



# Ohio's STEM Ability Alliance

STEM Degrees and Careers for Ohioans with Disabilities



## OSAA E-NEWS

Issue 2, December 2009



### Ohio's STEM Ability Alliance

It has been a little over a year since the National Science Foundation awarded the coalition of Wright State University, Ohio State University, Sinclair Community College and Columbus State Community College, along with partner K-12 school systems and government and industry employers, a grant that established Ohio's STEM Ability Alliance. In that time, significant progress has been made toward developing and implementing a system of in-

terventions at the high school and college levels focused on increasing the representation of people with all types of disability in Science, Technology, Engineering and Mathematics (STEM) based career fields.

This newsletter reports on some of OSAA's accomplishments during the final quarter of 2009 and outlines ongoing programs and plans for the upcoming winter and spring quarters.

### OSAA Scholar on Winning Team at National Center for Technology Innovation (NCTI) Conference

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Jennifer Border, a Wright State OSAA Scholar, along with fellow graduate students Jeh Cooper, James Leonard and Alyssa George traveled to Washington D.C. in November to attend the 2009

group of student researchers and inventor Andrew Junker were officially recognized by conference attendees for having one of the "brightest ideas in learning and assistive technology" by presenting them the NCTI *Brightest Idea for 2009 Award*.



NCTI Conference - Brainfingert Demo

NCTI Conference which highlights the latest trends in assistive educational technology. The students demonstrated Brainfingers, a brain-computer interface technology that harnesses muscular and neural impulses, using them as inputs to control a computer. The



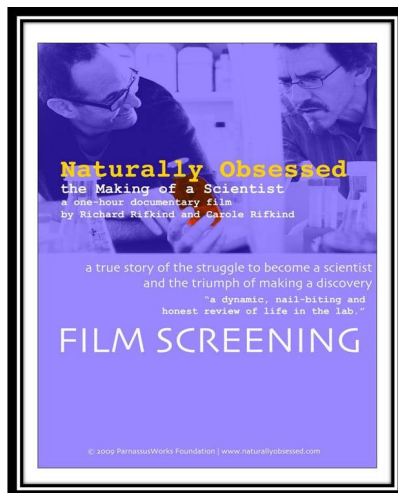
Wright State University Team - NCTI Brightest Ideas 2009 Winner



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## A Night at the Movies for WSU OSAA Scholars

An OSAA All-Scholar's Learning Community gathering was held during fall quarter and included a special screening and discussion of the film, *Naturally Obsessed: the Making of a Scientist*. This one-hour documentary by Richard and Carole Rifkind presents an insightful view of what it takes to become a scientist. Drawn from three years of filming in a single laboratory, the film focuses on a group of irre-



pressible graduate students working towards their Ph.D. degrees and their mentor, a tough, but genial, young professor. The Scholar's meeting took place early on a Sunday evening late in October to make it accessible to the widest possible audience of OSAA participants. Approximately 35 students, faculty and staff were on hand to view the film and meet the OSAA scholars.

## Short Term Internships for OSAA Scholars in the Design of Virtual Reality Environments for Geoscience Education

In connection with the National Advisory for Geoscience Diversity, researchers at The Ohio State University have recently joined with Ohio's STEM Ability Alliance to begin developing opportunities to increase participation in the geosciences. The current project, funded in part through the National Science Foundation, aims at providing alternative learning environments using immersive virtual reality for students with mobility impairments. This alternative learning environment will engage student

populations who, because of their physical impairments, are unable to experience traditional geologic field-



work. Utilizing the resources at both The Ohio State and Wright State Universities, OSAA Scholars will have the opportunity to learn

and work hand-in-hand with the research team in developing a virtual recreation of sections of Mammoth Cave National Park. Recruitment of OSAA Scholars for this opportunity will begin in late winter, followed by a spring workshop and field site visit. For more information, please contact Chris Atchison [atchison.6@osu.edu](mailto:atchison.6@osu.edu) or Brittany Boyne [brittany.boyne@wright.edu](mailto:brittany.boyne@wright.edu).

This project is funded in part through the National Science Foundation GEO Directorate: Opportunities for Enhancing the Diversity in the Geosciences #0939645

## Sinclair Community College Day on Campus Event

Sinclair Community College will be hosting a half day visit for middle and high school Students with Disabilities (SwD) and their parents to learn about education after high school and opportunities for community college studies and

careers in STEM. This event will be conducted on Saturday, January 23, 2010 from 9am-12pm on the Sinclair Community College Campus in downtown Dayton, OH. Students will be able to visit Science, Math and Energy labs, observe a chemis-

try demonstration, attend a workshop on astronomy and interact with STEM faculty members. For further information please contact Holly Brown-Wright. Email: [holly.brown-wright@sinclair.edu](mailto:holly.brown-wright@sinclair.edu) or by phone at (937) 512-5113.

## Choose Ohio First Scholarships

One of the most significant products of our OSAA collaboration efforts was the receipt of a Choose Ohio First Scholarship Program award to provide flexible scholarship funds to college SwD participating in OSAA programming at the four OSAA postsecondary institu-

tions. The proposal to the Ohio Board of Regents resulted in the award of \$2.69 million in scholarship funds that will be distributed over 5 years to SwD in a competition based on academic performance and OSAA program participation.

Students participating in OSAA activities who are interested in applying for a scholarship should contact [cynthia.boone@wright.edu](mailto:cynthia.boone@wright.edu) in the Dayton QUAD or [bianca.McArrell@osumc.edu](mailto:bianca.McArrell@osumc.edu) in the Columbus QUAD for more information.

## OSAA Scholars Living and Learning Community

The OSAA Scholars Living and Learning Community provided seven OSAA scholars the opportunity to live in the Honors Resident's Hall on the Wright State University campus. The OSAA Scholars occupy one wing of the Honors dorm which offers many amenities such as the Bridge Café, a fitness center, an around the clock quiet-hour study room, a faculty member in residence, a recreation room, computer lab and a theater room.



OSAA Scholar Living and Learning Community residents, Jennifer Renner, Brian Hovenac, Philip Bomer



## First Level 1 Learning Community Course

Eight freshman OSAA Scholars were enrolled in Wright State University's inaugural section of the First Year Seminar dedicated to students participating in OSAA. First year seminars provide information and activities to help new students succeed at the university. Section 71 was designed specifically for SwD who intend to pursue studies in Science, Technology, Engineering or Mathematics majors. Throughout the course, students learned how to adjust to college, achieve academic success in STEM

and other coursework, address common student issues and prepare for graduate education and the workplace. Brittany Boyne, one of the instructors and OSAA Ability Advisor, said, "*The students found the presentations on time management and study skills to be the most helpful. Students learned that the course syllabus can be the key to success when combined with good time management and study skills.*" The course will be offered again during the 2010 fall quarter.

## On the Road; Disseminating OSAA information at College and Transition Fairs

This fall, OSAA Dayton staff joined the Wright State Office of Disability Services (ODS) in attending college transition fairs for high school students with disabilities to discuss OSAA programs with prospective students. Dr. Shingledecker gave a keynote presentation on preparing for college in STEM fields and OSAA at the Northeast Ohio College Fair for

Students with Learning Differences in Cleveland, an event attended by over 400 high school students, parents and teachers. Brittany Boyne visited Pittsburgh and participated in a panel with representatives from Offices of Disability Services at Penn State, Ohio Bureau of Vocational Rehabilitation, Muskingham College and a local community college.

The panel discussion, with approximately 20 parents of students with disabilities in high school, examined the types of services offered by different disabilities' offices and described college preparation strategies for the students and parents. Other visits to disseminate the word on OSAA opportunities included college events in Dayton, Upper Arlington and Piqua, OH.



**Scholars Dollars** is the Dayton QUAD implementation of the OSAA participation incentive program. It is managed by the OSAA Ability Advisor, Brittany Boyne. Scholars receive baseline points by participating in the OSAA Scholar Learning Community functions, Ability Advisor meetings and completion of program assessments. They can also receive points for membership and participation in STEM student organizations on campus, independent study in their major, participation in extracurricular research or design projects and acting as a mentor or tutor. Earned point totals are used to award student support funds that can be used to make approved purchases of books, software and other materials relevant to the scholar's STEM studies or professional development. Scholars Dollars can also be used to help pay for travel and registration to attend STEM conferences and professional meetings.

## Learning with Disability Winter Workshop

The annual Learning with Disability (LwD) Winter Workshop was held at Wright State University on December 3-4, 2009. The workshop was hosted by the LwD Integrative Graduate Education and Research and Training (IGERT) fellows and attended by OSAA students and faculty and staff. The Technology-based LwD Ph.D. specialization is an interdisciplinary collaboration focused on training the next genera-

tion of disability researchers to develop technologies and teaching methods to facilitate education and lifelong learning for a diverse population, including a wide range of abilities and disabilities. Approximately 50 students, faculty, staff and practitioners attended the two-day *LwD User Experience* conference which included keynote speakers, panel discussions and lab demonstrations.



LwD Winter Workshop keynote speaker, Dr. Edward Bell of the Institute on Blindness at Louisiana Tech

**Asperger's Syndrome (AS) Support Group.** OSAA Dayton Scholars diagnosed with Asperger's are invited to participate in a biweekly AS Support Group that meets at Wright State University, 023 Student Union, Office of Disability Services. This support group will give you the opportunity to meet new friends

in a friendly and nonjudgmental setting allowing you to share your successes and struggles. This can be a valuable tool to increase your social skills. Come and meet with others who are there to support you. For more information and times please contact Dr. Lopez-Garcia at (937)775-5680.

## STEM Internships: Paths to Success

### Ohio State University's Bianca McArrell and Toi VanHorn - Columbus QUAD



It's not every day that you meet a student like Robert, one driven by the motivation to succeed in the sighted world. Robert is a senior at the Ohio State School for the Blind and Metro Early College High School. Metro is part of the Ohio STEM Ability Alliance (OSAA) Columbus QUAD.

Robert participated in the OSAA Student Learning Community (SLC) in the spring of 2009. Drs. Margo Izzo and Chris Andersen arranged an internship for Robert at the Center for Emergent Materials (CEM) during autumn of 2009. Robert indicated he was interested in pursuing audio engineering as an undergraduate with the career goal of working in a commercial music recording studio. Traditionally, an audio engineering career path includes majoring in musical performance, including some coursework in the technical aspects of audio engineering. At CEM, Robert worked with the faculty to produce a pilot episode of a podcast for high school teachers about current research in materials science. During a visit to the School of Music, Robert learned that the job market for commercial audio engineering is highly oversaturated and that there are virtually no career prospects in that field. However, through CEM faculty, Robert made connections with OSU faculty in engineering and other departments that are doing related STEM research, including signal processing, bio-acoustics and cognitive acoustics.

When Robert completed his internship, he presented snippets of his podcast and the things he had discovered during his internship. He admitted his podcast was over

an hour long, so we would not get to listen to all of it. That was a shame, because the parts he played for us were fabulous. His podcast was interesting, informative and very well-spoken – even for the non-science majors. His podcast included interviews from three faculty members at OSU and plenty of information about materials science research and what it means to the community. Listening to his presentation, it was apparent that Robert has a passion for this field and will continue seeking ways to impact the way that the average person views this confusing world of materials science research.

As a result, Robert is now considering applying to OSU as a STEM major and taking advantage of the \$3 million in Choose Ohio First scholarship money awarded to OSAA. The impact that Robert's internship made on his career choice was useful and beneficial to his future planning goals. He was able to explore careers in his field of choice that will assist him in determining what his goals and plans are when he graduates from high school. The transition from high school to college or working can be a challenge for a student without a disability, let alone the challenges that having a disability entails. The guidance and support of programs such as this to help students achieve their vocational and personal goals are invaluable. If you are interested in learning more about OSAA and the exciting opportunities available, please visit the OSAA website [www.wright.edu/osaa](http://www.wright.edu/osaa) where you will find links to the detailed activities of both the Columbus QUAD and the Dayton QUAD.

**Congratulations !!!!**

**OSAA Dayton Scholars  
Achieving a 4.0 GPA**

**Fall Quarter 2009**

**Eliza Ayton  
Jenny Border  
Jason Bowman  
Lisa Daxer  
Emily Fannin  
Mary Katherine Heise  
Amanda Hiltner  
Kelly Leach  
Jared McCoppin  
Nathan Turner  
Alicia Wolford**