

“All the v’s that’s fit to print”

UCCS Math Newsletter

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Visiting Profs for AY 1996-97

We are pleased to welcome three visitors to the CU-Colorado Springs mathematics department this academic year.

Shirin Handjani earned her Ph.D. at UCLA in 1993. Since then she has held post-doctorate positions at UCLA, the University of San Diego, and the University of Wisconsin. Her field of specialization is probability; she will be ‘tossing coins and rolling dice’ with Rinaldo, Greg, and Yu. She will be teaching four courses for us this year.

Ángel del Río Mateos is on his sabbatical this year from the University of Murcia in Spain. This is the university at which Jeremy Haefner (and family) spent his sabbatical assignment last year. Ángel’s area of expertise is ring and module theory; he is currently working with Gene and Jeremy on some ongoing research projects. Ángel will teach four courses for us this year; he has also agreed to teach us all how to do the Macarena.

Jeffrey Tollefson is spending fall semester with us as part of a Faculty Exchange Program. Jeff is a Professor at the University of Connecticut. Through this exchange program, he and Ranga have essentially ‘switched’ positions during fall semester. This allows Ranga the opportunity to work with some of the researchers in abelian group theory at UConn, while allowing Jeff the opportunity to teach some new courses (he is teaching two this semester), as well as allowing him and his wife to experience fall in the Rockies!

Baggs wins Teaching Award

In May 1996 the University of Colorado at Colorado Springs awarded its first ever Instructor of the Year award. This award recognizes the outstanding instructor (teachers who are not tenured or tenure-track faculty) from among all instructors throughout the entire campus. The department is proud that this inaugural Instructor of the Year Award has been given to Nancy Baggs! The award includes a framed certificate, a medallion, and a check for \$1,000. We know that Nancy is truly deserving of the award; student evaluations from over thirty years of teaching at UCCS support this fact! Nancy sets an incredibly high standard by which future award winners will be measured. Congratulations, Nancy! (See the interview with Nancy below.)

Ken Rebman rejoins Math Dept.

We are pleased to announce that Ken Rebman will teach in the mathematics department on a half-time basis during AY 1996-97, and then will return to the department as a full-time Professor in subsequent years. Ken is making the transition back to mathematics from his current position as UCCS Vice Chancellor of Academic Affairs. On top of his previous administrative duties, Ken has been active in the Mathematical Association of America, while also keeping his hand in a number of mathematics competitions and ‘puzzler pursuits’. Welcome back, Ken!

Logo

The UCCS Department of Mathematics has a newly designed logo! The winning design appears in the masthead of this Newsletter. It

was designed by UCCS student Douglas Beechwood, who received a \$100 gift certificate to the UCCS Bookstore for his efforts. We are trying to incorporate the logo into most of the department's correspondence media.

Mathematics Monthly Puzzler

The math department is glad to continue its sponsorship of the Mathematics Monthly Puzzler contest. This contest is open to all currently-enrolled UCCS undergraduate students. Roughly once per month, a math problem is posted around campus. The solution to this problem usually involves some basic mathematical tools, but more likely requires some creative insight and ingenuity. Students of all mathematical ability levels and backgrounds are encouraged to try their hand at the Puzzler. Written solutions to the Puzzler should be deposited in the Puzzler Box in Hilbert's Place (EAS 140). A \$20 Gift Certificate to the UCCS Bookstore is awarded to the student who submits the most creative, complete, and/or interesting solution. In addition, a special prize will be awarded to the student who submits the best overall solutions to all of the semester's Puzzlers.

For your amusement, here are the two most recent Monthly Puzzlers:

(Summer 1996) If f is a function with the property that $f(f(x))=x^2-2$ for $x \geq 2$, find $f(x)$.

(Current, due October 18) The y -axis, the curve $y=2x-3x^3$, and the horizontal line $y=c$ form two finite closed regions in the first quadrant. Find the value of c so that the areas of these two regions are equal.

The Puzzler which was mentioned in the previous Newsletter was:

My wife and I invited four other couples to our house for a party. During the course of the evening, some people shook hands with other people and some people didn't. (Nobody shook hands with their spouse.) Near the end of the evening I asked everyone else how many people they had shaken hands with. No two answers were the same. You now have enough information to figure out how many people I shook hands with!

Answer: FOUR people. Can you prove it?

Faculty Travel Tidbits

As mentioned in the lead article, Jeremy Haefner and family have returned from a year-

long visit to Murcia, Spain. In addition to an active research program, Jere found time to do some traveling. Specifically, he gave invited lectures at Nicolas Copernicus University (Poland), and the University of Thessaloniki (Greece). Jere also gave a talk, *in Spanish*, regarding the role of technology in U.S. educational curriculum. Magnifico!

Ranga is on sabbatical this year. He is spending fall semester at the University of Connecticut, and will spend spring semester at Baylor University in Waco, Texas. Each of these institutions supports world-class researchers in abelian group theory; Ranga was honored and glad to be able to spend his sabbatical in such stimulating environments. During the period July 15 to August 15, Ranga gave a series of lectures at the University of the Western Cape, South Africa. Ranga was invited to UWC by Professor Loyiso Nongxa, a researcher in abelian group theory who has visited CU-Colorado Springs on three occasions in the past. In addition to the lectures and some sightseeing with Sarah, Ranga was able to continue some joint work with Loyiso, and to begin some new projects.

Yu Zhang is on a one-semester sabbatical assignment. He is traveling extensively! Specifically, he is currently in Japan, at the invitation of a pair of probabilists at the University of Kobe. He will return to Colorado Springs for about a week in October; he will stick around just long enough to re-acclimate to the altitude, and then head off for a two-month endowed lectureship position at the University of Haifa in Israel. He will return to Colorado Springs in time to assume his teaching position at UCCS for Spring Semester 1997.

In June Rinaldo Schinazi gave an invited talk at the *Conference on Homogenization and Random Media* in Luminy, France. During the week prior to his talk he visited Professor Ellen Saada at the University of Paris; he and Professor Saada initiated some joint research projects at that time.

Jim Daly gave an invited talk at the joint meeting of the American Mathematical Society and the Sociedad Matemática Mexicana, held in Guanajuato, Mexico this past November. The title of Jim's talk was *Square function estimates for dyadic Hardy spaces*. Keith Phillips also attended this conference. Jim and his wife Mary were able to spend a few days sightseeing as well.

Keith Phillips is on sabbatical assignment this year. During the fall semester he is visiting at CU Boulder, and working on completing some 'books in progress'. He is also working with Jim Daly on some research projects, as well as continuing the direction of Ph.D. student Art Dimalanta.

Abrams named P.T.S.

Gene Abrams was named as a *University of Colorado Presidential Teaching Scholar* this past May. There are now eight such scholars at CU-Colorado Springs (49 for the entire CU system, including two other mathematicians). Scholars help to increase awareness of teaching issues on each of the campuses.

Carlson inks book deal

The Society for Industrial and Applied Mathematics (SIAM) recently agreed to publish a book co-authored by Bob Carlson. The text, *Linear Ordinary Differential Equations*, is suitable for senior undergraduate or beginning graduate students. The project had been started by Bob's co-author and Ph.D. thesis advisor, the late Earl A. Coddington. The text should be available in the spring of 1997. Congratulations, Bob! (We hope that negotiations for the movie rights go smoothly.)

Ranga: "Dean, not James Dean"

The University of Colorado at Colorado Springs is deeply indebted to Ranga, who agreed to serve as Interim Dean of the College of Engineering and Applied Sciences during Academic Year 1995-96. Ranga did an absolutely outstanding job, guiding the College with a steady and sure hand from August 1995 until July 1996, at which time he handed the reins over to Dean Ron Sega. Thanks for a job extremely well done, Ranga!

(Despite persistent rumors to the contrary, we are now convinced that Ranga was NOT named *Interim Dean* solely because of his uncanny resemblance to *James Dean*.)

Jim Daly Named Assistant Dean

Jim Daly has been named Assistant Dean for the College of Engineering and Applied Sciences. Jim replaces Dr. Richard Kwor, who has returned to teach full time in the Department of Electrical and Computer Engineering.

Jim splits his duties, working half-time in the dean's office, and half-time in the mathematics department. He will teach one math class each semester, in addition to his usual student advising and other departmental service work.

Jim's duties in Dean Ron Sega's office include handling some of the 'day-to-day' tasks associated with academic administration, such as budget, personnel, and the internal structure of the College. Says Daly of his new position (and potential new wardrobe): "At least for this year, no shorts, but no ties either!"

John Herrington named to Astronaut Candidate Program

John Herrington, who earned a B.S. Applied Mathematics degree at UCCS in 1983, was recently selected by NASA to be a member of the 'Astronaut Class of 1996'. John is one of 25 Mission Specialist Candidates who, along with 10 Pilot Candidates, were chosen from among more than 2400 applicants for the Space Shuttle Program. Congratulations, John!

In addition to completing the standard coursework, John also graded homework for a number of math courses, including some taught by Nancy Baggs. In addition, John lived for a year with then-department-chair Jim Modeer and his family.

It is clear that a degree in mathematics is a perfect stepping stone on one's journey to outer space! (But, didn't we already know this?)

Alumni Survey complete

Last Spring, an Alumni Survey Form was mailed to the nearly 200 people who have over the years earned a degree in mathematics (B.A., B.S., or M.S.) from UCCS. We had almost a 20% response rate, far exceeding what is normally considered to be 'good' for this type of endeavor. Thanks to all who participated! In fact we have learned many things regarding what our graduates think about their respective programs; we are currently discussing ways to incorporate some of the suggestions and proposals into our overall program. These surveys will also be used as part of our department's efforts to participate in the campus' Student Success Initiative.

If you would like to complete such a survey, please contact the mathematics office and we will be glad to send you one.

College Algebra Math 104 Update

The Undergraduate Mathematics Content Standards Project was completed this past June. As part of this project, over 20 high school mathematics teachers from throughout Southern Colorado met with UCCS mathematics department faculty at a workshop held April 12, 1996, at the Embassy Suites Hotel. A dynamic, energetic exchange of ideas occurred that day; as one consequence, we have revised the curriculum for Math 104 (*College Algebra*) to more appropriately mesh with the backgrounds and preparation of incoming freshmen. In particular, this course has become much more problem-solving oriented, with more small-group work and technology incorporation. Our thanks to all of the participants in this Workshop. Special thanks to Deb McKittrick (Fountain Valley High School) and Dave Malmquist (Liberty High School), who served on the Curriculum Materials Selection Committee.

An Interview with Nancy Baggs 1996 UCCS Instructor of the Year

News: Congratulations on your award!

Baggs: Thank you. I was certainly very pleased to receive it.

News: What do you enjoy most about teaching?

Baggs: I think I would say my contact with students. Each one is different, which makes teaching exciting. Through the years I have come in contact with many interesting and talented people. I have had students who are really excited about learning, and others who struggle but improve as the semester progresses. All of them make teaching enjoyable.

News: How has your teaching changed over the years?

Baggs: Using technology in my classes is probably one of the major changes I have made in my teaching. I now assign computer labs on a regular basis in some of my classes, which is something I would not have considered a few years ago.

News: What is the hardest thing about teaching?

Baggs: Maintaining reasonable standards is always a challenge. I do not want to discourage students, but lowering standards will not help them. I find that most students appreciate having standards.

News: Do you have a favorite course to teach?

Baggs: I do not think that I can say that I have a favorite course to teach. Recently I have enjoyed teaching Differential Equations, Linear Algebra, Number Theory, and Calculus. But picking a favorite is hard to do.

News: Looking back, what was the funniest / weirdest / strangest thing that ever happened to you in the classroom?

Baggs: One incident that comes to mind occurred on Halloween several years ago. I was lecturing, and as I was looking at my students, I saw one of them sitting there, diligently taking notes, and wearing an outlandish Halloween mask! Of course, I burst out laughing.