Around the Department

GENE ABRAMS spent much of November and December of 2006 working with P.N. Ánh of the Mathematics Institute of the Hungarian Academy of Sciences. Ánh was in Colorado Springs as a teaching fellow at Colorado College. Together with Enrique Pardo, Gene and Ánh finished a joint article about isomorphisms between various sized matrix rings over Leavitt algebras. This work will appear in Crelle's Journal. Gene has subsequently given a number of presentations about this work, including to the UCCS student Math Club, and to math department colloquia at UCCS, CC, and CU Boulder.

Gene also spent some time in teaching and learning endeavors. He worked with the UCCS P.I.P.E.S. Institute, attended the Park City Math Institute Professional Development academy, worked with Radu Cascaval (and some psychology department faculty) on an article describing the advantages of archiving math lectures, and helped design and deliver the new Math 131/132 sequence, "Calculus with Refresher Precalculus".

BOB CARLSON continues his research on several combinations of differential equations and graph theory. Such problems can arise in trying to model systems as diverse as blood flow in the human circulatory system and the behavior of electrons in

microelectronic structures. The somewhat broader field of analysis on graphs was the focus of a major six month long program at the Isaac Newton Institute in Cambridge, England. Bob went there for a week-long workshop in April, where he presented a paper on differential equations on infinite graphs inspired by circulatory system modeling. He notes that a walk through the old part of Cambridge, an ancient university town, feels somewhat like a visit to Hogwarts.

During 2007 **RADU CASCAVAL** attended two major research conferences, one in Snowbird, Utah (SIAM conference on Dynamical Systems), and a second one in Graz, Austria (Interdisciplinary Conference onBiomedical Modeling and Cardiovascular-Respiratory Control: Theory and Practice). He presented a paper in the latter one.(Cont on pg 2)
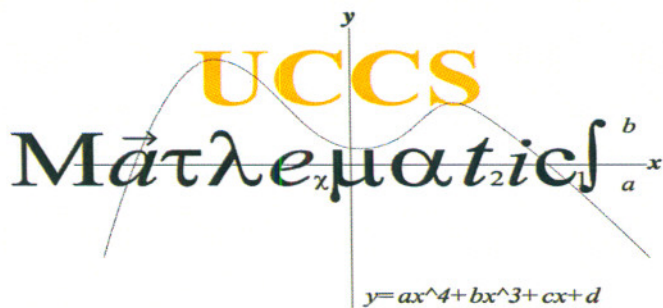
Outstanding Student Awards go to.....

During "end of year awards ceremonies" in May 2007, the following mathematics students were honored for academic achievements during Academic Year 2006/2007 by the College of Letters, Arts, and Sciences: **Jennifer Holmes, Tracey Mansard, and Sanghui Lee** were named the co-recipients of the Outstanding Undergraduate Student in Mathematics award.

Ginger Anderson, Shane Passon, and **Eric Sullivan** were named the co-recipients of the Outstanding Graduate Student in Applied Mathematics award.

Congratulations to Jen, Tracey, Sang, Ginger, Shane, and Eric for jobs very well done !!

Math Faculty to resume undergraduate advising

When the Mathematics Department left the College of Engineering and Applied Science for Letters, Arts, and Sciences, the policy of required advising for undergraduate students came to an end. Unfortunately, this left our undergraduates without needed advice on recommended courses, opportunities in graduate education, and career options. To remedy this problem the math faculty will resume optional (but highly recommended) student advising in the Spring semester of 2008. Most likely the advising will occur during the first two weeks of April. Mathematics majors can expect to get a reminder in the spring. If you have any questions for an advisor, contact Emanuelita in the math department at (719) 262-3311

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$y = ax^4 + bx^3 + cx + d$

Around the Department, (Continued) …

In March, together with Sarbarish Chakravarty, Radu co-hosted DR. PETER LAX, the 2005 recipient of the Abel Prize in Mathematics. (The Abel Prize is considered the most prestigious prize in mathematics, it is often called "the Nobel Prize of Mathematics".) Professor Lax gave a very impressive lecture to an extremely large audience as part of our department's Colloquium Series. Cascaval also hosted Dr. Mette Olufsen from North Carolina State University in May. Together with Gene Abrams, Radu was part of the 2007 cohort of the CU System President's Teaching and Learning Collaborative. Abrams and Cascaval initiated a very fruitful interdisciplinary collaboration with faculty and students in the Psychology Department.

Congratulations

Congratulations are in order for SARBARISH CHAKRAVARTY, who was promoted to Professor during AY 2006/07. Sarby gave a colloquium talk at the CU Boulder Applied Mathematics department, and another at the American Mathematical Society regional meeting in Tucson (April). He continued his joint research project with Yuji Kodama of Ohio State University; Sarby hosted Professor Kodama here at UCCS for a visit in May.

JIM DALY hosted his colleague Sandor Fridli (of Elte University in Budapest, Hungary) for two weeks in Colorado Springs during Summer 2007. The two analysts finished a long term project on multiplier operators related to a classical result of Marcinkiewicz. This will result in the publication of two or three research articles during the upcoming academic year. Starting in Spring 2008, Jim will be working with his colleague John Benedetto of the University of Maryland at the Norbert Wiener Center for Applied Harmonic Analysis in College Park, MD. On the personal side, Jim has decided to retire from the university, effective Spring 2010.

SHANNON MICHAUX kept busy by teaching several extra classes this year. She did some work in updating curriculum and examining placement issues for our lower level classes. She also coordinated the rapidly-expanding CU Succeed program, in which high school students can earn credit for UCCS math courses by successfully completing an approved precalculus or calculus course in their high school. When asked about other events of the year, she replied, Timmy started kindergarten, and Emma's in first grade. It's so fun to have 'big' kids!

Welcome Back Jim!

JIM HENDERSON has resumed his career as a math department faculty member, after spending more than four years as the UCCS Vice Chancellor for Student Success. This fall Jim attended a workshop on geometric group theory at the Mathematical Sciences Research Institute (MSRI) in Berkeley, in order to reconnect with colleagues in geometric topology. MSRI creates an amazing environment for doing mathematics while enjoying stunning views of the bay area. Jim was named by Governor Ritter to the Governor's P-20 Education Council to work with a diverse group on education policy for the State of Colorado. Jim co-chairs the dropout prevention, retention, and recovery subcommittee that is working to find policy recommendations to help cut in half the rate at which students drop out of K-12, and to significantly increase the number of Colorado residents that complete K-12 and then earn a bachelor's degree.

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$y=ax^4+bx^3+cx+d$

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MORE DEPARTMENT NEWS

GREG MORROW was on sabbatical assignment during Spring semester 2007. He studied the theory of a directed polymer in a random environment, and gave a UCCS colloquium on his research of this topic. He co-organized a regionalprobability conference, entitledFrontier Probability Days (fpd07), which was held here at UCCS. The other organizers were Brian Rider (CU-Boulder), Oleg Poliannikov (CU-Denver), and Jan Hannig (CSU-Fort Collins). See http://fpd07.math.cudenver.edu for information about the conference. There was a lot of enthusiasm for the quality of the speakers of fpd07, and for the UCCS venue itself.

KEITH PHILLIPS is in his last semester as a regular faculty member in the mathematics department at UCCS. Keith will officially be retired as of this coming July. When asked by friends and relatives what he is going to do in the aftermath, he chooses one of the following three answers: "math", "I don't know", or "ride my bike." Keith is currently focused on helping his graduate student Joyce Treulieb complete her Ph.D. thesis on aspects of wavelets. Keith's wife Sharon thinks Keith might become active in a good cause, perhaps ACLU. Keith is also making some noise about using some of his retirement time to finish up various of his "books in progress." It's 100% certain that he will visit his children and grandchildren more often, by taking trips to Northern California and Bozeman, Montana.

K.M. RANGASWAMY was quite busy last year making presentations about his research in abelian groups. First, Ranga presented a paper in October 2006 at the Algebra Conference held at Auburn University, Alabama.Subsequently, Ranga gave a course of invited lectures for three weeks at Kuwait University during December 2006-January 2007. This past July he gave a talk at the International Conference on Abelian Groups, Modules and Commutative Rings at the University of Connecticut. He then travelled to the historic University of Torun, Poland, where he gave a colloquium talk in August. (Torun is the birth place of the famous astronomer Copernicus).

Department chair RINALDO SCHINAZI received a three-year National Science Foundation grant to work on 'Probability models in biology'. The grant began during Summer 2007. In June Rinaldo served as a member on the jury of the Ph.D. thesis of Lamia Belhadji (Universite de Rouen, France). Also during Summer 2007 he made a research visit to Livio Triolo at the University of Rome. While in Rome, Rinaldo was told of a 'secret' conference, to be held in Paris in honor of Harry Kesten. ('Secret' means that very few people were told about the conference, at the modest Kesten's request.) "I managed to attend the conference, and got to listen to some of the leading probabilists in the world!"

SEUNG SON participated in the Pikes Peak Regional Undergraduate Mathematics Conference, which was held atthe US Air Force Academy in February. His role included helping to organize, secure funding, and plan the events at this gathering of students from throughout the area. Seung helpedthe Math Club host the American Mathematics Competition for high school and middle school students (AMC10B/AMC12B). This competition is sponsored by the Mathematical Association of America. In March he attended the annual regional conference of the Society of Industrial and Applied Mathematics, held at CU-Denver. In April Seung gave a contributed talk about "Ramanujan's theta functions and their modular equations" at the AMS meeting in Tucson, Arizona. In October Seung gave a fascinating colloquium talk about "Ramanujan and his mathematical world" at UCCS. This talk was delivered to an overflow audience of both students and faculty. his work last year with both the department's technology committee, and with the UCCS Math Club.

YU ZHANG continues to work on problems in the area of probability theory called percolation. Yu published two articles during the past year on this topic. During the summer, Professor Zhang spent time in China, where he was invited to give a series of lectures at Beijing Normal University. Yu continues to receive support for his research from the National Science Foundation.

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$y=ax^4+bx^3+cx+d$

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Congratulations to all 2006/2007 Graduates!

Here is the list of the Academic Year 2006/2007 graduates from each of the Math department's degree programs. An impressive list, to be sure!

B. A. Mathematics: Greg Badnerosky, James Bjorklund, Lesley Grafe, Angelica Hawrysiak, Jennifer Holmes, Connie Kalina, Robyn MacIvor, Tracey Mansard, Elizabeth Robinson, Julia Smith, Dawn Spear, Sara Teristi, Malgorzata Trybula, Ashley Walther, Keli Watson

B.S. Mathematics : Tiffany Albright, William Aronstam, Joe Campillo, Douglas Freeman, Jr., Sanghui Lee, Kevin Thresher, Laura Yule

M.S. Mathematics: Dustin Schmidt

M.S. Applied Mathematics: Ginger Anderson, Robert Engle, Kevin Grimm, Shane Passon, Travis Spero, Eric Sullivan

Department Spotlight on
Dr. Jenny Dorrington

Dr. Jenny Dorrington is the newest member of the UCCS Department of Mathematics family. Jenny began her position as Director of the Mathematics Learning Center in July. Jenny began her collegiate career at Bryn Mawr College in Pennsylvania. (Bryn Mawr counts among its previous faculty members the famous mathematician Emmy Noether.) She enrolled in a Calculus 1 course during her first semester there "… because it sounded interesting and hard!" Jenny had planned to quit taking math after that one semester, but instead decided to take a few more math courses. By the time she completed Calc 3 she had caught the math bug, and was hooked! She quite enjoyed her math professors, and was challenged and intrigued by the subject.

New Faces Around the Department

Upon her graduation from Bryn Mawr, Jenny spent an extended period of time travelling through Nicaragua. But a new challenge brought her back to the States: the Ph.D. program in mathematics at Northwestern University (in Evanston, Illinois). Jenny chose the NU program in part due to the fact that fully half of the students in the program were women. She finished her Ph.D. in 1994; her area of mathematics specialization was in algebraic topology, specifically, homotopy theory.

As a freshly minted Doctor of Philosophy, Jenny spent the next three years in a visiting assistant professor position in the math department at Colorado College here in Colorado Springs. After spending a year at a small college in Pennsylvania, and then one more year at CC, Jenny decided that a career change was in order. She spent the next three years earning her graduate degree in Landscape Architecture at CU Denver. She worked as an architect in Colorado for awhile … but the lure of mathematics is powerful! She decided to again become a math teacher. When the position as Director of the UCCS MLC came up, it was a perfect match.

In her few months as Director, Jenny has been focused on improving and expanding the services offered by the MLC. She is gathering information about the activities of similar centers at universities throughout the country, and will try to incorporate the most effective of those activities here at UCCS. As part of Jenny's MLC directorship she teaches courses in the math department. This semester she has graciously taken on the Calc 2 *MathOnline* course.

In her spare time Jenny enjoys gardening and landscaping (no surprise …). She also draws and paints, and spends time with her cat Qotsi.

Please feel free to stop by the UCCS Mathematics Learning Center in EAS 136 and say hi to the new director, Dr. Jenny Dorrington!

Welcome to Emanuelita Martinez!

In July, Emanuelita Martinez accepted the position as the Program Assistant for the Math Department. Emanuelita replaces Joanie Stephens, who served as math department secretary / all-round-problem-solver for nearly fifteen years. Emanuelita is an alumna of the University of Colorado at Boulder. She is currently working on her Masters in Public Administration in the new School of Public Affairs at UCCS. Prior to her move to the math department she worked in the UCCS Admissions and Records office, where she helped incoming freshmen and transfer students complete their applications for acceptance to UCCS.

Feel free to stop by the math department office EAS 274 and say hi to Emanuelita!