

# 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.

## Information for *Notices* Authors

The *Notices* welcomes unsolicited articles for consideration for publication, as well as proposals for such articles. The following provides general guide-

lines for writing *Notices* articles and preparing them for submission.

**Notices readership.** The *Notices* goes to about 30,000 subscribers worldwide, of whom about 20,000 are in North America. Approximately 8,000 of the 20,000 in North America are graduate students who have completed at least one year of graduate school. All readers may be assumed to be interested in mathematics research, but they are not all active researchers.

**Notices feature articles.** Feature articles may address mathematics, mathematical news and develop-

ments, mathematics history, issues affecting the profession, mathematics education at any level, the AMS and its activities, and other such topics of interest to *Notices* readers. Each article is expected to have a large target audience of readers, perhaps 5,000 of the 30,000 subscribers. Authors must therefore write their articles for nonexperts rather than for experts or would-be experts. In particular, the mathematics articles in the *Notices* are expository. The language of the *Notices* is English.

Most feature articles, including those on mathematics, are expected

## 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**—February 2006, p. 251

**AMS Ethical Guidelines**—June/July 2006, p. 701

**AMS Officers 2005 and 2006 (Council, Executive Committee, Publications Committees, Board of Trustees)**—May 2006, p. 604

**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 2006, p. 696

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

**National Science Board**—January 2006, p. 62

**New Journals for 2004**—June/July 2006, p. 697

**NRC Board on Mathematical Sciences and Their Applications**—March 2006, p. 369

**NRC Mathematical Sciences Education Board**—April 2006, p. 488

**NSF Mathematical and Physical Sciences Advisory Committee**—February 2006, p. 255

**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

to be of long-term value and should be written as such. Ideally each article should put its topic in a context, providing some history and other orientation for the reader and, as necessary, relating the subject matter to things that readers are likely to understand. In most cases, articles should progress to dealing with contemporary matters, not giving only historical material. The articles that are received the best by readers tend to relate different areas of mathematics to each other.

By design the *Notices* is partly magazine and partly journal, and authors' expository styles should take this into account. For example, many readers want to understand the mathematics articles without undue effort and without consulting other sources.

Mathematics feature articles in the *Notices* are normally six to nine pages, sometimes a little longer. Shorter articles are more likely to be read fully than are longer articles. The first page is 400 or 500 words, and subsequent pages are about 800 words. From this one should subtract an allowance for figures, photos, and other illustrations, and an appropriate allowance for any displayed equations and any bibliography.

**Form of articles.** Except with very short articles, authors are encouraged to use section headings and subsection headings to help orient readers. Normally there is no section heading at the beginning of an article. Despite the encouraged use of internal headings, the assigning of numbers to sections and subsections is not permitted in any article.

The bibliography should be kept short. In the case of mathematics articles, bibliographies are normally limited to about ten items and should consist primarily of entries like books in which one may do further reading. To help readers who might want lists of recent literature, an author might include a small number of recent publications with good bibliographies.

**Editing process.** Most articles that are destined to be accepted undergo an intensive editing process. The purposes of this process are to ensure that the target audience is as large as practicable, that the content of the

article is clear and unambiguous, and that the article is relatively easy to read. Usually it is the members of the editorial board who are involved in this process. Sometimes outside referees are consulted.

**Preparation of articles for submission.** The preferred form for submitted articles is as electronic files. Authors who cannot send articles electronically may send the articles by fax or by postal mail.

Articles with a significant number of mathematical symbols are best prepared in  $\text{T}_{\text{E}}\text{X}$ ,  $\text{L}_{\text{A}}\text{T}_{\text{E}}\text{X}$ , or  $\mathcal{A}_{\mathcal{M}}\text{S}-\text{T}_{\text{E}}\text{X}$ . There are no special style files for the *Notices*, because  $\text{T}_{\text{E}}\text{X}$  code gets converted to something else during the production process. Since the *Notices* is set in narrow columns, keeping displayed formulas relatively short helps to minimize adjustments during the production process; avoiding non-standard supplementary files and complex sequences of  $\text{T}_{\text{E}}\text{X}$  definitions also helps. For the handling of figures and other illustrations, please consult the editor.

Articles without a significant number of mathematical symbols may be prepared as text files or in Microsoft Word. In the case of files prepared in Microsoft Word, it is advisable to send both the file and a fax of a printout.

### Instructions for Authors of "WHAT IS...?" Columns

The purpose of the "WHAT IS...?" column is to provide brief, nontechnical descriptions of mathematical objects in use in current research. The target audience for the columns is first-year graduate students.

Each "WHAT IS...?" column provides an expository description of a single mathematical object being used in contemporary research. Thus "WHAT IS M-Theory?" would be too broad, but "WHAT IS a Brane?" would be appropriate; ideally, "WHAT IS a Brane?" would give a flavor of what M-theory is.

The writing should be nontechnical and informal. The level should be a little higher than the level of popular articles about mathematical developments one finds in magazines like *Science* that are aimed at a general audience.

There is a strict limit of two *Notices* pages (1,400 words with no picture, or 1,200 words with one picture). A list of "Further Reading" should contain no more than three references.

Inquiries and comments about the "WHAT IS...?" column are welcome and may be sent to [notices-what-is@ams.org](mailto:notices-what-is@ams.org).

### Upcoming Deadlines

**June 22, 2006:** Full proposals for NSF Program in Informal Science Education. See [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf06520](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf06520).

**June 27, 2006:** Full proposals for Computational Science Training for Undergraduates in the Mathematical Sciences (CSUMS) of the NSF. See "Mathematics Opportunities" in this issue.

**July 1, 2006:** Nominations for 2007 Dannie Heineman Prize. See "Mathematics Opportunities" in this issue.

**July 20, 2006:** Proposals for NSF CAREER Program. See "Mathematics Opportunities" in this issue.

**July 31, 2006:** Nominations for SASTRA Ramanujan Prize. See "Mathematics Opportunities" in this issue.

**July 31, 2006:** Nominations for the ICTP/IMU Ramanujan Prize. See [http://www.ictp.trieste.it/~sci\\_info/awards/Ramanujan/Ramanujan.html](http://www.ictp.trieste.it/~sci_info/awards/Ramanujan/Ramanujan.html).

**September 15, 2006:** Nominations for Alfred P. Sloan Foundation Fellowships. See "Mathematics Opportunities" in this issue.

**October 1, 2006:** Nominations for André Aisenstadt Mathematics Prize. See "Mathematics Opportunities" in this issue.

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

**October 17, 2006:** Full proposals for Computational Science Training for Undergraduates in the Mathematical Sciences (CSUMS) of the NSF. See "Mathematics Opportunities" in this issue.

**November 1, 2006:** Nominations for Vasil Popov Prize. See “Mathematics Opportunities” in this issue.

**December 31, 2006:** Entries for Pirelli INTERNETional Award competition. See “Mathematics Opportunities” in this issue.

### New Journals for 2005

Below is a list of mathematical journals appearing for the first time in 2005, as compiled by *Mathematical Reviews*. This list, as well as the listings for new journals for other years, can be found on the Web at <http://www.ams.org/mathweb/mi-newjs.html>.

*Journal of Computational Mathematics and Optimization*, 0972-9372, SAS International Publications, €120/volume/3 issues/yr.

### 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](mailto:notices-booklist@ams.org).*

\*Added to “Book List” since the list's last appearance.\*Added to “Book List” since the list's last appearance.

*A<sup>3</sup> & 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.)

\**Alan Turing's Automatic Computing Engine: The Master Codebreaker's Struggle to Build the Modern Computer*, edited by B. Jack Copeland. Oxford University Press, June 2005. ISBN 0-198-56593-3.

*Beyond Coincidence: Amazing Stories of Coincidence and the Mystery*

*and Mathematics behind Them*, by Martin Plimmer and Brian King. Thomas Dunne Books, December 2005. ISBN 0-312-34036-2.

*The Book of Presidents*, by Susan Oakes, Alan Pears, and Adrian Rice. London Mathematical Society, 2005. ISBN 0-950-27341-4.

*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.)

*Change Is Possible: Stories of Women and Minorities in Mathematics*, by Patricia Clark Kenschaft. AMS, September 2005. ISBN 0-8218-3748-6.

*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 Coxeter Legacy: Reflections and Projections*, edited by Chandler Davis and Erich W. Ellers. AMS, March 2006. ISBN 0-8218-3722-2.

*The Curious Incident of the Dog in the Night-time*, by Mark Haddon. Vintage, May 2004. ISBN 1-400-03271-7. (Reviewed March 2006.)

*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. (Reviewed May 2006.)

*Decoding the Universe: How the New Science of Information Is Explaining Everything in the Cosmos, from Our Brains to Black Holes*, by Charles Seife. Viking Adult, February 2006. ISBN 0-670-03441-X.

\**Descartes: A Biography*, by Desmond Clarke. Cambridge University Press, March 2006. ISBN 0-521-82301-3.

*Divine Proportions: Rational Trigonometry to Universal Geometry*, by N. J. Wildberger. Wild Egg Books, September 2005. ISBN 0-9757492-0-X.

*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 Equations: Icons of Knowledge*, by Sander Bais. Harvard University Press, November 2005. ISBN 0-674-01967-9.

*M. C. Escher's Legacy: A Centennial Celebration*, edited by Doris Schattschneider and Michele Emmer. Springer, September 2005 (paperback edition). ISBN 3-540-20100-9.

*Euler through Time: A New Look at Old Themes*, by V. S. Varadarajan. AMS, June 2006. ISBN 0-8218-3722-2.

*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.

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

*Gödel's Theorem: An Incomplete Guide to Its Use and Abuse*, by Torkel Franzen. A K Peters, May 2005. ISBN 1-56881-238-8.

*Hiding in the Mirror: The Mysterious Allure of Extra Dimensions, from Plato to String Theory and Beyond*, by Lawrence M. Krauss. Viking Adult, October 2005. ISBN 0-670-03395-2.

*Incompleteness: The Proof and Paradox of Kurt Gödel*, by Rebecca Goldstein. W. W. Norton & Company, February 2005. ISBN 0-393-05169-2. (Reviewed April 2006.)

*Infinite Ascent: A Short History of Mathematics*, by David Berlinski. Modern Library, September 2005. ISBN 0-679-64234-X.

*The Infinite Book: A Short Guide to the Boundless, Timeless and Endless*, by John D. Barrow. Pantheon, August 2005. ISBN 0-375-42227-7.

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

\**It's About Time: Understanding Einstein's Relativity*, by N. David Mermin. Princeton University Press, September 2005. ISBN 0-691-12201-6.

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

*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.)

\**The Lifebox, the Seashell, and the Soul: What Gnarly Computation Taught Me about Ultimate Reality, the Meaning of Life, and How to be Happy*, by Rudy Rucker. Thunder's Mouth Press, October 2005. ISBN 1-560-25722-9.

*Saunders Mac Lane: A Mathematical Autobiography*, by Saunders Mac Lane. A K Peters, May 2005. ISBN 1-56881-150-0. (Reviewed December 2005.)

*The Man Who Knew Too Much: Alan Turing and the Invention of the Computer*, by David Leavitt. Great Discoveries series, W. W. Norton, December 2005. ISBN 0-393-05236-2.

*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 1-56025-672-9.

*Mathematical Adventures for Students and Amateurs*, David F. Hayes and Tatiana Shubin, editors. Mathematical Association of America, 2004. ISBN 0-88385-548-8.

*Mathematical Musings: A Collection of Quotes*, edited by Dan Sonnenschein. Clarium Press, November 2005. ISBN 0-9697688-8-5.

*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.)

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

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

\**Mystic, Geometer, and Intuitionist: The Life of L. E. J. Brouwer*. Volume 2: Hope and Disillusion, by Dirk van Dalen. Oxford University Press, October 2005. ISBN 0-198-51620-7.

*New Mexico Mathematics Contest Problem Book*, by Liong-shin Hahn. University of New Mexico Press, November 2005. ISBN 0-8263-3534-9.

*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.

*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 1-56881-213-2.

*Piero della Francesca: A Mathematician's Art*, by J. V. Field. Yale University Press, August 2005. ISBN 0-300-10342-5.

*PopCo*, by Scarlett Thomas. Harvest Books, October 2005. ISBN 0-156-03137-X. (Reviewed February 2006.)

*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 January 2006.)

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

*Reflections: V. I. Arnold's Reminiscences*, by V. I. Arnold. Springer, April 2006. ISBN 3-540-28734-5.

\**The Road to Reality: A Complete Guide to the Laws of the Universe*, by Roger Penrose. Knopf, February 2005. ISBN 0-679-45443-8. (Reviewed in this issue.)

*Science in the Looking Glass*, by E. Brian Davies. Oxford University Press, August 2003. ISBN 0-198-52543-5. (Reviewed December 2005.)

\**Shadows of Reality: The Fourth Dimension in Relativity, Cubism, and Modern Thought*, by Tony Robbin. Yale University Press, March 2006. ISBN 0-300-11039-1.

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

\**Symmetry and the Monster: The Story of One of the Greatest Quests of Mathematics*, by Mark Ronan. Oxford University Press, May 2006. ISBN 0-192-80722-6.

*The Three Body Problem*, by Catherine Shaw. Allison and Busby, March 2005. ISBN 0-749-08347-6.

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

*The Visual Mind II*, edited by Michele Emmer. MIT Press, May 2005. ISBN 0-262-05076-5.