the helm of CMDITR and showing leadership by example is Director Larry Dalton who was recently presented a "Giants in Science Award" by the QEM (Quality Education for Minorities) Network in Washington, D.C.

## Washington State MESA

Washington MESA fills the K-12 pipeline to technical careers with students who are underrepresented in mathematics, engineering and science professions. By forming partnerships with business, school districts and academia, MESA strengthens K-12 education. MESA starts early, engaging elementary students in hands-on math and science that applies to the real world. MESA middle school and high school students stay on-track for college with rigorous classes, teachers who care, and role models and mentors who help them make valuable connections to college and career.

- 96% of Washington MESA high school seniors go to college (MESA senior survey), compared to 52% of all African American, Native American and Hispanic high school graduates:
- MESA students earn university degrees in engineering and science at a rate that is nearly six times greater than the national average.
- Dozens of Washington employers have chosen to invest in MESA to help ensure an increasing supply of diverse, well-prepared future employees.