The speaker at this year’s Mathematics Festival (Wednesday, April 28th, 2004) will be Ron Graham, the Irwin and Joan Jacobs Professor of Computer and Information Science at the University of California, San Diego. Professor Graham’s accomplishments – mathematical and otherwise – are numerous.

After undergraduate work at the University of Chicago and the University of Alaska (Fairbanks) and graduate work at UC Berkeley, Dr. Graham was the Director of Information Sciences and Chief Scientist at AT&T Bell Laboratories for over 30 years. He joined the UC San Diego faculty in 1999.

Professor Graham has made important contributions to many areas of current mathematical research, including Ramsey theory (the study of patterns which necessarily occur in structures as they become sufficiently large), computational complexity, worst-case analysis in scheduling theory, “quasi-randomness,” and computational geometry – the latter three areas actually grew out of his work. One celebrated result was his 1975 solution of a 50-year old problem by finding the largest possible area for a hexagon with diameter 1 – about 4% larger than a regular hexagon.

Dr. Graham has been honored in many ways both in and out of the mathematics community: He is a past president of the American Mathematical Society and current president of the Mathematical Association of America; past president of the International Jugglers Association (he is a master juggler and has written papers on the mathematics of juggling); he has been included in the Guinness Book of World Records for the “highest number ever used in a mathematical proof” (now called “Graham’s number,” it is a number so large that it requires a new notation to describe); and he received the 2003 Steele Prize from the American Mathematical Society for lifetime achievement. One of the country’s foremost computer scientists has described a proof of Graham’s as “perhaps the most complicated set of recurrences that will ever be solved,” and one preeminent mathematician has called him “the leading problem-solver of his generation” and “the central figure in the development of discrete mathematics.”

Professor Graham’s Mathematics Festival Colloquium talk will be entitled “Searching for the Shortest Network.” He sent the following abstract:

There are many situations in which one would like to connect a collection of points in some space by a network having the minimum possible total length. Such problems have a long and distinguished history, and occur in such areas as the design and analysis of telecommunications networks, oil pipeline networks, and heating and air conditioning duct systems, algorithms for molecular phylogenetics, and the layout of circuits on VLSI chips, to name a few. In this talk, we survey what is known and what is not known about this problem, and how it has been impacted by current developments in theoretical computer science.

We hope to see you for Professor Graham’s talk at 4 p.m. April 28th, in Darwin 108.

Math Festival Dinner to follow at the Cotati Veterans Building, 5:15 p.m.

Photo by Peter Vidor
Expanding Your Horizons
This year’s Expanding Your Horizon Conference was scheduled for March 27 at SSU. The conference is organized by volunteers from SSU, Santa Rosa Junior College, businesses and the community to encourage 7th and 8th grade girls and young women to take more math and science in high school.

The Mathematics Department again helped organize the annual conference with Julie Bonds coordinating facilities and Sharon Cabaniss organizing lunchtime activities and the closing raffle. Ai-Chu Wu and Brigitte Lahme each lead hands-on workshops entitled “Play Your Favorite Statistical Game” and “Mathematics and Interior Design” respectively. Mary Anne Sobieraj was in charge of the EYH “Hotline”, and answered any calls or questions that came in. The Math Club coordinated the “Math Puzzles” table in Darwin Lobby; many others volunteered to help on the day of the conference. The EYH website has more information: http://eyh-soco.org.

You Can Help Your Department and Our Students
When you were a student here, did you ever wonder about the people who made it all possible? Of course, the faculty who plan, teach, mentor and think about their students are the main reason for our department’s success in graduating students like you! However, the department also has a number of foundation accounts, such as the Math Support Fund, the Faculty Development Fund, and the Fund for Prizes, that are supported privately, by faculty, emeritus faculty, and by alumni like yourselves. These funds provide support to faculty and students to travel to and present their work at conferences, or provide prizes to students who participate in the Putnam examination or the math modeling exam, and for many other good causes, including providing dinner for current students at the Math Festival Alumni Dinner. At this time of budgetary restrictions at the State level, we are in great need of donations to any of these funds. Any little amount you can contribute will make a huge difference to your department. If you’d like any further information on these funds, or on our scholarship funds, please contact the Math Office at 707-664-2368 or the chair of the department, Brian Jersky at brian.jersky@sonoma.edu.

Thanks in advance for your support!
October Whiskeytown Conference a Big Hit

On the first weekend of October, a large group of faculty and students attended the State of Jefferson Mathematical Congress, held at a campground on Whiskeytown Lake near Redding. It was a wonderful weekend!

The speakers were excellent; especially our own Ben Ford, who spoke on “Mathematics and Protein Folding.” The second talk was by Beth Burroughs of Humboldt State on “Bifurcation and Stability of Simple Fluid Flows,” a talk that she repeated for our M*A*T*H Colloquium on March 10. The afternoon Discussion Under the Oaks was led by Rapti de Silva of Chico State University on the topic: “Notions of Proof.”

As usual, there was swimming, kayaking, hiking, and general merriment by conferees and their families on Saturday. Sunday morning, before our departure for home, the large Sonoma State contingent had its traditional breakfast together at “The Shack” in Redding, hosted by members of the faculty. Many of our students, especially some of our graduates who just can’t stay away, were in attendance. Their presence really livens up the meeting and everyone was very glad they came.

The 2004 Congress will take place on October 1-3. The State of Jefferson Mathematical Congress has been taking place annually since 1972. It takes its name from the mythical “State of Jefferson” that for many decades was envisioned by many people of northern California and southern Oregon but never came to be.

Sonoma State Students Score Well in Putnam Competition

Five Sonoma State math students ranked nationally in the 64th annual William Lowell Putnam Mathematical Competition, held on December 6, 2003. The participants this year were Matthew Adkins, Frank Cortese, Josh Feinstein, Eric Jenne, Sarah Minnick, Helene Nehrebecki, Sean Pearson, Matt Rochioli, and Dmitry Taubinsky.

Their scores and ranks out of 3,615 contestants from 479 participating institutions are as follows:

- First, with 22 points, Dmitry Taubinsky
- Second, with 11 points, Sean Pearson
- Third, with 8 points, Eric Jenne
- Fourth and Fifth (tie), with 1 point, Sarah Minnick & Frank Cortese.

Rick Luttmann, coach of the Putnam team says: “Since over a thousand participants in the Putnam score no points at all, we are very proud that five of our students had positive scores; we are especially proud of Dmitry for scoring well within the top 10% of contestants.”

As usual, the Sonoma State participants will be recognized at an Award Ceremony, held in conjunction with the department’s annual Math Festival on Wednesday, 28 April, during Math Festival Dinner and Awards Ceremony. This will be held at the Cotati Veterans Building, 8505 Park Avenue, in Cotati. Dinner will start at 5:15 p.m., right after the Colloquium. See insert for directions. Cash prizes will be presented to those with positive scores, and all participants will be awarded a stenciled T-shirt.
Emeritus Faculty

Tom Nelson retired in August 2003. He’s the fourth emeritus faculty from the Sonoma State Department of Mathematics. The others are: Don Duncan, Clem Falbo, and Chuck Phillips. All four are still active in Sonoma County. Don still plays strategic tennis at the SSU courts. Clem is teaching a course in differential equations this semester here. Chuck’s passion for hiking has helped him tread much of the Pacific Crest Trail. Tom was sighted at a recent M*A*T*H Colloquium and is more than ever the avid reader. We hope to see all of them at this year’s Math Festival Day on April 28.

Department Web Page

The Math Department Web page at www.sonoma.edu/math/ has been recently redesigned. Check it periodically to keep up with the Department.

The Department has also established an email announcement email list (listserv) to keep alums and community supporters informed about Department happenings. We anticipate sending one or two messages a semester to alert you to each semester’s colloquium schedule and special events. If you would like to subscribe, send an email message to listserv@sonoma.edu with a blank subject line and the line: “subscribe Math-Announce your-email-address” in the body of the message.

Mathematics Festival 2004

We have an exciting day planned for the Mathematics Festival on April 28, and hope to see many of you there! Throughout the day, in the lobby of Darwin Hall, there will be geometry projects, exhibits, and puzzles. Professor Ron Graham of the University of California, San Diego, will give the M*A*T*H Colloquium talk at 4:00 p.m (see accompanying article).

Following the lecture, the Department and the Math Club will host a reunion dinner party at the Cotati Veterans Building (see enclosed invitation for more information) where we will award prizes to students, including the Putnam Contest participants, as well as student memberships in various mathematical and statistical associations. Alumni and their guests are invited to join staff and students for the afternoon activities and the dinner. The charge for the dinner (only partially defraying its expense) is $15, and reservations are required. Please email marybeth.hull@sonoma.edu or call the Department office at (707) 664-2368 by Wednesday, April 21st.
Members of our faculty have been very active over the past year. Edie Mendez presented an invited lecture on Hypatia at the Northern California MAA Section Meeting on February 28. Edie Mendez and Rick Luttmann were awarded Sabbaticals for the 2004 – 2005 academic year. Bill Barnier was the recipient of a 2003 – 2004 SSU Excellence in Teaching Award presented at the May 2003 graduation ceremonies and was also the winner of the 2003 Excellence in Education Award from the Santa Rosa Chamber of Conference.

Edie Mendez, Ben Ford, and Sam Brannen all earned tenure and promotion to Associate Professor effective in Fall 2003. Brigitte Lahme was awarded a RSCAP grant for Summer 2003. Edie Mendez, Brigitte Lahme and Jerry Morris led workshops at the Asilomar Conference during Fall 2003. Jerry gave a talk at the Joint Mathematics Meetings on January 2004 in Phoenix. Ben Ford is giving two talks at other CSU campuses this Spring, and spoke at the State of Jefferson Mathematics Congress. Bill Barnier, Elaine McDonald, and Brigitte Lahme gave talks in this Spring’s M*A*T*H Colloquium series.

Jerry and Brigitte were invited to participate in the Preparing Mathematicians to Educate Teachers (PMET) workshop at Humboldt State this past summer. Susan Herring is supported by a California State University grant to work with teachers at Marin Catholic High School and Napa High. Edie, Ben, Brigitte, and Jerry have been conducting workshops for teachers at the Sonoma County Office of Education and in Lakeport. This work is supported by grants from the State of California.

Many of our faculty have been active in faculty governance. Elaine McDonald is Chair of the Educational Policies Committee and Brigitte Lahme is Chair of the Student Affairs Committee. Because those are two of the three major faculty committees both Elaine and Brigitte also serve on the Executive Committee and the Academic Senate. Sam Brannen, Edie Mendez, Rick Luttmann (who is a past Chair of the Senate), and Steve Wilson are also members of the Senate. Rick Marks serves on the Academic Affairs Strategic Planning Committee.

Izabela Kanaana is the most recent addition to our faculty. She was born in Poland and came to us after earning her Ph. D. from Michigan Tech. Her fields of interest are combinatorics and design theory.
The SSU Math Club has been busy this year. Last semester we created a new t-shirt boasting the famous Erdös quote: “A mathematician is a machine for turning coffee into theorems.” We still have a few extra shirts waiting for good homes ($14 each).

This semester, the Math Club planned our 2nd annual Pi Day Celebration. Even though 3/14 fell on a Sunday this year, we knew there would be plenty of students who would be happy to throw a pie at their professor’s face on the 15th.

We also organized a math competition for the high school students from SSU Pre-College Programs. Next year we hope to expand the competition to include high school students from all over the county.

Other recent Math Club activities include: camping at the State of Jefferson Mathematics Congress, carving pumpkins, and attending the play “Proof.”

International Pi Day, (3/14) was celebrated on March 15th this year. The Second Annual Pie Your Math Teacher, a fund-raiser put on by the Math Club, was once again a smash hit. Whipped cream ruled the day as several brave math professors, geared up in ponchos, plastic bags, and goggles, agreed to have pies launched at them for $1.00 a throw. The Math Club raised approximately $108; students and teachers had an enjoyably squashy time.

Who’s that? Sam Brannen in pie-face. Couldn’t you tell?

Photos by Brigitte Lahme