OCTOBER 2010

MONTANA STATE UNIVERSITY | College of LETTERS & SCIENCE

NEWS from the Department of Mathematical Sciences

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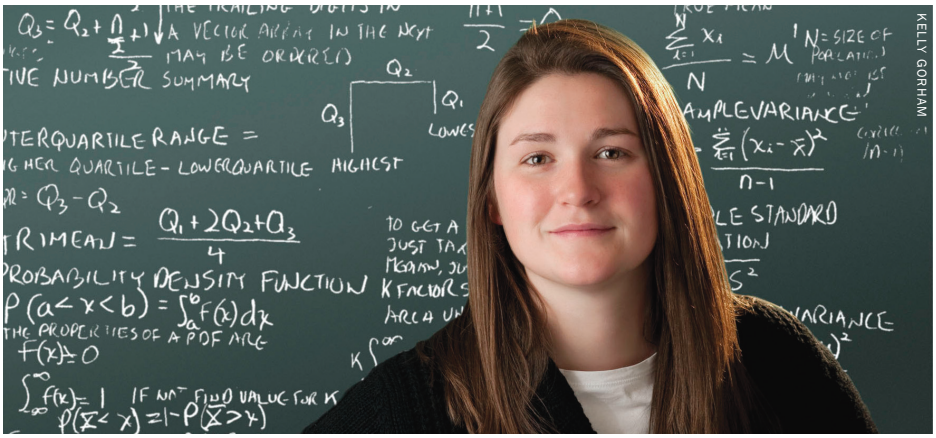
FEATURES



Jamie Thornton

JAMIE THORNTON: EXCELLING ON AND OFF THE COURT

Our Department is made up of many extraordinary individuals. For example, Jamie Thornton, a departmental math major who graduated last spring, exemplifies the quality of our students. Originally from Pullman, Washington, Jamie was a center and captain of the Montana State University women's basketball team. Her work ethic and ability to manage her time are two of her many strong traits. Jamie received an MSU Award of Excellence as one of the 40 top seniors at MSU last year. With a 3.96 GPA she was a four-time member of the Big Sky Conference All-Academic team and served as the president of MSU's Student-Athlete Advisory Committee. Last April she won the Bobcat Pride Award for best exemplifying the women's basketball program on the court and in the classroom. This fall, Jamie enrolled in the master's degree program in statistics at MSU. We are lucky that we continue to have Jamie in our department.

JILL ROBERTS: MASTERING MATH, MUSIC AND MODERN LANGUAGE

Jill Roberts

Jill Roberts is a departmental math major who graduated last spring. Jill is from Billings, Montana and in addition to her love of mathematics and teaching, since high school she has also enjoyed German. Her hard work allowed her to major in mathematics teaching, minor in German, play violin in the MSU Symphony, and teach violin, math, and German, all while maintaining a 3.88 GPA. Clearly teaching is the theme here. Last spring, due in part to her diversity of interests, Jill was the recipient of a coveted Fulbright Fellowship. As a Fulbright recipient, she will teach English in the German state of Brandenburg and study German methods of teaching math. After her Fulbright year, Jill hopes these experiences lead to an opportunity to teach math and German in Montana or Wyoming.

> **Another fall has arrived and the Department of Mathematical Sciences at MSU is looking forward to a year of excellent teaching and outstanding research. Enrollments have increased dramatically, yet we continue to provide the very best education for our students.**
>
> **–KEN BOWERS, DEPARTMENT HEAD**

THERE'S AN INDERDISCIPLINARY APP FOR THAT

Many of our faculty are involved in biological and ecological applications of mathematics and statistics. Dr. Tomas Gedeon is a faculty member in the Center for Computational Biology. Drs. Tomas Gedeon, Isaac Klapper, and Tianyu Zhang are faculty members in the Molecular Biosciences Program. Drs. Jack Dockery, Isaac Klapper, and Tianyu Zhang are faculty members in the Center for Biofilm Engineering. Dr. Steve Cherry works with the Northern Rocky Mountain Science Center, where he is extensively involved with the Interagency Grizzly Bear Study Team.

2010-2011 SABBATICALS AWARDED

Outstanding faculty members Dr. Marcy Barge and Dr. Jennie Luebeck were awarded sabbaticals during 2010-11. Dr. Barge's research will hopefully lead to the complete solution of the Homological Pisot Conjecture, which he has been working on for the past ten years. In addition, he proposes to extend his work on the structure of branch loci in tiling dynamical systems. Dr. Luebeck's research will help her to bring together the fields of mathematics education, Indian/rural education, and distance learning, combining them into a union that will benefit mathematics educators in Montana and across the nation. This type of work is central to the teacher training that MSU provides to the citizens of Montana and also to mathematics teachers across the nation. Her work will directly improve our M.S. in Mathematics - Mathematics Education (MSMME) degree, which is one of MSU's most broadly recognized graduate programs and one of the nation's premier mathematics teacher training graduate programs.

Department of Mathematical Sciences News

FACULTY NEWS

CURT VOGEL AND THE THIRTY METER TELESCOPE PROJECT


Curt Vogel

Dr. Curt Vogel is one of many outstanding faculty members in our Department. Last year he continued to be heavily involved in the Thirty Meter Telescope (TMT) project, working with researchers at the Optical Sciences Company (tOSC) and the Center for Adaptive Optics (CfAO) at the University of California Santa Cruz. They are working to design and build an extremely large telescope (30 meters in diameter) that will see into deep space. Dr. Vogel became so deeply involved in this project that he recently retired from MSU after 24 years in order to devote all of his energy to this and other adaptive optics research projects.

Dr. Vogel earned his Ph.D. in Mathematics from Colorado State University and published over 70 papers in applied mathematics and numerical analysis that spanned the fields of inverse problems, image deblurring and reconstruction, and atmospheric optics and deformable mirrors. In 1992 the Society for Industrial and Applied Mathematics published his book entitled *Computational Methods for Inverse Problems* in their Frontiers in Applied Mathematics Series. His work was funded by more than 30 grants over the years and he was widely recognized as a leader in his field.

Curt and his wife Kate continue to live in Bozeman and as an avid skier and climber, Curt hopes to find more time for these passions although his continued work for the Optical Sciences Company will likely cut into these activities.

$3.5 MILLION NSF GRANT FOR MATHEMATICS COACHING

Drs. David Yopp, Beth Burroughs, Jennie Luebeck, and Mark Greenwood, four of our departmental faculty members, have just finished the first year of a five-year, $3.5 million NSF grant studying mathematics coaching. Teachers from the states of Colorado, Idaho, Montana, North Dakota, Washington, and Wisconsin are participating in this project, which is investigating the types and depths of knowledge needed by effective instructional coaches in K-8 mathematics classrooms.


KELLY GORHAM

From L to R: Professors Jennifer Luebeck, Elizabeth Burroughs, David Yopp and Mark Greenwood.

STUDENT NEWS

ENROLLMENT

Enrollment at MSU saw a dramatic increase from 12,764 last fall to 13,559 this fall. While this affirms the quality of our programs, it also puts a severe strain on our faculty and facilities. Our department reflected these increases. We have 11 new full-time graduate students, bringing our total full-time enrollment to 60. In addition, we have 36 teachers around the country enrolled in our distance delivery graduate program for mathematics education. We have an excellent new class of 19 undergraduate math majors and our undergraduate program now has 123 majors in our four options; applied mathematics, mathematics, mathematics education, and statistics. Last year we awarded 23 B.S. degrees, 22 M.S. degrees, and eight Ph.D degrees.

SUMMER OPPORTUNITIES

One of our undergraduate majors, Autumn Laughbaum, spent the summer right here in Bozeman on an internship with Golden Helix, Inc. which is a leading bioinformatics company that enables the world's premier researchers to find or diagnose the genetic causes of disease, drug safety, and drug efficacy.

Another undergraduate major, Casey Donoven, spent the summer across the Atlantic Ocean at the University of Bergen in Bergen, Norway conducting research on carbon sequestration. His eight-week summer research project, part of the Globalizing Perspectives on Climate Change and Carbon Management program, was funded by the National Science Foundation.

NOTE TO FORMER STUDENTS

We truly value the role you played in the Department of Mathematical Sciences at Montana State University. We hope that your time here led you to a rewarding career and that our people and programs were just what you hoped they would be. We will continue to use these newsletters to update you on all of the extraordinary things going on here in Bozeman.