# NEWSLETTER

**AMS** American Mathematical Society

## News from the Public Awareness Office

The AMS Public Awareness Office continues to create and maintain programs for members, teachers, math students, media, and the general public that promote awareness of the beauty and applications of mathematics and of the resources and services offered by the Society. Among some recent highlights:

### Headlines & Deadlines for Students



AMERICAN MATHEMATICAL SOCIETY

**Headlines & Deadlines for students**

Sign up Today!

Email notifications of news, helpful websites, special programs, book sales, and deadlines for applications for fellowships and grants, meeting registrations, and more.

**Check out the latest *Headlines & Deadlines for Students* for news and due dates for applications, registrations, proposals...**

*Pi Mu Epsilon Student Paper Presentation Awards*
*Marshall Scholarships*   *New Mathematical Moments*   *Employment Center Registration*
*Fellowships and Grants*   *Putnam Exam Results*
*Stipends for Study and Travel*   *AWM Essay Contest*   *Trjitzinsky Awards*
*Math in Moscow Semester - Call for Applications*
*Poster Session Proposals*   *Special Book Sales on AMS Bookstore*

The new service for students provides monthly emails to subscribers as well as a web page, both with news and deadlines for meetings, fellowships and grants, contests and competitions. Launched in late fall, *Headlines & Deadlines for Students* already has several hundred subscribers. Faculty advisors are invited to take a look at the web page and urge math students to sign up for the email service and/or bookmark the web page.

**Read more**   See *Headlines & Deadlines for Students* at **www.ams.org/news-for-students/**.

### Feature Column – Monthly Essays on Mathematical Topics



David Austin    Bill Casselman    Joe Malkevitch    Tony Phillips

Two recent columns, "How Google Finds Your Needle in the Web's Haystack," by David Austin, and "Lorenz and Modular Flows: A Visual Introduction," by Etienne Ghys and Jos Leys, made history of sorts. The column on Google was discovered and cited on digg.com (a popular community-based website emphasizing technology and science articles), which resulted in over 100,000 hits on the web page in matter of days. The essay describes the linear algebra behind Google's page-ranking algorithm without giving away any of Google's proprietary secrets. "Lorenz and Modular Flows," based on Ghys's lecture at the recent International Congress of Mathematicians in Madrid, was the first column to include a substantial number of animated graphics—truly stunning displays of colorful rotating figures. *Feature Columns* are written by **David Austin**, Grand Valley State University; **Bill Casselman**, University of British Columbia; **Joe Malkevitch**, York College (CUNY); and **Tony Phillips**, Stony Brook University (SUNY); plus occasional guest contributors.

**Read more**   Bookmark the *Feature Column* to see the monthly essays and entire archive, at **www.ams.org/featurecolumn/** or sign up for the AMS members-only *Headlines & Deadlines* news service at **www.ams.org/enews** to receive email alerts when each month's issue is posted.

## New on Mathematics Imagery

*Mathematical Imagery* now includes 11 albums, the most recent of which includes three images by Robert Straight that use prime numbers and geometry. Also new is "Fractal Art: Beauty and Mathematics"—an album of the 25 fractals from the special exhibit at the 2006 International Congress of Mathematicians.
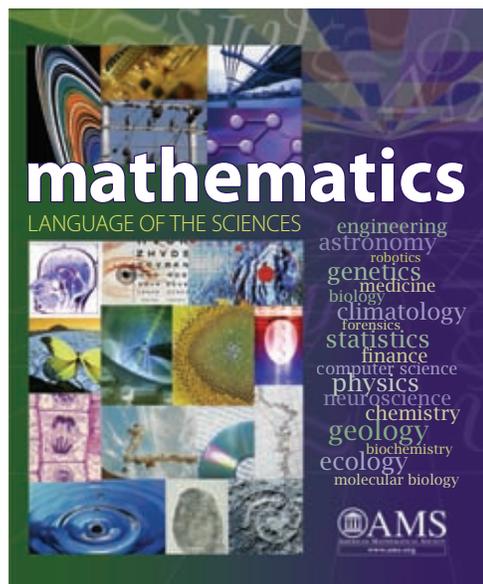
"P-357" by Robert Straight

"And how is your husband Mrs. Escher?" by Nada Kringels

Read more  See images and send them as e-postcards, at **www.ams.org/mathimagery/**

## "Mathematics — Language of the Sciences"

# mathematics
LANGUAGE OF THE SCIENCES
engineering
astronomy
robotics
genetics
medicine
biology
climatology
forensics
statistics
finance
computer science
physics
neuroscience
chemistry
geology
biochemistry
ecology
molecular biology

**AMS**

To order a complimentary copy of the 18 x 22" poster for your department or office, please email **paoffice@ams.org.**

## Math in the Media

The Public Awareness Office, in collaboration with Allyn Jackson, Deputy Editor of *Notices of the AMS*, posts news releases on EurekAlert, and Newswise, online wire services read by science writers. This is one way to increase coverage of math-related news. The AMS news release about "Better Ways to Cut a Cake," an article by Steven Brams, Michael Jones, and Christian Klamer, in the December 2006 issue of the *Notices of the AMS*, was viewed by over 2,000 journalists on EurekAlert and resulted in stories in media outlets around the world. See a summary of the coverage at www.ams.org/mathmedia/mathdigest/md-200611-toc.html#200612-cake. **Math Digest** includes summaries of recent math-related articles in print and interviews on radio, and the **Reviews** page links to reviews of new books, plays, and films with math themes. **Tony Phillips' Take on Math in the Media** offers his perspective on media coverage.

Christian Klamler. Image courtesy of Grazer Woche.

Read more  Bookmark *Math in the Media* at **www.ams.org/mathmedia/**, or sign up for the AMS members-only *Headlines & Deadlines* news service at **www.ams.org/enews** to receive email alerts when each month's issue is posted.

## Three Questions for... Alan Durfee

Alan H. Durfee is chair of the Department of Mathematics, Statistics and Computer Science at Mount Holyoke College, South Hadley, MA. The department is a new user of **MathJobs,** the automated job application system, sponsored by the AMS.

Q: What made you decide to use Mathjobs?

A: Our administrative assistant was not enthusiastic about paper applications—handling all the paper involved, answering constant phone calls from applicants as to whether their files were complete, keeping records of who had applied, doing the summary reports for the EOE questions, and so forth. So we decided to go electronic. The college had an in-house system for handling job applications for college positions, but after looking it over I decided that MathJobs would work better for us.

Q: How has MathJobs changed your search process?

A: It's much easier. The sorting and search facilities are great, as is the ability to see each others' rankings and comments. Also we don't have to pass around piles of paper applications.

Q: What other ways could you see the concept of MathJobs applied?

A: It would be great to have a system like this for REU (Research Experience for Undergraduates) applications since that review process is quite similar.

**Read more** See **MathJobs** at **www.mathjobs.org/jobs**.

## AMS-AAAS Media Fellow Brie Finegold
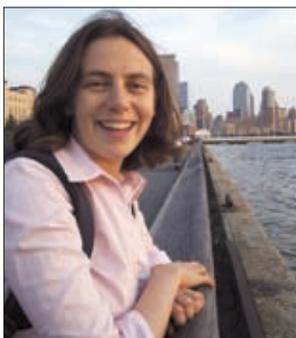
Last summer I took a break from graduate school at UC Santa Barbara, and tried my hand as an intern at *Scientific American* magazine in New York. At the orientation for the AAAS Mass Media Fellows Program, there was a lot on my mind: the results of the qualifying exam I had taken (passed!), living in New York for the first time, and being separated from my husband for ten weeks. Despite these uncertainties, I felt ready for an adventure, and in the end, my time was well spent.
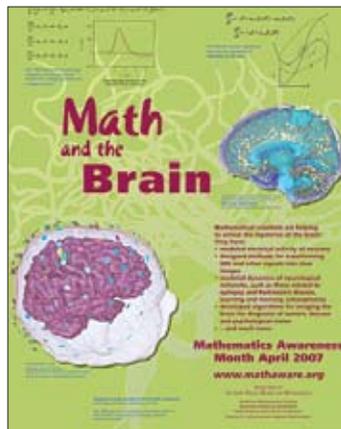
I spent hours calling and visiting professors and researchers, interviewing them, and hearing the excitement (or occasional lack thereof) in their voices. As steeped in mathematical culture as I am, I began to see academia from a layperson's point of view. Each week, *Scientific American*'s editors combed through jargon-laced submissions from the academic world, searching for authors with whom they could collaborate to write an article appropriate for a wider audience. I hope to be part of a generation of researchers who can discuss their work on many levels, and I look forward to writing nonacademic articles from time to time throughout my mathematics career. — Brie Finegold

**Read more** See the list of past AMS-AAAS Media Fellows and where they spent their internships, plus application information, at **www.ams.org/government/massmediaann.html**.

## April is Mathematics Awareness Month

The AMS, the American Statistical Association, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics (the four societies that comprise the Joint Policy Board for Mathematics) announce that the theme for Mathematics Awareness Month 2007 is **Mathematics and the Brain**.

One of the most exciting challenges in modern science is to understand the human brain and its mechanisms. Mathematics plays a vital role in this research, from analyzing the smallest components, to comprehending the workings of the brain itself.

Further research in the underlying mathematics of dynamical systems and networks, statistical methods, and mathematical tools for enhancing imaging will continue to help advance our understanding of the brain's functions and mechanisms.

**Read more** Submit information about your department's Math Awareness Month activities and see more resources at **www.mathaware.org**.

## Programs for Undergraduate Mathematics Research Conference

"The PURM conference provided a wonderful opportunity for mathematicians who are active in getting undergraduates involved in research to exchange ideas, establish contacts and discuss issues of mutual interest. It was especially valuable to learn about the recent developments and the varied approaches being taken. The conference made clear that in less than 20 years 'undergraduate research' has gone from being an oxymoron to mainstream." — Joe Gallian

With funding from the National Security Agency (NSA), the AMS organized the conference, "Promoting Undergraduate Research in Mathematics" (PURM), September 28–30, 2006. The focus of the conference was to bring together a diverse group of people who are actively involving undergraduates in research, in order that they might share their experiences and explore ways of creating more such opportunities, with the goal of bringing the most talented students into research-level mathematics. The conference featured speakers, panels, and small discussion groups.

The organizing committee that created the program consisted of **Frank Connolly** (University of Notre Dame), **Joe Gallian** (University of Minnesota–Duluth), **Aparna Higgins** (University of Dayton), and **Ivelisse Rubio** (University of Puerto Rico–Humacao). This conference continued the work of a 1999 conference on the subject, "Summer Undergraduate Mathematics Research Programs," which also was funded by the NSA.

**Read more** Learn more about AMS outreach programs for math students and professional mathematicians at **www.ams.org/outreach**.
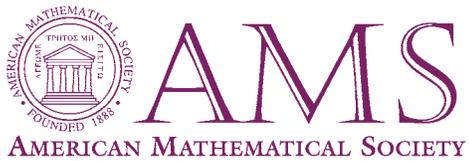
AMS MEMBER NEWSLETTER

# Pictures from the Joint Mathematics Meetings







Joint Mathematics Meetings
January 5–8, 2007
New Orleans