Greetings from the BYU Mathematics Department! This is a very exciting time for us!

Starting in Fall 2013, mathematics majors will have the option of enrolling in the new Applied and Computational Mathematics emphasis (ACM). The ACM will train students in the core mathematical topics, and will include other topics that are very important in applications. Laboratory activities will integrate model development, data, mathematics and computation. Students will complete a concentration in one of approximately 25 disciplines to which mathematics is applied.

The ACM is the latest step in developing BYU’s reputation as a source of high-impact ideas in innovative undergraduate mathematical education.

The ACM was preceded by the ongoing Interdisciplinary Mentoring Program in Analysis, Computation, & Theory (IMPACT) and the ongoing Center for Undergraduate Research (CURM). In the near future, they will be augmented by a new NSF-sponsored undergraduate research program related to folded systems including origami.

The number of mathematics majors has almost doubled since 2005. The University has asked us to increase this number by another 25%. The quality of our best students has also improved. Scholarships have enabled us to recruit some undergraduates who would otherwise have gone to the very top tier of American universities.

On the research front, our graduate program is progressing well. We have been averaging 1-2 Ph.D. graduates per year, but this year 5 Ph.D. degrees in mathematics were awarded. We are very excited Dr. Tyler Jarvis recently had a paper accepted in one of the top five mathematical research journals in the world – a truly remarkable achievement.

We welcome two new visiting faculty members to the Mathematics Department, and note the retirement of another. Meghan De Witt received her PhD from the University of Wisconsin, Madison, and Michael Barrus received his PhD from the University of Illinois. James Cannon, the Orson Pratt Professor, retired on September 1, 2012.

As we look to the future we will need more internship and job opportunities for our students. Both the number and the intellectual diversity of our graduates will continue to increase. Any help that you can offer us would be deeply appreciated!! During the last year your generous gifts allowed us to improve the quality and accomplishments of our undergraduate students. During the next year we hope to add the development of world-class books and laboratory manuals for the ACM emphasis to this list.

As I start this new adventure of being the Department Chair, I invite any of the alumni, if you should ever have any questions or concerns, to please contact me. I can be reached at robin@math.byu.edu. We look forward to a bright and wonderful future for the BYU Mathematics Department.

Robin Roundy
Alumni Updates

Perhaps the most rewarding aspect of a professor’s job is seeing where alumni go in this world with the skills and abilities acquired during their years at BYU. Your knowledge and experiences are valuable to us. During this next year, you will see a bigger emphasis in maintaining contact with our alumni. We want you to know what is happening in the department and how your impact is helping us with the students and the services we provide. With our new Applied and Computational Mathematics Emphasis in place, more help will be needed from the alumni in helping our current students prepare for their careers with this new foundation. Many alumni have already helped us gain internships and have become mentors for our students. Some have donated money which helped fund student scholarships and research projects. So far in 2012, alumni have given almost $100,000 to the Math Department. These monetary gifts have ranged from $10 – $10,000. One family set up an endowed scholarship. Every little bit of help from the alumni has been appreciated and has been very beneficial to our students.

We have many exciting things on the horizon for the math department and its alumni. To begin with, we are happy to announce our first Annual Alumni Tailgate Party! We know many of you travel from near and far to attend the BYU Homecoming Game every year. We hope you and a guest can take the time to come and eat and mingle with the professors and fellow alumni. This year’s tailgate party will be held on Saturday, October 13, 2012 from 12-2pm in room 5519 Wilkinson Center. To learn more about this free tailgate party and to rsvp, visit rsvp.byu.edu. Watch for more alumni events to happen during the next year!

Another exciting announcement is the creation of our new “BYU Math Alumni” LinkedIn group. We invite you to stay in touch with us on LinkedIn.com and to keep in contact with fellow alumni. Also, look for our new and improved alumni link on the BYU Math website. We will be spotlighting fellow alumni and providing updates on new and exciting developments in the math department!

In addition to the webpage and LinkedIn page, alumni will receive a bi-annual newsletter usually sent in September and in April. If you wish to receive the newsletter electronically, please contact us at alumni@math.byu.edu.

Each year, the department offers a Math 221 course which features guest speakers to talk about their career to the students. This course has been a popular and favorite among the majors. If you would be interested in being a guest speaker, please contact Fred Lewis at flewis@math.byu.edu.

In other alumni news, we also want to say thank you for those who filled out our Alumni Survey sent out in April. We were happy to see so many responses. The winner of the ipad was John S. Colton (B.S. in Physics and Mathematics, 1994). Also, congratulations to the first 200 who responded and received a $20 BYU Bookstore Gift Card. Be on the lookout for future survey and prize giveaways!

The BYU Math Department is excited to start this new journey with the alumni. If you ever have any questions, please contact our alumni coordinator at alumni@math.byu.edu or at 801-422-6888.

Faculty Achievements

by Robin Roundy

• A paper written by Tyler Jarvis, “The Written Equation, Mirror Symmetry, and Quantum Singularity Theory” has been accepted by The Annals of Mathematics--one of the top 5 prestigious research journals.

• The Center for Undergraduate Research (CURM) has been awarded $1,280,000 for the next five years by the National Science Foundation (NSF). Congratulations to Professors Michael Dorff & Tyler Jarvis.

• Denise Halverson is one of a team of BYU faculty on a $2,000,000 research grant from NSF on Folding and Compliant Mechanisms, based largely on Origami. This grant has an important undergraduate research mentoring component.
New Mathematics Department Chair

by Kalli Renda

On June 11, 2012, the Department of Mathematics welcomed Dr. Robin Roundy as its new Chair. After six years of service, former Department Chair, Dr. Tyler Jarvis announced the position would be passed on to Dr. Robin Roundy. Dr. Darrin Doud and Dr. Steven M. McKay have been appointed as Associate Chairs.

Dr. Roundy graduated from BYU as a math major magna cum laude. After earning his masters degree in Mathematics, Dr. Roundy left Provo to pursue his doctorate in operations research at Stanford University. He began his teaching career in 1984 at Cornell University where he became a full professor. Dr. Roundy taught at Cornell until 2007, when he was called as mission president of the Colombia Barranquilla Mission for the Church of Jesus Christ of Latter-day Saints. After serving in Columbia for three years, Dr. Roundy returned to BYU in 2010 to teach mathematics.

Over the course of his career, Dr. Roundy has accomplished great things in the science and mathematics fields. Most recently, he was inducted as a Fellow in the Institute for Operations Research and the Management Sciences (INFORMS), where he was recognized for contributing to the field of operations research through innovative research and teaching. Other awards include the Fredrick W. Lanchester Prize from the Operations Research Society of America for the best paper of the year, and Presidential Young Investigator Award from the National Science Foundation. Currently, Dr. Roundy is a member of the Institute of Industrial Engineers and the International Council on Systems Engineering.

Dr. Doud graduated with a masters degree in Mathematics from BYU. Dr. Doud later earned another masters degree in Teaching Mathematics and a doctorate in Mathematics from the University of Illinois, where his research focus was algebraic number theory. After graduating, he accepted a two-year postdoctoral position at Harvard University. In 2001, Dr. Doud returned to BYU to teach mathematics. He became the Director of Undergraduate Studies for the department in 2008 and was appointed as Associate Chair in the summer of 2011 to serve with Dr. Jarvis.

Dr. Steven M. McKay received his Ph.D. in Mathematics from Colorado State University and has worked at the University of Houston-Downtown, UVSC, and BYU. During his time at BYU, Dr. McKay has made significant contributions to the mathematics department and to BYU. He was previously a member of the Faculty General Education Council, and served as chair of the BYU Calculus Committee, where he implemented the Moodle course management system and the WeBWorK homework system for various calculus classes. Dr. McKay’s passion for mathematics extends beyond the BYU campus, as he is currently serving on both the state-wide Mathematics General Education Learning Outcomes Committee and the MAA Mini-courses Committee.

The Department of Mathematics is embracing this new change in leadership as they combine their experiences to work toward their goal of becoming the country’s top undergraduate mathematics program. As Dr. Roundy put it, “We have a lot of new and exciting opportunities before us. The most important one at present is the new emphasis in Applied and Computational Mathematics, which we are very excited about.”

Faculty Spotlights

JAMES CANNON

After 44 years of teaching, Dr. James Cannon retired this September. Cannon developed an interest in math at a young age when his older brother began to share some of his mathematical knowledge with him. Beginning as a graduate student at the University of Utah, Dr. Cannon taught for 17 years at the University of Wisconsin before coming to BYU in 1986. An effective teacher, Dr. Cannon stated, “I try to make things crystal clear... I want to tell people about those things that I find magical, and I like the response when I succeed at that. I like the interplay; I like the questions – I like the office hours.” Cannon credits “good students, good colleagues, and a wonderfully supportive wife” for making his career in so enjoyable. After retirement, Dr. Cannon plans to continue his research and to devote more time to his many hobbies. He looks forward to being able to spend time with his family, and visiting children and grandchildren.

MEGAN DeWITT

The Math Department welcomes Dr. Meghan De Witt as a two-year visiting faculty member. De Witt graduated with honors from BYU with a degree in mathematics and a minor in music. As an undergraduate, De Witt completed her honors thesis under Dr. Darrin Doud in the field of algebraic number theory. She then studied at the University of Wisconsin-Madison under Dr. Nigel Boston. She earned her doctorate in Mathematics in 2011. She taught at the University of Central Oklahoma for a year before coming back to BYU to teach. Her primary research focus is the inverse Galois problem, although she is also highly interested in the history of math, the unusual quirks of math, and math education. De Witt has worked with both advanced and struggling students preparing for college, as well as several outreach programs designed to explain the wonders of math to the public.
BYU Calculus Recognized by the Mathematical Association of America

by Alysa Hoskin

The Department of Mathematics was recognized in March by the Mathematical Association of America (MAA) for its introductory calculus class, Math 112. The MAA recently conducted a study of more than 200 college and university calculus programs nationwide and identified 16 of them as exemplary. BYU’s Math 112 was listed in that elite group. The study involved interviewing students, tracking their progress and failures and identifying their feelings towards math as a result of the calculus courses.

“Thousands of students take our calculus classes, so doing an excellent job of teaching those classes makes a bigger difference in the lives of everyday students on campus,” says Dr. Tyler Jarvis, former chair of the Department of Mathematics.

During the upcoming fall 2012 semester, the MAA will visit BYU and the other 15 recognized schools around the country to learn what makes their programs so outstanding.

“We have good faculty teaching our calculus classes, and that makes a big difference,” states Dr. Jessica Purcell, professor and course coordinator. “But we also have really good students. You mix the two together, and you have a great program.”

BYU’s math program is growing, and calculus classes are at the center of that growth. While 730 students were enrolled in Math 112 during fall 2010, that number jumped to 912 students in fall 2011. This fall, 1151 are enrolled for Math 112. Our numbers are continually growing.

“We’ve been putting a lot of effort into making math instruction better at BYU,” says Dr. Jarvis. “This is just evidence that all that work is paying off. It’s important to us that our students learn well, and it’s gratifying to know that we’re succeeding.”

New Student Lounge

by Kalli Renda

On March 20, the Math Department opened the doors to the CASTLE (The Collaborative Advantage: a Study, Teaching, & Learning Environment), the new student lounge located in 2202 of the Talmage building. The Castle is meant to provide a place for those studying mathematics to collaborate in a comfortable setting, complete with a microwave, a fridge, couches, Mac and PC computers, and a breathtaking view. The Castle is also meant to be a welcoming place where students can take a break from studying and relax for a few minutes with board games and friends — the perfect place to rejuvenate from working hard at school.

Initiated by the Student Advisory Council (SAC), the Castle has been a project a year in the making. Eric Jones, the president of the SAC, hopes the months of work put into the lounge will pay off and that the Castle can help build unity and friendship within the math department.

We’d love to hear from you!

The Math Department wants to know more about you. We would like to feature your story in the Alumni Profiles section of our next newsletter. Please send a brief biography and description of your achievements to alumni@math.byu.edu.