

Summer 2002

Visit the Mathematics
Department Web Site
at
www.math.du.edu

Mathematics Alumni Newsletter

University of Denver

Inside this issue:

Greetings From The Chair	1
Excellence in Education	1
Faculty Promotion	1
Meet The New Faculty Members	2
Thank You, Jilliane	2
Honors And Awards	3
Remembering Mike Martin	3
We Want To Hear From You	3
Tea At The Greene (Astrid's Tea)	4
Hockey Night 2002	4
Math Art Exhibit	4
A Math Puzzler	4

This newsletter will be published semiannually and your submissions are welcome

If you have an article or information that might be of interest to other alumni and you would like to have it published in the newsletter, please send it to:

Don Oppliger
DU Math Dept
2360 S. Gaylord
Denver, CO 80208
dopplige@du.edu

Please include your name, mailing address, and email address so we can contact you.

If you would prefer to receive the newsletter electronically

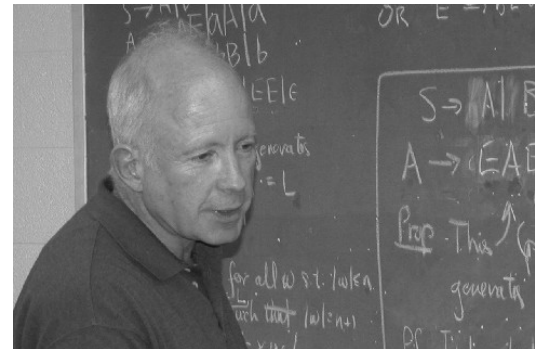
Just let us know by sending an email to dopplige@du.edu

Greetings From The Chair

The purpose of this newsletter is to extend our heartfelt congratulations to our recent graduates and our warmest greetings to our alumni from years past. And since this is also the end of the first year of existence of the Department of Mathematics as an entity separate from the Department of Computer Science, it is also an appropriate time to reprise some of the major developments of the past year.

We have hired two extremely promising faculty members, Nicholas Ormes and Petr Vojtechovsky. (A short blurb on each one appears in this issue.) This was a major effort by the entire Department, from work studies to senior faculty, since hiring involved carefully screening of more than 250 applications from some of the world's best mathematicians. Attracting and retaining top-caliber faculty is not easy, and it is a credit to all concerned that we have been successful in doing so.

This marks the end of the rollout year for our revised lower-level calculus course, MATC 1200, Calculus for Business and Social Sciences. The calculus content of the course has been substantially increased, the labs have been tied closely to the lectures, and the



course now employs laptops as a fundamental tool for exploring mathematical ideas. Under the supervision of Camie Bates with the able assistance of Sharon Butz, this very substantial curricular reform can now be seen to have brought about a major improvement in one of the largest enrollment courses at DU. This summer, Elida Nosenzo, Sharon Butz, and Don Oppliger will begin the process of applying some of the same reform elements to MATC 1100, our other Foundations course.

(Continued on page 2)

Excellence in Education

Camie Bates and Sharon Butz were among those recognized at the Excellence in Education Awards Banquet this year for giving outstanding support and encouragement to University Disability Services (UDS) students. Each year, UDS students and staff nominate individuals who have made a difference in the lives of students with disabilities at the University. We consider this a very special honor since math concepts are often considered particularly difficult to grasp.

Faculty Promotion



We are pleased to announce that James N. Hagler has been promoted to the rank of Full Professor. This well-deserved promotion received strong support from Jim's peers and students, both past and present, as well as the

Tenure and Promotion Committee. Jim will be among those recognized at Convocation in September.

Greetings From The Chair *(Continued from Page 1)*

Under the able direction of Graduate Chairman Alvaro Arias, who joined the faculty in fall 2001, our graduate enrollment has experienced a sharp and welcome upturn. We expect approximately ten new mathematics graduate students in the next academic year. We are particularly eager to welcome these students, since their presence will broaden and deepen the mathematical culture we are creating at DU.

I would also like to take this opportunity to thank Rob Judd for stepping in on extremely short notice to avert a serious

staffing crisis brought on by Mike Martin's untimely death in September. Rob proved to be an excellent instructor.

All in all, we think the Department of Mathematics is thriving. We would love to see you if you are in the neighborhood and care to stop by. A particularly good time to do this is Friday at 3, when we usually have tea and wrap up the week. (See the article in this newsletter.)

Wishing you a pleasant and rewarding summer,

Richard N. Ball

Meet the New Faculty Members



Nicolas Ormes

Nic Ormes' primary research interests are in topological dynamics. Most mathematics takes place in some sort of topological space, like the real numbers for example, and most of the time the space is pretty static. Topological dynamics takes up the questions that arise when the space begins to shake, rattle, and roll. This active research area, which includes the currently hip topic of chaos, has applications to many dis-

ciplines. In particular, Nic has some beautiful results on tilings.

Nic's family ties to Colorado are deep, although they skip a generation. Nic's grandfather, an English professor at Colorado College for many years, was very active in mountaineering circles. Not only did he write a major guidebook to the Colorado Mountains, but a peak in the Pike's Peak massif is named after him. Nic joins our faculty in the fall of 2002.



Petr Vojtechovsky

Petr Vojtechovsky is a Czech mathematician with interests in algebra and combinatorics. He is helping to organize a conference on loops to take place in Prague in 2003. (A loop is like a group except that it need not be associative or have inverses.) Much of Petr's research is computer-aided.

of his travels on several continents, links reflecting his research interests, and an extensive family tree. Petr enjoys soccer, racquetball, skiing, and mountain biking. Among his other interests he lists skyscrapers and the piano. He will join our faculty in the fall of 2002.

On his Web page, www.public.iastate.edu/~petr/, one can find a delightful pictorial record

Thank You, Jillaine

When faculty candidate Nic Ormes landed in Denver

for his interview, he already had an insider's view of the Department. It seems that he found himself in an airplane seat next to Jillaine Hutchings, recipient of the Herbert J. Greenberg award as outstanding math major in 2000. The

Department could have no better ambassador than the effervescent and loquacious Jillaine, and we like to think she had something to do with Nic's decision to conduct his career at DU. Thank you, Jillaine!

Honors and Awards

This year the Herbert J. Greenberg award for the outstanding mathematics major was split among three people: Tom Gieck, Jennifer Proal, and Tracey Shaw. Tom is a personable young man from Colorado Springs who is in the fourth year of a five-year program leading to majors in both mathematics and statistics. His favorite class was real analysis because it helped him understand the basis for so many other principles in mathematics. He plans to either go into actuarial work or on to graduate school.

Jennifer is a cheerful young woman who has this to say about her favorite class on fair division taught by Mike Martin, "Every time I eat cake (which happens quite often) or share food with friends and family I think about the many ways to make its division absolutely fair (more fair than anyone else really cares to consider.) That's the kind of applied mathematics I like. Beyond this class, I was amazed to discover the depths to which the study of math can go. I constantly found myself challenged and stretching my mind further than I could have imagined." Jennifer plans to pursue a Masters degree in mathematics at DU next fall.

Tracey Shaw is a quiet and charming young woman who was raised on a dairy farm in upstate New York. She is in

agreement with Jennifer, stating that fair division with Mike Martin was her favorite course. Tracey's intellectual energy was severely tested by the rigors of her program, which required that she finish her mathematics major in three years so that she could spend the fourth year student teaching in order to secure her secondary education certification. This she has now done, and she will step into a permanent position as a mathematics teacher at East High School in Denver, where she did her student teaching, next fall.

Others recognized for their excellence in mathematics include junior Alex Thomson, sophomores Cy Holladay and Nick Levine, and freshman Shelley Jones.

The Mike Martin Scholarship is awarded to the most promising and deserving incoming freshman mathematics student each year. We are pleased to announce that this year's award goes to Ileana Valdez of Laredo, Texas. We look forward to welcoming Ms. Valdez to the Department next fall. Donations to the Mike Martin Scholarship may be made by check made out to the University of Denver and mailed to University of Denver, Office of Institutional Advancement, Denver, CO 80208, Please note on the check that it is for the Mike Martin Scholarship Fund.

Remembering Mike Martin

Mike Martin is fondly remembered by many. David Weissman, BA '85, shared these memories of Mike in the spring edition of the University of Denver Magazine. In part his letter read...

"After reading [elsewhere] that math Prof. Mike Martin had passed away, I experienced profound grief. Mike had been the faculty advisor for the Alpine Club for the four years I was a member and one of the club's chairmen. He was one of the kindest, most low-key, and compassionate

individuals. One of the last times I saw Mike, we were returning from a club-organized climbing trip in Joshua Tree, Calif. The weather had dealt us some interesting conditions for rock climbing including snow, rain, hail, and sleet. On the trip home, Mike spent the better part of 24 hours curled up in a sleeping bag in the back of my pickup during a horrendous snowstorm that lasted from California to Denver. He never complained. I'll always feel guilty as I was the one who gave up in the face of the worsening conditions—Mike had wanted to stay and climb. I'll miss you Mike."

We Want To Hear From You

We are continuing the departmental tradition of collecting information about our alumni to post on our bulletin board in John Greene Hall, and to maintain open lines of communication. This newsletter is one of those efforts.

We'd love to hear from you. Send a paragraph or two and

let us know what you have been up to these days. Pictures are welcome, too!

Send your information to: Don Opplinger, DU Math Dept, 2360 S. Gaylord, Denver, CO 80208, dopplige@du.edu

Tea At The Greene (Astrid's Tea)

When Astrid an Huef joined the faculty in the fall of 1998, she pitched in to every phase of Departmental life with a typically Australian can-do attitude that ingratiated her to all concerned. A conscientious and well-liked instructor, she was a particularly effective mentor to our young women. To an extent unusual for a beginning faculty member, Astrid even took part in curricular development and committee activities; for example, she was the mainspring behind the major reform of the lower-level calculus course MATC 1200. All the while, Astrid traveled often and widely in the process of becoming a rising star in C^* -algebras.

Therefore, we were all sad to see Astrid go when she took a position at the University of

New South Wales commencing in January 2002. But we were also happy for her because the location in Sydney allows her to be much closer to her family and UNSW has well-established research groups in the areas of her interests.

One of the ways we remember Astrid is by carrying on a practice she initiated. On Fridays when there is no colloquium, we gather at 3 in the John Greene Hall lounge to relax, catch up on business, and chat. It's the best time to drop in on the Department if you are in the area. We would love to have you join us for "Tea at the Greene".



Photo courtesy of the Brown Palace Hotel

Hockey Night 2002



In February this year, 75 mathematics alumni and DU Math Department faculty, staff, and guests watched the DU Pioneers defeat St. Cloud State by a score of 5-2 on the ice in Magness Arena.

Hockey Night has been an annual event for several years. At the time of the game in February, DU and St. Cloud were ranked numbers 1 and

2 in the nation, although polls differed as to which team occupied which position. Prior to the game, there was an opportunity for everyone to enjoy refreshments in John Greene Hall, get reacquainted with old friends, and meet new ones.

We attempted to contact everyone who lives within a reasonable distance to inform them of this event. If we didn't have your latest address, we're sorry that we might have missed you. If you are interested in attending future Hockey Nights, or know any other alumni who might be interested, please let us know. We'd love to see you there. The Pioneers had a terrific season this year and we're looking forward to another great season next year!

Math Art Exhibit

An exhibition of Stan Gudder's Math artwork will take place in the Museum of Anthropology Gallery, Room 102, Sturm Hall from September 13 to October 11. These art works are computer generated using the program Mathematica. They are produced by three-dimensional surface and contour graphs of functions of two and three variables. Not only are the shapes of the images determined by mathematical functions, but also the hue, brightness, and saturation of their colors. The images have a whimsical, other-world quality that demonstrates that mathematics has artistic attributes in addition to its intrinsic beauty and practical applications.

A Math Puzzler

This puzzle is just a sample of the many problems that are presented to middle school students in a MathCounts competition. In the hexagonal grid shown here, you may step from your current hexagon to any adjacent hexagon. How many 5-step paths are there from A to B? Try it! Teams of 4 must work 10 problems of similar difficulty in 20 minutes. For the correct answer, see Page 3 of this newsletter.

A more difficult problem is explaining how the answer is obtained. The most pleasing algorithm will be published in the next newsletter. Submit your entries to sbutz@math.du.edu. You may also contact Sharon Butz at this email address if you are interested in volunteering or would like more information about MathCounts.

