Department of Computer Science

MONTANA STATE UNIVERSITY
College of
ENGINEERING

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What's New....

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From the Chair

Interest in computer science continues to grow rapidly as people learn about the exciting, varied and numerous opportunities that exist to improve our world. During Fall Semester 2014, there were 317 computer science majors at Montana State University. During Fall Semester 2015, that number jumped to 431 – the largest increase at the university! Our department is involved in several outreach activities that help Montanans better understand the significance of computer science and computational thinking. These activities include:

• Hunter Lloyd, a professional comedian and computer scientist, presented a robotic comedy show to more than 15,000 Montana K-12 students last year.

• The Joy and Beauty of Computing, a course that gently introduces students to the world of computational thinking, reached 225 Montana high school students last year. We offered a week-long teacher training course in June and will offer the training course again during the week of June 27, 2016. For more information, contact our Demand Generation Coordinator, Sharlyn Gunderson-Izurieta.

• Our Association for Women in Computing (AWC) student organization is hosting an Hour of Code (https://hourofcode.com/) event on the Montana State University campus to introduce local high school and middle school students to the world of computing. Please consider organizing an Hour of Code event locally on any day of the year.

Happy Computing!

The Red Chair - MSU!

Sit With Me is a national advocacy campaign designed to encourage women in computing careers. The campaign uses an iconic Red Chair to symbolize that women in technology need more seats at the table, that men and women can sit in solidarity for technical women, and that one highly visible action can instigate others.

Our goal is to bring awareness about the role of women in computer science and engineering in Montana and to encourage women and girls to pursue careers in these fields. Of course, we hope they will enroll at Montana State University!

sitwithme.org

The Computer Science (CS) and the Electical and Computer Engineering (ECE) Department's are partnering to bring the Red Chair to MSU. We will kickoff the Sit With Me MSU Campaign Spring semester. Our first event will be announced soon!

Around the Department....

• Two teams from the CS Department traveled to the Colorado School of Mines, Golden, Colorado, to compete in the ACM Regional Programming Competition, in November. The teams finished 15th and 18th out of 52 teams from the Rocky Mountain Region and Canada.

• Dr. Mike Wittie and Dr. Qing Yang, working with the Western Transportation Institute at MSU, recently launched a traveler website, Roadstoasafediscovery.com, that facilitiates travel on the I-90 and I-94 corridors.

• Dr. Brittany Fasy was selected by the Journal of Postdoctoral Research as the December, 2015, Postdoc of the month for her posdoctoral research at Tulane University.

• Graduate students, Mehdi Assefi and Guangchi Liu received a Best Paper Finalist Award at the 24th International Conference on Software Engineering and Data Engineering (SEDE). The two students worked with Dr. Clem Izurieta and Dr. Mike Wittie.

• David Vap, an Oracle Group Vice President and member of the CS Department's advisory board, received the College of Engineering's Honorary Alumni Award as a part of MSU's Homecoming events, Fall 2015.

• Dr. Denbigh Starkey, an emeritus professor and former CS Department Head, received the College of Engineering's Distinguished Faculty Award during MSU's Homecoming Events.

Happy Retirement!

Kathy Hollenback will retire from the CS Department and Montana State University at the end of December, 2015. Kathy helped CS students, faculty and staff for over 10 years! Thank you from all of us in the CS Department!

Demand Generation Initiatives Updates

Two students with Ocean and Looney from Kootenai Valley Christian School, Libby. Photo courtesy of Chelsea Sanderson.

Robotics Outreach

• Hunter Lloyd and Looney the Robot are continuing their "tour" to schools in Montana. This is the final year for the successful program, "Looney the Legend." If you are interested in hosting a program, please contact Sharlyn Gunderson-Izurieta, Sharlyn.Izurieta@coe.montana.edu.

• **Looney Challenges!** The 2015-2016 Looney Challenges began September, 2015. This year the Challenges aim to provide teachers with CS activities that can be incorporated into the classroom. Teachers can learn more and register to participate at www.cs.montana.edu/looney-challenge. Challenges can be can completed at any time and in any order until June 30, 2016 to earn points and win Looney prizes for their classroom. The top twenty point earners will win a Raspberry Pi! (www.raspberrypi.org).

The Joy and Beauty of Computing

• *The Joy and Beauty of Computing* course is continuing to be taught at schools around Montana with interest in the course continuing to increase. The CS Department also provides teacher training for Montana teachers to be able to teach computing at their school.

Computational Thinking Course for Teachers

• The CS Department will again offer, CSCI 591, *Computer Science in the Classroom: Computational Thinking for Teachers* at Montana State University in Bozeman through the Master of Science in Science Education (MSSE) program. The two credit course is intended for 7-12th grade teachers who want to learn how to incorporate computational thinking into the classroom. The course provides teachers the option to potentially teach *The Joy and Beauty of Computing* as a dual enrollment course at their school.

• The CS Department will also offer CSCI 592 for teachers who have already completed CSCI 591, *Teaching the Joy and Beauty of Computing*. The 1 credit course is available to teachers who have already completed the CSCI 591 course described above and will be offered during the same period. For more information about the courses, please contact Sharlyn at Sharlyn.Izurieta@coe.montana.edu.

Who's Who in the CS Department

Dr. Brendan Mumey, Professor, has been a faculty member in the CS Department since 1998. Born in British Columbia and raised in Edmonton, Alberta, Dr. Mumey stayed in Canada to complete his undergraduate degree in Mathematics at the University of Alberta, a Master's in Computer Science from the University of British Columbia, and a Doctor of Philosphy in Computer Science at the University of Washington.

Dr. Mumey's current research focuses on a variety of optimization and applied algorithms problems in computational biology and networking. One current project deals with a new area called pangenomics; developing better algorithms to handle the increasingly large amounts of DNA sequnce data available for many species. Another topic is how best to schedule power-using tasks, e.g. in household, so as to minimize peak energy demand.

When asked about the future of computer science, Dr. Mumey is most excited about information processing technology. It has had a tremendous positive impact on many aspects of society in the last 50 years. With emerging areas like data science and the Internet of Things, he thinks that computing will continue to play an important role in both research advances and our daily lives.

Dr. Mumey enjoys being a professor at MSU, saying "it's fun to impart knowledge and collaborate with students and colleagues on resarch problems." His advice to students? Work hard and take advantage of the opportunities that come your way. Students, both undergraduate and graduate, interested in getting involved in Dr. Mumey's research are encouraged to contact him for more information.

In addition to research, Dr. Mumey enjoys living in Bozeman and taking advantage of the many outdoor activities. He's been a good running shoe and ski customer over the past 17 years!

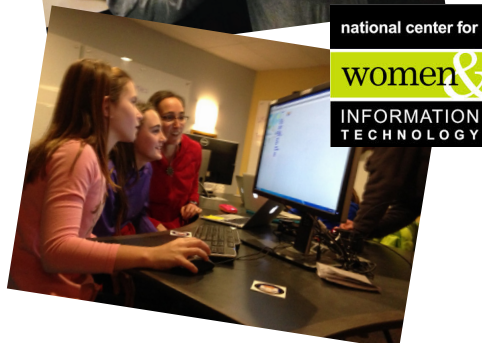**FIRST Tournaments 2016**
Montana State Tournament

Friday, February 5th   Saturday, February 6th

FIRST

MSU's Shroyer Gym

Grace Hopper 2015

Students from the CS Department attended the 2015 Grace Hopper Celebration of Women in Computing. The event, hosted by the Anita Borg Institute in Houston, Texas, was attended by over 12,000! The students commented that the event was inspiring and fun!

national center for
women & INFORMATION TECHNOLOGY

Hour of Code

Over 40 students from local middle schools and high schools attended the first annual Hour of Code event held at the CS Department's Student Success Center. The event was co-hosted by the CS and Electrical and Computer Engineering Departments and the Association for Women in Computing (AWC). The event was supported through a grant from the National Association for Women in Information Technology (NCWIT)

Thank You Industry Affiliates!

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