

A PUBLICATION TO INFORM  
 MEMBERS ABOUT SOCIETY  
 ACTIVITIES. THIS ISSUE  
 FEATURES AMS MEMBERS  
 IN THE MEDIA.

This issue features some AMS members (indicated in bold) who have appeared in newspapers, on radio and in general science magazines over the past year. Each had a story of interest—a research result, an award, an expert opinion, or a unique teaching tool.

## Daniel Goldston and Cem Yalçın Yildirim

Two years ago, **Daniel Goldston** (San Jose State University) and his colleague **Cem Yalçın Yildirim** (Bogaziçi University, Istanbul, Turkey) announced that they had proved a result related to the Twin Primes Conjecture, yet that proof was not quite right. Recently Goldston and Yildirim, with collaborators Janos Pintz and Yoichi Motohashi, have produced a new version



photograph by Ryoko Goldston

of the proof. This version has been vetted and is receiving accolades. Their recent work was covered in *Science* (“Third Time Proves a Charm for Prime-Gap Theorem,” by Barry Cipra, May 27, 2005, p. 1238), and in the *San Jose Mercury News* (“Mathematician Lauded for (Corrected) Research,” by Glenda Chui, May 25, 2005).

**Read more** “Primes in Tuples I,” by D.A. Goldston, J. Pintz and C.Y. Yildirim, at <http://front.math.ucdavis.edu/math.NT/0508185>.

### INSIDE THIS ISSUE

Daniel Goldston and  
 Cem Yalçın Yildirim  
 Jonathan Farley  
 Keith Devlin, Sarah  
 Greenwald, and  
 Robert Osserman  
 Karl Mahlburg  
 Chandrashekar Khare  
 David Henderson  
 Ed Staff and  
 Douglas Hardin  
 Lenore Blum,  
 Richard Ladner,  
 and Elizabeth Yanik  
 Peter D. Lax  
 Keith Devlin, John Allen  
 Paulos, and Ian Stewart  
*Math in the Media*



## Jonathan Farley

**Jonathan Farley** (Center for International Security and Cooperation, Stanford University) has started a consulting company with a biochemist colleague to help media projects get their math right. *Hollywood Math and Science Film Consulting* has done work for the award-winning film *Primer* and the CBS hit crime drama *NUMB3RS*. Farley has been profiled by the Associated Press (“Harvard Professor Offers Services as Hollywood Mathematician,” by Michael Kunzelman, May 1, 2005), *The Boston Globe* (“Divide and Conquer: Harvard Math Professor Helps Hollywood Get Its Science Straight,” by Vanessa E. Jones, May 17, 2005), and in other newspapers and science magazines in the U.S. and

U.K., and he has been interviewed on radio and TV. For his work in applying mathematics to counterterrorism, he has appeared in *The Chronicle of Higher Education*, *Science News Online*, *The Economist*, *USA Today* and *The New York Times*. Farley will be a Science Fellow at Stanford during 2005-2006.

**Read more** See Farley’s home page at [www-math.mit.edu/people/faculty/farley.html](http://www-math.mit.edu/people/faculty/farley.html) to read about his mathematics, and learn more about *Hollywood Math and Science Film Consulting* at [www.Hollywoodmath.com](http://www.Hollywoodmath.com).

## Keith Devlin, Sarah Greenwald, and Robert Osserman



On April 29 National Public Radio's *Science Friday* featured one hour on "Making Math Radioactive," (and acknowledged Mathematics Awareness Month). Host Ira Flatow was joined by mathematicians **Keith Devlin** (Center for the Study of Language and Information, Stanford University), **Sarah Greenwald** (Appalachian State University), Gary Lorden (California Institute of Technology), and **Robert Osserman** (Director of Special Projects at Mathematical Sciences Research Institute). The guests answered questions from Flatow and callers. Also, Devlin talked about applications of math and our natural mathematical instincts; Greenwald discussed mathematics subtly featured in *The Simpsons* and *Futurama*; Lorden gave some background on his math consulting for the TV show *NUMB3RS*; Osserman addressed roles of women mathematicians in theater and film and of mathematicians in history; and all commented on mathematics in popular culture.

**Read more** The NPR program abstract, links to the guest websites, and audio clip are at [www.sciencefriday.com/pages/2005/Apr/hour2\\_042905.html](http://www.sciencefriday.com/pages/2005/Apr/hour2_042905.html).



### Karl Mahlburg

**Karl Mahlburg**, a graduate student of **Ken Ono** at the University of Wisconsin, Madison, has proved a result that Freeman Dyson characterized as, "Beautiful and totally unexpected." The result traces back to Ramanujan's work on partition congruences involving the primes 5, 7, and 11. Dyson conjectured—and A. O. L.

Atkin and H. P. F. Swinnerton-Dyer proved—that the congruences with modulus 5 and 7 could be explained by what he termed the "rank" of a partition. The rank fails to explain the congruence for 11, and Dyson thought that all three congruences could be explained by a function he called the "crank" (a function yet to be discovered). **George Andrews** and **Frank Garvan** subsequently found the crank function which did indeed imply Ramanujan's discoveries. In 2000, Ono further generalized Ramanujan's discovery to all primes bigger than 3, using modular forms. Now Mahlburg has provided a combinatorial proof that ties Ono's generalization with the crank function. Mahlburg's work was covered in *Science News* ("Pieces of Numbers," by Erica Klarreich, June 18, 2005, p. 392); *The Wisconsin State Journal*

("UW-Madison Grad Student Makes Math History," by Ron Seely, March 18, 2005, p. 1); *New Scientist* ("Classic Maths Puzzle Cracked at Last," by Maggie McKee, March 21, 2005) and *Science* ("Cranky' Proof Reveals Hidden Regularities," by Dana Mackenzie, April 1, 2005, p. 36), and he was interviewed by the NBC affiliate in Madison on its newscast.

**Read more** See Mahlburg's home page at [www.math.wisc.edu/~mahlburg/](http://www.math.wisc.edu/~mahlburg/).



### Chandrashekar Khare

*The Hindu* (India's national daily) reported on some outstanding new work by **Chandrashekar Khare** (University of Utah) and his French colleague J.P. Wintenberger ("Going Beyond Fermat's Last Theorem," by T. Jayaraman, April 25, 2005). The work comprises the first steps toward

proving an important open problem, Serre's Conjecture, named after Abel Prize-winner Jean-Pierre Serre. A proof of this conjecture, which is related to Andrew Wiles's proof of Fermat's Last Theorem, could open new insights into the Langlands program, which sets forth a vision for unifying number theory and geometry.

**Read more** Khare's home page is at [www.math.utah.edu/~shekhar/](http://www.math.utah.edu/~shekhar/).



### David Henderson

National Public Radio's Jacki Lyden interviewed mathematicians **David Henderson** and Daina Taimina (Cornell University). The *All Things Considered* segment ("Mathematicians Get Crafty with Geometry," March 13, 2005) featured discussion on the hyperbolic shapes that Taimina crochets. Henderson

recalled that the paper models he first used were too fragile—they would shred and go limp. Taimina experimented and found that crochet retains a rigid structure that students and others can see, touch and rotate to understand the concept of a hyperbolic plane. Taimina was featured in *The New York Times* ("Professor Lets Her Fingers Do the Walking," by Michelle York, July 11, 2005). The team has given public talks and were interviewed in *Science* ("Non-Euclidean Potholders," March 11, 2005, p. 1558) and *Newsday* ("Cool 2 Know," March 14, 2005).

**Read more** "Crocheting the Hyperbolic Plane" by David W. Henderson and Daina Taimina is at [www.math.cornell.edu/~7Edwh/papers/crochet/crochet.html](http://www.math.cornell.edu/~7Edwh/papers/crochet/crochet.html); see the crochet models and listen to the NPR program at [www.npr.org/templates/story/story.php?storyId=4531695](http://www.npr.org/templates/story/story.php?storyId=4531695).



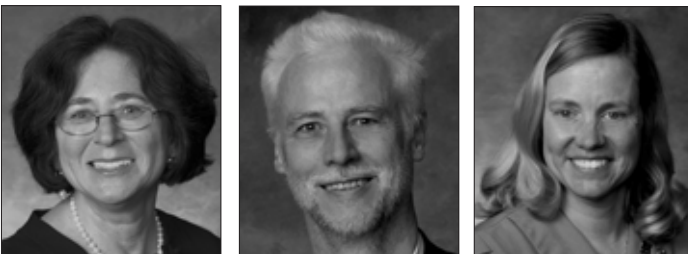
## Douglas Hardin and Ed Saff

After “Discretizing Manifolds via Minimum Energy Points,” by **D. P. Hardin** and **E. B. Saff** (Vanderbilt University) was published in the November 2004 issue of the *Notices of the AMS*, National

Public Radio interviewed Saff on *Weekend Edition*. The segment, “Poppy Seed Bagel Math,” aired on December 11, 2004 and asked: How does one spread poppy seeds evenly across the surface of a bagel? Saff talked about the problem and the more general question of how to distribute points evenly on a curved surface. He explained why it is a hard problem and pointed out some of its applications. Their work was also covered in *Science & Vie* (“Pointillisme: Les Mathématiques Sont Enfin au Point,” by Laurent Orlic, July 2005, p. 84).

**Read more** See “Discretizing Manifolds via Minimum Energy Points” online at [www.ams.org/notices/200410/fea-saff.pdf](http://www.ams.org/notices/200410/fea-saff.pdf); listen to Saff’s interview on NPR at [www.npr.org/templates/story/story.php?storyId=4223425](http://www.npr.org/templates/story/story.php?storyId=4223425).

## Lenore Blum, Richard Ladner and Elizabeth Yanik



On May 16, President Bush announced the recipients of the 2004 *Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring*. An article about the awards appeared in *Science* (“Stellar Mentors,” May 27, 2005, p. 1255). **Lenore Blum** (Carnegie Mellon University) helped create the Expanding Your Horizons program (at Mills College) in 1973; **Richard Ladner** (University of Washington) pioneered computer networking for the deaf-blind; and **Elizabeth Yanik** (Emporia State University) directs and sustains a half dozen mentoring programs at Emporia State. Along with these individual recipients, the **University of Iowa’s Department of Mathematics**, the nation’s largest single awardee of mathematics doctorates to minorities (and an AMS institutional member) received an institutional award.

**Read more** The National Science Foundation news release has more information about the award and recipients at [www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=104137&org=NSF&from=news](http://www.nsf.gov/news/news_summ.jsp?cntn_id=104137&org=NSF&from=news).



Photo: Knut Falch/Scanpix/Abel Prize/The Norwegian Academy of Science and Letters

## Peter D. Lax

Norwegian Crown Prince Haakon of Norway awarded the **2005 Abel Prize** to **Peter D. Lax** (Courant Institute of Mathematical Sciences, New York University) in Oslo on May 24. The BBC described Lax as an “inspirational figure,” and summarized his important mathematical work as having “provided new approaches to partial differential equations” (“Abel Prize Awarded to Peter

Lax,” May 25, 2005). The award to Lax was also covered on CNN (“A-Bomb Pioneer Wins Mathematics Prize,” May 24), *The New York Sun* (“NYU’s Peter Lax Wins ‘Nobel Prize of Mathematics,’” by Gary Shapiro, March 23), *The New York Times* (“From Budapest to Los Alamos, a Life in Mathematics,” by Claudia Dreifus, March 29), *Neue Zuercher Zeitung* (“Abel-Preis 2005 an Peter D. Lax: Ein Vertreter der Angewandten und der reinen Mathematik,” by George Szpiro, March 23), and *Science* (“Abel Prize,” April 1, p. 47).

**Read more** See [www.abelprisen.no/en/prisvinnerer/](http://www.abelprisen.no/en/prisvinnerer/).

## Devlin, Paulos and Stewart—mathematics communicators

AMS members **Keith Devlin** (Center for the Study of Language and Information, Stanford University), **John Allen Paulos** (Temple University) and **Ian Stewart** (University of Warwick, U.K.) appear frequently in the media as commentators on, and communicators of, mathematics. Devlin is a frequent guest (“The Math Guy”) on NPR and is author of *The Math Instinct: Why You’re a Mathematical Genius (Along With Lobster, Birds, Cats, and Dogs)*. Paulos writes the monthly “Who’s Counting” column on abcnews.com and is author of *Innumeracy: Mathematical Illiteracy and its Consequences*. Stewart contributes to many newspapers and magazines in the U.K., Europe, and the U.S., including *New Scientist*, and is director of The Mathematics Awareness Centre, Warwick, and is author of *What Shape Is a Snowflake?: Magical Numbers in Nature*. Thanks to them for their contributions promoting awareness of mathematics and making it accessible to the general public.

**Read more** See their home pages for information on publications and activities: Devlin: [www.stanford.edu/~kdevlin](http://www.stanford.edu/~kdevlin)  
Paulos: [www.math.temple.edu/~paulos](http://www.math.temple.edu/~paulos)  
Stewart: [www.maths.warwick.ac.uk/staff/ins.html](http://www.maths.warwick.ac.uk/staff/ins.html)

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## AMS MEMBER NEWSLETTER

### Math in the Media

The descriptions of news coverage in this issue are based on items from the AMS monthly web magazine *Math in the Media*. *Math in the Media* includes “Tony Phillips’ Take on Math in the Media”; “Math Digest” (summaries of mathematics in the news, edited by *Notices* Deputy Editor and Senior Writer Allyn Jackson, with contributions by AMS Public Awareness Officers Mike Breen and Annette Emerson, **Claudia Clark** (freelance science writer) and **Lisa Dekeukelaere** (Brown University); and “Reviews” of books, plays, and films with mathematical themes. If you see mathematics and mathematicians in your local media please send an email to [paoffice@ams.org](mailto:paoffice@ams.org).

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