

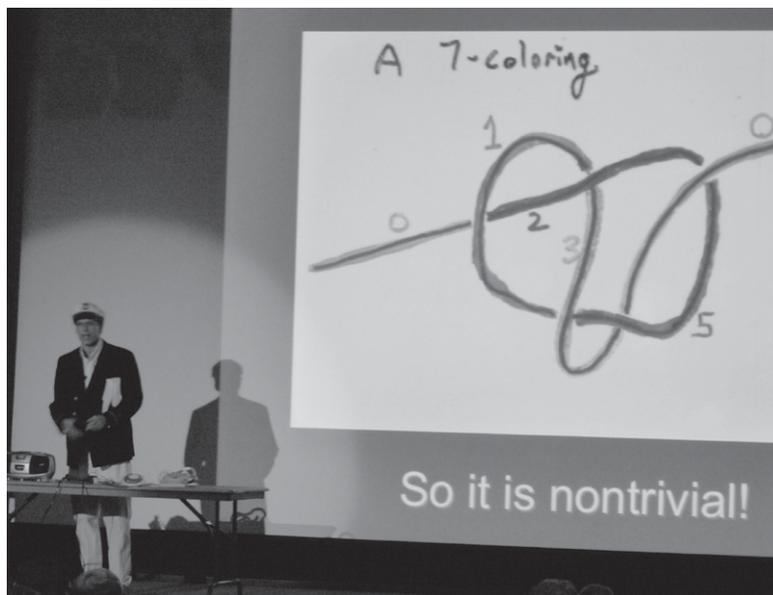
Sudoku, Sharks, and Symmetry at CURM Spring Conference

By Brad Bailey and Michael Dorff

The Center for Undergraduate Research in Mathematics (CURM) hosted its Spring Research Conference in conjunction with the MAA Intermountain Section meeting at Brigham Young University on March 20–21, 2009. The joint conference included presentations of research done by 97 students from colleges and universities across the country. About 250 people, including a group of 50 gifted and talented students from a local public school, were in attendance.

Laura Taalman gave a fascinating talk about some of the mathematics behind Sudoku and its many variants; her address included several excellent open questions and solutions to related problems. Sir Randolph Bacon III (a very close relative of Colin Adams) told a dramatic tale of sharks and high-seas adventure in which his knowledge of knot theory ultimately saved him from certain doom. Joe Gallian gave an inspiring talk on symmetry and art in mathematics. Gallian's presentation included beautiful hypergeometric tessellations produced using algorithms found by some of his past research students.

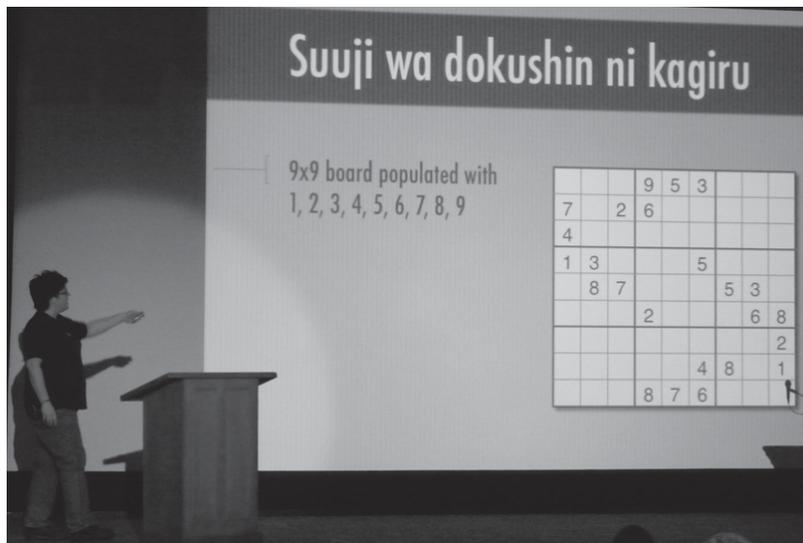
Activities for students included an Integration Bee, an informal reception, and a banquet on the 7th floor Skyroom restaurant with window overlooking the surrounding mountains. The CURM students got some valuable advice from a panel on graduate schools and several wonderful opportunities to interact with each other. The conference ended with a reception featuring a chocolate fountain. Immediately before the reception a group of 17 students organized a hike up to the 'Y', a Provo area landmark made of stone and concrete placed on the side of a nearby mountain; it is a symbol of BYU and was originally formed by, and is maintained by, BYU students.



Sir Randolph Bacon III speaks about his adventures with knots.

The Center for Undergraduate Research in Mathematics was founded by Michael Dorff of Brigham Young University and is supported both by BYU and the National Science Foundation. The purpose of CURM is to support undergraduate research in mathematics and thereby encourage students to pursue advanced degrees and careers in mathematics and other STEM areas. Each year, CURM supports about 15 professors and 45 undergraduate students to do academic-year research at their own university or college. This support includes a summer workshop on directing undergraduate research for the professors in a mansion or mountain cabin, mini-grants for \$12,000–\$20,000 to fund a professor and his/her students in their undergraduate research project, and funding to attend the annual CURM Spring research Conference. More information about CURM is available at <http://curm.byu.edu/>.

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Laura Taalman speaks on Sudoku