

"All the v's that's fit to print"



Newsletter

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Outstanding Student Awards

During "end of year awards ceremonies" in May 2002, two mathematics students were honored for academic achievement during Academic Year 2001/2002.

Stacy Malone was named the Outstanding Mathematics Undergraduate Student

Dan D'Eramo was named the Outstanding Graduate Student in Mathematics

Congratulations to Stacy and Dan for jobs well done !!

Math Department Again Earns Campuswide Recognition

By mandate of the University of Colorado Board of Regents, every year each CU campus must identify units on campus which are to be recognized as being 'meritorious'. We are quite proud that the **Department of Mathematics** was one of five such units at CU - Colorado Springs during AY 2001/2002. This marks the second straight academic year in which the math department has been so honored.

Around the Department

The department's newest member is Dr. **Seung Son**. Seung began his duties as assistant professor of mathematics during Fall 2002. A complete interview with Dr. Son appears at the end of the Newsletter.

Dr. **Partha Guha** is visiting the UCCS math department for the academic year

2002/2003. Partha is on leave from Bose National Centre of Calcutta, India. His Ph.D. is in Physics, while his D.Phil. degree in mathematics was completed under Professor (and Fields Medalist) Simon Donaldson at Oxford University in England. The title of his thesis is "Holomorphic Vector bundles". Dr. Guha has worked at several institutions throughout Europe, Asia and America, including Max Planck Institute in Germany, Institut des Hautes Etudes Scientifiques in France, and the Research Institute of Mathematical Sciences in Kyoto, Japan. Currently Partha is working on Geometrical Physics and integrable systems.

The third 'new face' in the mathematics department this year is that of **Moira Byrne**. Moira started in June 2002 as a half-time Administrative Assistant in the math office. Moira's duties include assisting **Joanie Stephens** in keeping the department running smoothly (no small feat!), and heading up the EAS college's Extended Studies program. Moira replaces Steph Romero, who moved on to the UCCS Graduate Program Office. Moira is new to the CU system, coming here after 14 years in the airline industry. She still loves to travel, although she spends a lot more time on the ground nowadays.

Professor **Ken Rebman** officially retired from the UCCS last spring. Ken was Vice Chancellor of Academic Affairs at UCCS from 1994 to 1996, and Associate VCAA and Dean of the Graduate School from 1996 to 2000. He

subsequently became a faculty member in the math department. Ken has officially been granted the title of Professor Emeritus as of August 2002.

Bob Carlson became department chairman in August 2002. Bob succeeds Jim Daly, who graciously agreed to act as interim chair for the Academic Year 2001/2002. Bob has learned much during his first few months in the position, including the oft-validated maxim that “administrative work can easily fill every day.” Bob is finding that his “... biggest challenge is to maintain research activity”. By far the most exciting event to occur during the past year for Bob and his wife Linda was the adoption of their daughter Emily from China. “Emily is doing extraordinarily well!”

During the past year, **Jim Daly** served as interim chair of the department, all the while working feverishly to finish building his new house in Penrose. (After an exhausting effort, Jim and his wife Mary moved in to their new house in October 2002.) On the research front, Jim and his coauthor Sandor Fridli (of Eotvos University, Budapest) are finishing a nice paper on multiplier conditions for Fourier series. Also, work has begun on a special multiplier, called the *perfect square multiplier*, in an attempt to answer a longstanding conjecture about whether it is bounded only on L^2 .

Sarbarish Chakravarty was awarded a London Mathematical Sciences grant to visit England in November and December 2001. He gave lectures at The Mathematical Institute of Oxford University, the Institute of Mathematics & Statistics of the University of Kent, and the Department of Mathematical Sciences of Loughborough University. Dr. Rodney Halburd from Loughborough U. visited UCCS to work with Sarby in both January 2002 and July 2002. Two papers based on their recent joint research work have been submitted for publication. Sarby also gave two talks on their joint work at the University of Missouri - Columbia during October 2002.

For the second straight year, **K.M. Rangaswamy** was part of a successful CO-AMP grant from the National Science Foundation. The current grant is for \$30,000, for the period November 1, 2001 through October 31, 2002.

The primary goal of CO-AMP (The Colorado Alliance for Minority Participation) is to increase the number of underrepresented minority students in the sciences, mathematics, engineering and technology areas who successfully complete their baccalaureate degrees. This is accomplished by free tutoring, summer bridge programs, summer research opportunities, and other initiatives. In addition, Ranga participated in the International Conference in Algebra and Geometry in honor of Reinhold Baer's 100th birthday. The conference was held at Hattingen, Germany in July 2002. To top off a very active year, Ranga stepped down from the position of Associate Dean of the College of Engineering and Applied Science after a four year stint. Ranga's hard work and accomplishments while in this position are appreciated by all of us in the college!

Greg Morrow was the Associate Chair of the department during AY 2001/2002. During that period he also coauthored a paper (with Sarby Chakravarty) regarding the statistical analysis of collision induced timing shifts in a wavelength-division-multiplexed optical soliton-transmission system. This paper was accepted for publication in the American Mathematical Society Contemporary Mathematics series. Currently Greg has been busy organizing the Mathematics Colloquium Series. He has been spending a lot of time contacting and hosting the speakers in this series.

Yu Zhang visited Sinica, Taiwan for twenty days during Summer 2002. During his visit he gave two lectures to describe his work in statistical physics. In addition, Yu and Chow (a professor at the University in Sinica) completed a joint paper on the topic of first passage percolation.

Gene Abrams continued his joint research work with Professor P.N. Anh. Anh is a member of the Rényi Mathematical Institute of the Hungarian Academy of Sciences in Budapest. Gene went to visit Anh for a few days in Budapest during June 2002. In that same month he also gave a talk regarding some of his work (coauthored with Jeremy Haefner of UCCS and Angel del Rio of Universidad de Murcia, Spain) at the Algebra 2002 Conference in Venice, Italy. In January, Gene was named the 2002 Burton

W. Jones Outstanding University Teacher for the Rocky Mountain Section of the Mathematical Association of America. In May he was named the 2001/2002 Outstanding Teacher for the College of Engineering and Applied Sciences.

Keith Phillips spent part of Fall Semester 2001 Phillips visiting the Department of Numerical Analysis at Eötvös Lorand University as a guest of Professor Sandor Fridli. Keith's visit served to reinforce his opinion that the environment in Hungary is perfect for doing successful mathematics. (This fact was noted also by the famous mathematician / computer scientist Donald Knuth, who remarked that "Hungary has the best mathematics educational system ever developed in the world.") In part due to the positive impact his visit to Budapest has had on his own work, Keith is encouraging American mathematics students to consider studying in Hungary. There are a number of programs designed for students to do just that; contact Keith for more information.

Shannon Schumann was extremely busy last year in her role as director of the Mathematics Learning Center. The MLC was busier than ever, with student visits up by 12.4%. "We have a great group of tutors, as always!" Shannon remarked. The statistics bear this out. For instance, in Calculus 3 (Math 235), no student who visited the MLC at least 3 times got lower than a C in the course. By comparison, 18% of non-MLC visitors earned less than a C. Online tutoring, in conjunction with CU-Boulder, is also going strong. "We've branched out to include the Science Learning Center, by offering chemistry and biology tutoring." The MLC received a Total Learning Environment grant last year, and is using the money to outfit one more classroom (EAS 101) as a "smart" classroom for online classes.

Shannon Michaux has done yeoman's duty (yeowoman's duty?) during Fall 2002 by teaching two courses through the *MathOnline* program. Shannon comments that "The most noteworthy thing to happen this past year was the arrival of Timothy Jasper Michaux - 7 lbs 13 ounces, 20 3/4 inches - on April 15, 2002." Congratulations, Shannon (and Brian and Emma)!

Congratulations to All 2001/2002 Graduates!

Here is the list of the Academic Year 2001/2002 graduates from each of the department's degree programs. An impressive list, to be sure!

B. A. Mathematics:

Bohdan Besaha
Julie Courtier
Ricardo Delgado
Dawn Hastings
Bryan Lipe
Debbie Maines
Staci Malone
Sharee Robertson
Karen Wright

B.S. Math / Applied Math:

Miranda Cote
Richard Edmundson
Thomas Eggers
Terry Elder
Regina Jabbour
Jane Powell
Ken Rosbach

M. S. Applied Mathematics:

Sandra Garrison
Tyler Lievrouw

Congratulations to all the AY 2001/2002 graduates from the Department of Mathematics!

A Change at the Top Jeremy Haefner is Named Dean of the College

After a nationwide search, Dr. Jeremy Haefner was appointed as Dean of the College of Engineering and Applied Science in July 2002. Although we will be hard pressed to replace Jere's enthusiasm and effectiveness within the department, the college as a whole now reaps the benefit of his years of experience and professionalism. Jere says that "it's a humbling yet exciting opportunity, but I'm tackling it with the attitude of serving the needs and interests of the students, faculty and staff." Prior to his being named dean, Jere began the year with a fellowship from the National Learning Infrastructure Initiative in the *Educause* organization. In this capacity he researched learning efficacies associated with various course management systems.

Newsletter Profile: Dr. Seung Son



The department's newest member is Dr. Seung Son. With Seung's arrival in August 2002 the department now boasts ten full-time faculty members.

Dr. Seung Son was born in Seoul, South Korea. He enjoyed both physics and math as a university student, the attractiveness of physics being its 'real world connections', and the attractiveness of mathematics coming from the fact that it's 'always correct'. In graduate school at the Korea Advanced Institute of Science and Technology, Seung studied a combination of these two disciplines by focusing on numerical analysis and fluid mechanics. When Seung faced the choice of army service or some other type of service to his country, he chose to fulfill his nation's obligation by completing a stint at the university. During this time he served as a research assistant, and was able to coauthor an article for a mathematics journal.

After his national service was ended Seung decided to continue his studies in the United States. He chose the University of Illinois because of its large computer science department. Unfortunately, he found little collaboration between computer science and mathematics at UI. While taking a course on analytic number theory from Professor Bruce Berndt, Seung was handed a list of unsolved problems arising from the work of the famous Indian mathematician Ramanujan. Seung was able to solve some of these! He was also able to help a fellow student overcome a sticking point in the student's Ph.D. thesis, thus enabling the student to finish his degree. This success in problem solving was quite exciting for Seung,

and it launched his career as a mathematician. Professor Berndt eventually served as Seung's Ph.D. advisor.

After spending Fall 1998 at the University of Missouri on a postdoctoral fellowship, Seung again heard the loud voice of his 'applied math' side calling. He was offered a lucrative position in a high tech company in Boston, where he learned and developed software engineering tools. After a very satisfying year for Seung, the company eliminated much of its research and development emphasis, prompting him to find work in database management for Lucent Corp. for a year.

With the shaky financial situation of Lucent a daily topic for the tabloids, and with a newfound desire to return to mathematics, Seung left Boston in Fall 2001 for a position at Kansas Wesleyan University, a small liberal arts school in Salina, Kansas. It was from Wesleyan that the UCCS mathematics department was fortunate to hire Seung.

During his time in Kansas Seung was able to catch up on some of the latest research results in analytic number theory. His goals during his first academic year at UCCS are to focus on the courses he is teaching, and to continue to head towards the cutting edge in his research area.

Seung, his wife Jae, and his son Chris are very much enjoying life in Colorado Springs. The existence of a large Korean community here was one of the selling points that convinced Seung to accept the position at UCCS. Chris is a student at Cheyenne Mountain High School.

Please feel free to stop by and chat with our newest department member, Dr. Seung Son! His office is EAS 282, and he can be reached via email at son@math.uccs.edu.

Shirts and Hats: The UCCS Department of Mathematics logo has been incorporated in handsome golf shirts and caps! Contact Joanie Stephens at 262-3311 to find out how to order this handsome apparel!