

AccessSTEM Resources Promote Change

By Sheryl Burgstahler, DO-IT Director, and Scott Bellman, DO-IT Program Manager

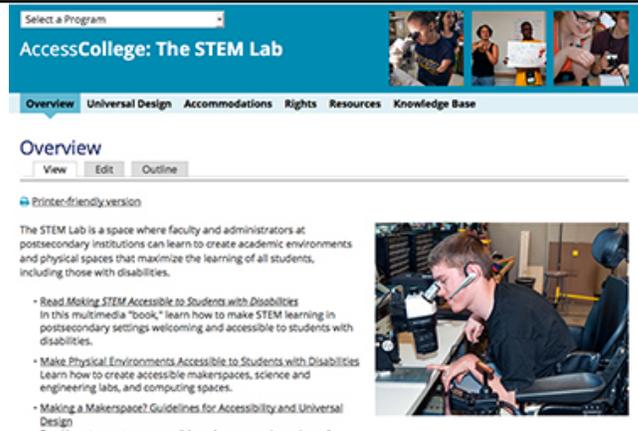
Postsecondary students with disabilities have the right to equal access on all aspects of campus life. As increasing numbers of people with disabilities participate in science, technology, engineering and mathematics (STEM) programs, the accessibility of classes, services, libraries, computers, science labs, electronic resources, events, and information technology increases in importance. The *AccessSTEM* project has created resources for educators to use to increase access to STEM environments.

The STEM Lab website (www.uw.edu/doit/programs/accesscollege/stem-lab/overview) is a space where faculty and administrators at postsecondary institutions can learn to create academic environments that maximize the learning of all students, including those with disabilities. Content offered within the STEM Lab includes the following:

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The STEM Lab features publications, videos, and Knowledge Base links specific to the accessibility of STEM education.

- A multimedia book, *Making STEM Accessible to Students with Disabilities*.
- Resources for making physical environments accessible to students with disabilities, including makerspaces, science labs, and computing spaces.
- The video *Equal Access: Universal Design of an Academic Department*.
- Guidelines for accessibility and universal design (UD).
- Comprehensive materials for teachers and teacher education programs.
- Information about accessible science equipment.
- Examples of students with disabilities succeeding in STEM careers.
- Links to videos, publications, and websites that promote accessible STEM education.

New resources will be added to The STEM Lab regularly, so continue to check back for updated information or visit the *AccessSTEM* homepage for more resources. Details about some of the resources on this site are included in the paragraphs that follow.



Making STEM Accessible to Students with Disabilities (www.uw.edu/doit/making-stem-accessible-students-disabilities) is an online multimedia book that pulls together resources that are useful to educators and

administrators who strive to make STEM welcoming and accessible to students with disabilities. This includes computing facilities, science and engineering labs, classrooms, makerspaces, online resources, curriculum, and instruction. Highlighted strategies are easy to implement when designing STEM facilities or instructional practices, while others are more difficult but will yield long-term results (e.g., changing the culture of a STEM department to be more inclusive of individuals with disabilities). Although focused on postsecondary institutions, most of the content in this publication is relevant to K-12 STEM courses, labs, and programs as well.

The 10-minute video, *Equal Access: Universal Design of an Academic Department*, (www.uw.edu/doit/videos/index.php?vid=65) focuses on creating an accessible academic environment for all students to participate in. Using principles of UD, anyone can make their department welcoming and inclusive. UD follows the philosophy that all products and environments should be designed to be used by all people to the greatest extent possible. Rather than design departmental offerings for the average user, design them for people with a broad range of abilities, disabilities, ages, reading levels, learning styles, native languages, cultures, and other characteristics. This video showcases the many strategies and reasons to apply UD to your academic department. A complementary publication to this video can be found at www.uw.edu/doit/equal-access-universal-design-academic-department.

Summer Research Internships for Students with Disabilities Studying Computing

By Brianna Blaser, DO-IT Staff

AccessComputing, a National Science Foundation funded project, aims to increase the participation of people with disabilities in computing careers. *AccessComputing* has funding for students with disabilities to participate in summer research internships and non-research internships. Internships provide important experience as students move on to the next steps on their career paths.

Students with disabilities who are interested in summer internships should complete the form at <https://catalyst.uw.edu/webq/survey/blaser/283622> to join *AccessComputing*. Student team members engage in online mentoring and are eligible to request referrals and funding for internships, travel to conferences, and tutoring.

Faculty and employers who are interested in hosting an *AccessComputing* student with a disability as an intern are encouraged to complete the form at <https://catalyst.uw.edu/webq/survey/blaser/283619>.

Learn more about *AccessComputing* by checking out the website and latest Opportunities! newsletter (<http://www.washington.edu/accesscomputing/resources/opportunities-news-fall-2015>) that helps students with disabilities learn about careers in computing, locate resources, and learn about opportunities for students with disabilities.



During summer internships, students learn important skills and gain networking connections.

Disability Mentoring Day

By Debra Zawada, DO-IT Staff

In January 2016, a group of students from the Seattle School District's Interagency programs attended an exciting lab and informative talk by Dr. Vasudha Sundaravaradan, a scientist at the Center for Infectious Disease Research (CIDR) (www.cidresearch.org/). Vasudha also leads the BioQuest Academy (cidresearch.org/bioquest-academy), incorporating cutting edge research happening at CIDR into the curriculum. BioQuest Academy's mission is to educate, train, and promote college-readiness in Washington teens, especially underrepresented groups, on the science of global infectious disease.

Following a tour of the facility led by an intern, a recent college graduate whose first exposure to CIDR was during high school, Interagency students shared some of their insights:

- "Global health is important because we live in a connected world."
- "Disease has a big impact on our world."
- "Disease affects communities in many different ways, even economically."
- "It was interesting to see the configuration of the labs."
- "There is a freezer in the lab that is set at -76 degrees."
- "I was surprised at all the different and very expensive equipment we could see."



When students conduct experiments, they feel more comfortable following a STEM career.



Giving students with disabilities hands on experience in labs shows them that they too can work in a lab and conduct experiments.

Our intern and tour guide credits her participation in a two-week summer immersion program through BioQuest with opening her eyes to the possibility of becoming a scientist.

Participants engaged in a experiment that simulated killing bacteria. Working in pairs, they followed the protocol set up. Some students reported that this was the first time they were fully involved in a lab experiment. Their comments included

- "Don't give up if the experiment doesn't work the first time."
- "Wow, the experimental process is very delicate."
- "If at first you don't succeed, try again."

Students participated in this activity through DO-IT's and *AccessSTEM's* support of Disability Mentoring Day, (www.aapd.com/what-we-do/employment/disability-mentoring-day/) a nationwide effort to promote career development for students with disabilities through hands-on career exploration.



DO-IT Staff and mentors are always willing to review a team member or Scholar's resume.

DO-IT Annual Resume Contest

By Kristina Bowen, DO-IT Staff

Throughout the year, *AccessSTEM* Team members and other DO-IT participants hear about scholarships, internships, and other work-based learning opportunities through its electronic mentoring community. Having a current resume on file helps project staff understand exactly where participants are at and what they are doing so staff can offer internships, job opportunities, and career guidance.

To celebrate National Mentoring Month, we hosted our annual STEM Resume Contest for Students with Disabilities, powered by DO-IT's award-winning electronic mentoring community. As part of the resume contest, resume advice was shared through the electronic mentoring community. Some of the resume tips shared are following:

- Keep a "master" resume that is as many pages long as you need to capture everything you have done. Then, with each opportunity you apply for, edit your resume down to only the relevant points.
- Reorganize your resume real estate. Sometimes your education will come first, other times it will be your job experience or maybe even your computer skills. Do not spend too much of your precious resume real estate on experiences that are not relevant to the position at hand.

- Take a look at the job or scholarship posting and make sure the relevant key words used appear in your resume.
- A great resume not only shows what you can do, or what you have done in a work setting, but it shows things like volunteering or being members of certain groups and organizations. These additional items give potential employers a little more insight on your character.
- Allow your resume to tell a story. Use the top of your resume to tell potential employers who you are instead of just listing job responsibilities. Allow your resume to be a marketing brochure to tell your story.
- A resume should be 1-2 pages long. Recruiters and hiring managers do not spend a lot of time looking at each resume.
- Reach out to your college or university's career office. They have numerous resources for you to use as you create and edit your resume. University of Washington has especially great career resources related to resumes and CVs. For more information and tips, visit issuu.com/wwcareercenter/docs/2013-2014_career_guide.
- Proofread. Proofread. Proofread. We cannot emphasize enough how much typos in a resume sends the wrong message to employers. Carefully look over your resume to catch any typos and ask a friend or family member to read over it for you.

Winners of this year's resume contest were

- **Andrew C.** for getting all his information that he needs to share with an employer onto a single page.
- **Anh H.** for a well organized resume that utilized the space very effectively!
- **Ariel H-V.** for highlighting her education and work experience in a variety of positions as well as other things that may be of interest to potential employers.

- **Densen F.** for doing an exceptional job of sharing how he contributed value to the places he gained work experience.
- **Emma V.** for the extensive research and work experience divided up in a well organized manner.
- **Imran K.** for a well designed resume with minimal margins, which make a good use of white space and keeps all information well organized and yet easily digestible.
- **Liliana B.** for breaking down each clinical, work, and leadership experience, which showcases her skills in different areas.
- **Lisa H.** for keeping a comprehensive CV that is still easy to navigate and digest.
- **Paulette P.** for distinguishing employment from related experience to emphasize another side of skills.
- **Shuxu T.** for highlighting the skills she's earned from her various professional experiences in a clear format.
- **Soumil V.** for formatting in a clear and concise way that allows for an employer to get the information easily from the resume.

Regardless of whether or not DO-IT is currently running a resume contest, staff are always willing to provide feedback on resumes and help participants fine tune job or internship applications.



DO-IT promotes students practicing interview skills with mentors. A well crafted resume and good interview skills will help a student land internships and career positions.

AccessEngineering partners with the Society of Women Engineers

By Brianna Blaser, DO-IT Staff

AccessEngineering presented a two-part webinar series in partnership with the Society of Women Engineers titled *AccessEngineering: Strategies to Support Individuals with Disabilities Pursuing Careers in Engineering*. The webinar series focused on DO-IT's *AccessEngineering* program, which (1) supports and promotes individuals with disabilities in pursuing engineering, and (2) integrates universal design and accessibility topics into the engineering curriculum. Part one discussed topics including communication tips and how you can best support individuals with disabilities in engineering, and best practices for making makerspaces, labs, and machine shops accessible. Part two of this webinar series focused on strategies for easily integrating universal design and accessibility topics into engineering education.

AccessCS10K Capacity Building Institute

By Brianna Blaser, DO-IT Staff

AccessCS10K held *Increasing the Participation of Students with Disabilities in K-12 Computing Courses* in February in National Harbor, MD following the CISE/EHR Principal Investigator & Community Member meeting. Attendees included over twenty-five postsecondary faculty, individuals who provide professional development for K-12 teachers, secondary teachers, disability services professionals, and individuals with disabilities.

Presentations from Sheryl Burgstahler, Andreas Stefik (University of Nevada Las Vegas), Sarah Wille (University of Chicago), Emmanuel Schanzer (Bootstrap Project), and Amber Wagner (Kennesaw State University) focused on strategies and technologies that can make K-12 computing education more welcoming and accessible to students with disabilities. Participants spent much of the meeting in working groups further delving into these topics.

Proceedings are posted on the *AccessCS10K* website at www.uw.edu/accesscomputing/accesscs10k/resources/capacity-building-institutes. These proceedings share pertinent resources and discussions, including information about the accessible programming language Quorum.



At the AccessCS10K capacity building institute, participants discussed ideas for increasing accessibility and participation for students with disabilities in K-12 computing education.

AccessERC Capacity Building Institute By Sheryl Burgstahler, DO-IT Director

AccessERC hosted an event titled *Increasing the Participation of People with Disabilities in Engineering Research Centers (ERCs)* on February 23 – 26. Members of ERCs from across the nation participated to learn more about including students with disabilities in their centers and engineering education as a whole.

Participants learned about universal design and accessibility, including designing an accessible class, disability identity, and web accessibility. They discussed strategies to recruit people with disabilities, engaging ERC faculty and staff with accessible IT, how to contribute to *AccessERC*, and how hearing the viewpoints of people with disabilities would change the way they communicate and work with people with disabilities.

The participants continue conversations online around strategies for applying universal design and otherwise increasing the engagement of people with disabilities in ERCs. To learn more about *AccessERC*, visit www.uw.edu/doit/programs/accesserc.

AccessCyberlearning Capacity Building Institute

By Sheryl Burgstahler, DO-IT Director

AccessCyberlearning held a capacity building institute (CBI) on March 8 – 11 to promote the accessible design of online learning tools and strategies developed by Cyberlearning projects funded by the National Science Foundation (NSF).

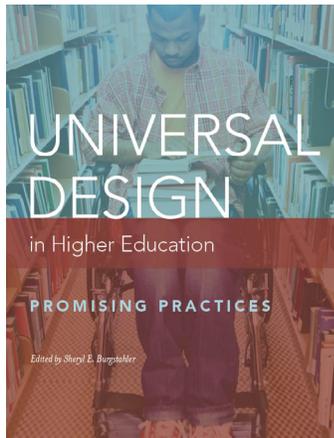
Participants shared their projects and expertise in groups within panels, where they explained how accessibility comes into play in their projects. These panels focused on diverse student needs, research, and tools; assessment of student learning and maximizing student engagement; and lessons learned and promising practices. There was also a panel where students with disabilities shared their experiences and recommendations in online learning to project leaders.

Participants worked together to create accessibility recommendations for resources at the Center for Innovative Research in CyberLearning (CIRCL), review how relevant conferences and professional organizations can improve with respect to their accessibility, look at making NSF's "Smart and Connected Communities" more inclusive to people with disabilities, and create promising practices for the *AccessCyberlearning* Knowledge Base. Participants in the CBI continue to communicate online with each other and additional Cyberlearning project leaders.



At the AccessCyberlearning capacity building institute, participants shared about the accessibility of their projects in panels.

Universal Design in Higher Education: Promising Practices Call For Articles



In DO-IT's online publication, *Universal Design in Higher Education: Promising Practices*, practitioners share promising practices related to the application of universal design in postsecondary education settings.

This collection of promising practices complements the more general content in the printed book, *Universal Design in Higher Education: From Principles to Practice*, which recently published a second edition under Harvard Education Press (hepg.org/hep-home/books/universal-design-in-higher-education).

This complementary publication is available freely online at www.uw.edu/doit/UDHE-promising-practices/. It can be freely copied and distributed as a book or in part for noncommercial, educational purposes. The collection will continue to grow as more articles are submitted.

Articles may be submitted at any time to udbecop@uw.edu. Submitted articles should include specific ways practitioners and researchers have applied universal design in postsecondary settings along with evidence of success. They are peer-reviewed by members of the Universal Design in Higher Education Community of Practice (udbecop@uw.edu), and if accepted, edited by DO-IT. Articles selected for the online resource are freely available on our website. Authors must agree to these conditions while retaining copyrights to their individual contributions. For author guidelines, consult the preface of the book at www.uw.edu/doit/universal-design-higher-education-promising-practices.

About DO-IT

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) serves to increase the successful participation of individuals with disabilities in challenging academic programs and careers, such as those in science, engineering, mathematics, and technology. Primary funding for DO-IT is provided by the National Science Foundation, the State of Washington, and the U.S. Department of Education.

For further information, to be placed on the DO-IT mailing list, request this newsletter or other materials in an alternate format, or make comments or suggestions about DO-IT publications or web pages, contact us at



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Calendar of Events

For a schedule of conferences, visit

www.uw.edu/doit/

Newsletters/calendar.html