

Reference and Book List

The **Reference** section of the Notices is intended to provide the reader with frequently sought information in an easily accessible manner. New information is printed as it becomes available and is referenced after the first printing. As soon as information is updated or otherwise changed, it will be noted in this section.

Contacting the Notices

The preferred method for contacting the Notices is electronic mail. The editor is the person to whom to send articles and letters for consideration. Articles include feature articles, memorial articles, communications, opinion pieces, and book reviews. The editor is also the person to whom to send news of unusual interest about other people's mathematics research.

The managing editor is the person to whom to send items for "Mathematics People", "Mathematics Opportunities", "For Your Information", "Reference and Book List", and "Mathematics Calendar". Requests for permissions, as well as all other inquiries, go to the managing editor.

The electronic-mail addresses are notices@math.ou.edu in the case of the editor and notices@ams.org in the case of the managing editor. The fax numbers are 405-325-7484 for the editor and 401-331-3842 for the managing editor. Postal addresses may be found in the masthead.

Upcoming Deadlines

December 15, 2005: Applications for NRC-Ford Foundation Diversity Post-doctoral Fellowships. See the website <http://www7.nationalacademies.org/fellowships/> or contact Fellowships Office, GR 346A, National Research Council of the National Academies, 550 Fifth Street, NW, Washington, DC 20001; telephone:

202-334-2872; email: infofell@nas.edu.

December 15, 2005: Applications for AMS Epsilon Fund. See <http://www.ams.org/outreach/epsilon.html>, or contact Membership and Programs Department, AMS, 201 Charles Street, Providence, RI 02904-2294; telephone 800-321-4267, ext. 4170; email: prof-serv@ams.org.

Where to Find It

A brief index to information that appears in this and previous issues of the Notices.

AMS Bylaws—November 2005, p. 1239

AMS Email Addresses—December 2004, p. 1365

AMS Ethical Guidelines—June/July 2004, p. 675

AMS Officers 2004 and 2005 (Council, Executive Committee, Publications Committees, Board of Trustees)—May 2005, p. 564

AMS Officers and Committee Members—October 2005, p. 1073

Conference Board of the Mathematical Sciences—September 2005, p. 892

Information for Notices Authors—June/July 2005, p. 660

Mathematics Research Institutes Contact Information—August 2005, p. 770

National Science Board—January 2006, p. 62

New Journals for 2004—June/July 2005, p. 662

NRC Board on Mathematical Sciences and Their Applications—March 2005, p. 361

NRC Mathematical Sciences Education Board—April 2005, p. 465

NSF Mathematical and Physical Sciences Advisory Committee—February 2005, p. 261

Program Officers for Federal Funding Agencies—October 2005, p. 1069 (DoD, DoE); November 2005, p. 1223 (NSF)

Stipends for Study and Travel—September 2005, p. 900

December 20, 2005: Proposals for NSF Program on Mathematical Sciences: Innovations at the Interface with the Physical and Computer Sciences and Engineering: Astronomy and Materials Research. See "Mathematics Opportunities" in this issue.

December 31, 2005: Supporting references for Alan T. Waterman Award. See <http://www.nsf.gov>.

December 31, 2005: Applications/nominations for AIM Five-Year Fellow. See <http://www.aimath.org/fellows/>.

January 1, 2006: Submissions for Competition 2006 of the European Mathematical Society. See <http://www.mat.dtu.dk/people/V.L.Hansen/rpa/secondartcomp.html>.

January 1, 2006: Applications for ICM 2006 Travel Grants. See <http://www.icm2006.org> or email: grants@icm2006.org.

January 6, 2006: Applications for National Defense Science and Engineering Graduate (NDSEG) Fellowships. See "Mathematics Opportunities" in this issue.

January 10, 2006: Applications for AAUW Educational Foundation Fellowships and Grants. See http://www.aauw.org/fga/fellowships_grants/selected.cfm or contact the AAUW Educational Foundation, 1111 Sixteenth St. N.W., Washington, DC 20036; telephone 800-326-2289 (AAUW); fax 202-872-1425; email: info@aauw.org.

January 13, 2006: Proposals for NSF Program on Mathematical Sciences: Innovations at the Interface with the Physical and Computer Sciences and Engineering: Chemistry. See "Mathematics Opportunities" in this issue.

January 15, 2006: Applications for AMS-AAAS Mass Media Fellowships. See "Mathematics Opportunities" in this issue.

January 26, 2006: Proposals for NSF Scientific Computing Research Environments for the Mathematical Sciences (SCREMS). See "Mathematics Opportunities" in this issue.

January 27, 2006: Proposals for Partnerships for Adaptation, Implementation, and Dissemination Awards of the NSF ADVANCE Program. See

the website http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5383.

January 31, 2006: Applications for postdoctoral fellowships at the Institut Mittag-Leffler. See the website <http://www.mittag-leffler.se/grants>.

February 1, 2006: Applications for AWM Travel Grants and Mentoring Travel Grants. See <http://www.awm-math.org/travelgrants.html>; telephone 703-934-0163; email: awm@math.umd.edu; or contact Association for Women in Mathematics, 11240 Waples Mill Road, Suite 200, Fairfax, VA 22030.

February 10, 2006: Applications for Math for America Foundation Newton Fellowships. See the website <http://www.mathforamerica.org/>.

February 15, 2006: Nominations for Clay Mathematics Institute (CMI) Liftoff Program. See "Mathematics Opportunities" in this issue.

March 1, 2006: Proposals for NSF Program on Mathematical Sciences: Innovations at the Interface with the Physical and Computer Sciences and Engineering: Computer Science. See "Mathematics Opportunities" in this issue.

March 1, 2006: Applications for EDGE Program. See the website <http://www.edgeforwomen.org/> or contact the EDGE Program, Department of Mathematics, Bryn Mawr College, 101 North Merion Avenue, Bryn Mawr, PA 19010; email: edge@edgeforwomen.org; telephone 610-876-3527.

March 31, 2006: Nominations for Third World Academy of Sciences Prizes. See <http://www.twas.org/>.

May 1, 2006: Applications for AWM Travel Grants. See <http://www.awm-math.org/travelgrants.html>; telephone 703-934-0163; email: awm@math.umd.edu; or contact Association for Women in Mathematics, 11240 Waples Mill Road, Suite 200, Fairfax, VA 22030.

October 1, 2006: Applications for AWM Travel Grants. See <http://www.awm-math.org/travelgrants.html>; telephone 703-934-0163; email: awm@math.umd.edu; or contact Association for Women in Mathematics,

11240 Waples Mill Road, Suite 200, Fairfax, VA 22030.

National Science Board

The National Science Board is the policymaking body of the National Science Foundation. Listed below are the current members of the NSB. For further information, visit the website <http://www.nsf.gov/nsb/>.

Dan Arvizu (Consultant)
Director and Chief Executive
National Renewable Energy
Laboratory (NREL)

Barry C. Barish
Linde Professor of Physics
California Institute of Technology

Steven Beering
President Emeritus
Purdue University

Ray Bowen
Former President
Texas A&M University

G. Wayne Clough
President
Georgia Institute of Technology

Kelvin K. Droegemeier
Regents' Professor of Meteorology
Roger and Sherry Teigen
Presidential Professor
Director, Center for Analysis
and Prediction of Storms
Director, Sasaki Institute
University of Oklahoma

Delores M. Etter
Professor of Electrical Engineering
United States Naval Academy

Nina V. Fedoroff
Willaman Professor of Life Sciences
Director, Life Sciences Consortium
Director, Biotechnology Institute
Pennsylvania State University

Kenneth M. Ford
Director, Institute for Human and
Machine Cognition
University of West Florida

Daniel E. Hastings
Director, Engineering Systems
Division
Professor, Aeronautics and

Astronautics and Engineering
Systems
Massachusetts Institute
of Technology

Elizabeth Hoffman
President Emerita
Professor of Economics
and Public Affairs
University of Colorado at Denver

Louis Lanzerotti
Distinguished Professor of Physics
Center for Solar Terrestrial
Research
Department of Physics
New Jersey Institute of Technology

Alan I. Leshner
Chief Executive Officer
American Association for the
Advancement of Science

Jane Lubchenco
Wayne and Gladys Valley Professor
of Marine Biology
Distinguished Professor of Zoology
Oregon State University

Diana S. Natalicio (vice chair)
President
University of Texas at El Paso

Douglas D. Randall
Professor of Biochemistry
Director, Interdisciplinary Program
on Plant Biochemistry-Physiology
University of Missouri

Michael G. Rossmann
Hanley Distinguished Professor
of Biological Sciences
Purdue University

Daniel Simberloff
Nancy Gore Hunger Professor
of Environmental Science
Department of Ecology
and Evolutionary Biology
University of Tennessee

Jon C. Strauss
President
Harvey Mudd College

Kathryn D. Sullivan
President and CEO
Center of Science and Industry

Jo Anne Vasquez
Mesa Public Schools (Retired)

Warren M. Washington
Senior Scientist and Section Head
National Center for Atmospheric
Research

John A. White Jr.
Chancellor
University of Arkansas

Mark S. Wrighton
Chancellor
Washington University in St. Louis

Arden L. Bement Jr.
(member ex officio)
Director
National Science Foundation

Michael P. Crosby
Executive Officer and
Office Director
National Science Board

The contact information for the Board
is: National Science Board, National
Science Foundation, 4201 Wilson
Boulevard, Suite 1225, Arlington, VA
22230; telephone 703-292-5111;
World Wide Web <http://www.nsf.gov/nsb/>.

Book List

The Book List highlights books that have mathematical themes and are aimed at a broad audience potentially including mathematicians, students, and the general public. When a book has been reviewed in the Notices, a reference is given to the review. Generally the list will contain only books published within the last two years, though exceptions may be made in cases where current events (e.g., the death of a prominent mathematician, coverage of a certain piece of mathematics in the news) warrant drawing readers' attention to older books. Suggestions for books to include on the list may be sent to notices-booklist@ams.org.

*Added to "Book List" since the list's last appearance.

13: The Story of the World's Most Popular Superstition, by Nathaniel Lachenmeyer. Thunder's Mouth Press, October 2004. ISBN 1-568-58306-0.

1089 and All That. A Journey into Mathematics, by David Acheson. Oxford University Press, July 2002. ISBN 0-19-851623-1. (Reviewed February 2005.)

Action This Day, edited by Michael Smith and Ralph Erskine. Random House of Canada, February 2003. ISBN 0-593-04910-1.

Alfred Tarski: Life and Logic, by Anita Burdman Feferman and Solomon Feferman. Cambridge University Press, October 2004. ISBN 0-521-80240-7.

Beyond Reason: Eight Great Problems That Reveal the Limits of Science, by A. K. Dewdney. Wiley, April 2004. ISBN 0-471-01398-6.

**The Book of Presidents*. London Mathematical Society, 2005. ISBN 0-950-27341-4.

A Brief History of Infinity, by Paolo Zellini. Penguin Books (paperback), March 2005. ISBN 0-141-00762-1.

A³ & His Algebra: How a Boy from Chicago's West Side Became a Force in American Mathematics, by Nancy E. Albert. iUniverse, Inc., January 2005. ISBN 0-595-32817-2. (Reviewed December 2005.)

The Calculus Gallery: Masterpieces from Newton to Lebesgue, by William Dunham. Princeton University Press, December 2004. ISBN 0-691-09565-5.

Chance: A Guide to Gambling, Love, the Stock Market and Just About Everything Else, by Amir D. Aczel. Thunder's Mouth Press, October 2004. ISBN 1-56858-316-8. (Reviewed August 2005.)

Coincidences, Chaos, and All That Math Jazz: Making Light of Weighty Ideas, by Edward B. Burger and Michael Starbird. W. W. Norton, August 2005. ISBN 0-393-05945-6.

The Colours of Infinity: The Beauty and Power of Fractals, by Michael Barnsley, Nigel Lesmoir-Gordon, Benoit B. Mandelbrot, Ian Stewart, Gary Flake, Robert Prechter, and Arthur C. Clarke. Clear Press, March 2004. ISBN 1-904-55505-5.

Complexities: Women in Mathematics, edited by Bettye Anne Case and Anne M. Leggett. Princeton University Press, January 2005. ISBN 0-691-11462-5.

Converging Realities: Toward a Common Philosophy of Physics and

Mathematics, by Roland Omnes. Princeton University Press, November 2004. ISBN 0-691-11530-3.

The Curious Incident of the Dog in the Nighttime, by Mark Haddon. Vintage, May 2004. ISBN 1-400-03271-7.

Dark Hero of the Information Age: In Search of Norbert Wiener, by Flo Conway and Jim Siegelman. Basic Books, December 2004. ISBN 0-738-20368-8.

The Equation That Couldn't Be Solved (How Mathematical Genius Discovered the Language of Symmetry), by Mario Livio. Simon and Schuster, September 2005. ISBN 0-743-25820-7.

The Essential Turing, edited by B. Jack Copeland. Oxford University Press, September 2004. ISBN 0-198-25080-0.

Experimentation in Mathematics: Computational Paths to Discovery, by Jonathan Borwein, David Bailey, and Roland Girgensohn. A K Peters, March 2004. ISBN 1-56881-136-5. (Reviewed September 2005.)

The Fermat Diary, by C. J. Mozzochi. AMS, August 2000. ISBN 0-8218-2670-0.

The Fermat Proof, by C. J. Mozzochi. Trafford Publishing, Inc., February, 2004. ISBN 1-412-02203-7.

From Eudoxus to Einstein: A History of Mathematical Astronomy, by C. M. Linton. Cambridge University Press, August 2004. ISBN 0-521-82750-7.

Geometry and Meaning, by Dominic Widdows. Center for the Study of Language and Information, November 2004. ISBN 1-575-86448-7.

**God Created the Integers*, by Stephen Hawking. Running Press, October 2005. ISBN 0-762-41922-9.

The Golden Ratio: The Story of Phi, the World's Most Astonishing Number, by Mario Livio. Broadway Books, September 2003. ISBN 0-7679-0816-3. (Reviewed March 2005.)

Graphic Discovery: A Trout in the Milk and Other Visual Adventures, by Howard Wainer. Princeton University Press, October 2004. ISBN 0-691-10301-1.

The Heart of Mathematics: An Invitation to Effective Thinking, by Edward B. Burger and Michael Starbird. Key College Publishing (Springer-Verlag), April 2000. ISBN

0-555953-407-9. (Reviewed February 2005.)

Incompleteness: The Proof and Paradox of Kurt Gödel, by Rebecca Goldstein. W. W. Norton, February 2005. ISBN 0-393-05169-2.

The Infinite Book: Where Things Happen That Don't, by John D. Barrow. Jonathan Cape, February 2005. ISBN 0-224-06917-9.

Introducing Game Theory and its Applications, by Elliott Mendelson. CRC Press, July 2004. ISBN 1-584-88300-6.

János Bolyai, Euclid, and the Nature of Space, by Jeremy J. Gray. MIT Press, May 2003. ISBN 0-262-57174-9. (Reviewed October 2005.)

John Pell (1611-1685) and His Correspondence with Sir Charles Cavendish: The Mental World of an Early Modern Mathematician, by Noel Malcolm and Jacqueline Stedall. Oxford University Press, second edition, January 2005. ISBN 0-198-56484-8.

The Knot Book: An Elementary Introduction to the Mathematical Theory of Knots, Colin C. Adams. AMS, September 2004. ISBN 0-8218-3678-1. (Reviewed September 2005.)

Knots and Links, by Peter R. Cromwell. Cambridge University Press, October 2004. ISBN 0-691-10301-1.

The Liar Paradox and the Towers of Hanoi: The Ten Greatest Math Puzzles of All Time, by Marcel Danesi. Wiley, August 2004. ISBN 0-471-64816-7.

Luck, Logic, and White Lies: The Mathematics of Games, by Jörg Bewersdorff. Translated by David Kramer. A K Peters, November 2004. ISBN 1-568-81210-8.

Math and the Mona Lisa: The Art and Science of Leonardo da Vinci, by Bulent Atalay. Smithsonian Books, April 2004. ISBN 1-588-34171-2.

The Math Instinct: Why You're a Mathematical Genius (Along with Lobsters, Birds, Cats, and Dogs), by Keith Devlin. Thunder's Mouth Press, March 2005. ISBN 1-560-25672-9.

Math Magic: How to Master Everyday Math Problems, by Scott Flansburg. Perennial Currents, revised edition, August 2004. ISBN 0-060-72635-0.

Mathematical Adventures for Students and Amateurs, David F. Hayes and Tatiana Shubin, editors. Mathe-

matical Association of America, 2004. ISBN 0-88385-548-8.

Mathematical Illustrations: A Manual of Geometry and PostScript, by Bill Casselman. Cambridge University Press, December 2004. ISBN 0-521-54788-1.

A Mathematician at the Ballpark: Odds and Probabilities for Baseball Fans, by Ken Ross. Pi Press, July 2004. ISBN 0-131-47990-3.

Mathematicians under the Nazis, by Sanford L. Segal. Princeton University Press, July 2003. ISBN 0-691-00451-X. (Reviewed April 2005.)

Mathematics: A Very Short Introduction, by Timothy Gowers. Oxford University Press, October 2002. ISBN 0-192-85361-9. (Reviewed February 2005.)

Mathematics by Experiment: Plausible Reasoning in the 21st Century, by Jonathan Borwein and David Bailey. A K Peters, December 2003. ISBN 1-56881-211-6. (Reviewed September 2005.)

Mathematics in Nature: Modeling Patterns in the Natural World, by John A. Adam. Princeton University Press, November 2003. ISBN 0-691-11429-3. (Reviewed June/July 2005.)

**Meta Math! The Quest for Omega*, by Gregory Chaitin. Pantheon, October 2005. ISBN 0-375-42313-3.

The (Mis)Behavior of Markets: A Fractal View of Risk, Ruin and Reward, by Benoit Mandelbrot and Richard Hudson. Basic Books, August 2004. ISBN 0-465-04355-0.

More Damned Lies and Statistics: How Numbers Confuse Public Issues, by Joel Best. University of California Press, August 2004. ISBN 0-520-23830-3.

More Mathematical Astronomy Morsels, by Jean Meeus. Willmann-Bell, 2002. ISBN 0-943396-743.

Musings of the Masters: An Anthology of Miscellaneous Reflections, edited by Raymond G. Ayoub. Mathematical Association of America, 2004. ISBN 0-88385-549-6.

The Newtonian Moment: Isaac Newton and the Making of Modern Culture, by Mordechai Feingold. New York Library and Oxford University Press, December 2004. ISBN 0-195-17735-5.

Numbers, the Language of Science, by Tobias Dantzig. Pi Press, fifth edition, March 2005. ISBN 0-131-85627-8.

The Oxford Murders, by Guillermo Martínez. Abacus, January 2005. ISBN 0-349-11721-7. (Reviewed November 2005.)

The Pea and the Sun: A Mathematical Paradox, by Leonard M. Wapner. A K Peters, April 2005. ISBN 1-568-81213-2.

Probability Theory: The Logic of Science, by E. T. Jaynes. Edited by G. Larry Bretthorst. Cambridge University Press, April 2003. ISBN 0-521-59271-2. (Reviewed in this issue.)

R. L. Moore: Mathematician and Teacher, by John Parker. Mathematical Association of America, 2004. ISBN 0-88385-550-X.

Reality Conditions: Short Mathematical Fiction, by Alex Kasman. Mathematical Association of America, May 2005. ISBN 0-88385-552-6.

The Road to Reality: A Complete Guide to the Laws of the Universe, by Roger Penrose. Knopf, February 2005. ISBN 0-679-45443-8.

Saunders Mac Lane: A Mathematical Autobiography, by Saunders Mac Lane. A K Peters, Ltd., May 2005. ISBN 1-568-81150-0. (Reviewed December 2005.)

Science in the Looking Glass, by E. Brian Davies. Oxford University Press, August 2003. ISBN 0-19-852543-5. (Reviewed December 2005.)

Sneaking a Look at God's Cards: Unraveling the Mysteries of Quantum Mechanics, by Giancarlo Ghirardi, translated by Gerald Malsbary. Princeton University Press, revised edition, January 2005. ISBN 0-691-12139-7.

Spaceland, by Rudy Rucker. Tor Books, June 2002. ISBN 0-765-30366-3. (Reviewed August 2005.)

Stalking the Riemann Hypothesis: The Quest to Find the Hidden Law of Prime Numbers, by Dan Rockmore. Pantheon, April 2005. ISBN 0-375-42136-X.

A Tour through Mathematical Logic, by Robert S. Wolf. Mathematical Association of America, January 2005. ISBN 0-88385-036-2.

The Transformation of Mathematics in the Early Mediterranean World: From Problems to Equations, by Reviel

Netz. Cambridge University Press, June 2004. ISBN 0-521-82996-8.

The Universal Book of Mathematics: From Abracadabra to Zeno's Paradoxes, by David Darling. Wiley, July 2004. ISBN 0-471-27047-4.

Using the Mathematics Literature, by Kristine K. Fowler. Marcel Dekker, June 2004. ISBN 0-824-75035-7.

The Works of Archimedes: Translation and Commentary. Volume I: The Two Books *On the Sphere* and *The Cylinder*. Edited and translated by Reviel Netz. Cambridge University Press, April 2004. ISBN 0-521-66160-9. (Reviewed May 2005.)

A World without Time: The Forgotten Legacy of Gödel and Einstein, by Pallo Yourgrau. Basic Books, January 2005. ISBN 0-465-09293-4.

You Can Do the Math: Overcome Your Math Phobia and Make Better Financial Decisions, by Ron Lipsman. Praeger Publishers, November 2004. ISBN 0-275-98341-2.

About the Cover

From knots to Nobel

As Abraham Neyman explains in this issue, the mathematician Robert Aumann shares with Thomas Schelling the 2005 Nobel Prize in Economics, for his work in game theory. Perhaps somewhat surprisingly, but somewhat like John Nash before him, Aumann began his career at M.I.T. as a graduate student with the topologist Whitehead as advisor.

The background of the cover exhibits one of the images in the published version of Aumann's thesis ("Aphercity of alternating knots", *Annals of Mathematics*, volume 64, page 381).

The photographs show a few snapshots from his career. At the left is one taken at M.I.T. in 1952, along with (left to right) Lonnie Cross, D. J. Newman, (Aumann), Allan Shields, Seymour Haber, (unknown), and Harold Shapiro. At top, a photograph taken at Oberwolfach. At bottom, one with John Nash at the first Congress of the Game Theory Society.

Our thanks to Neyman for assembling the photographs.

—Bill Casselman, Graphics Editor
(notices-covers@ams.org)

