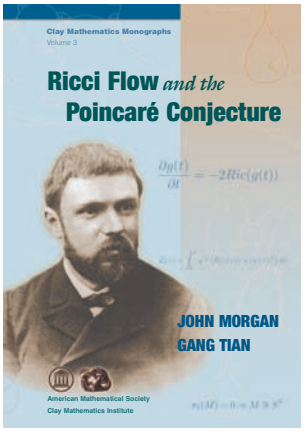
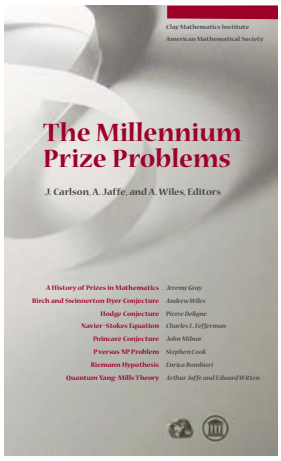
Books & Videos

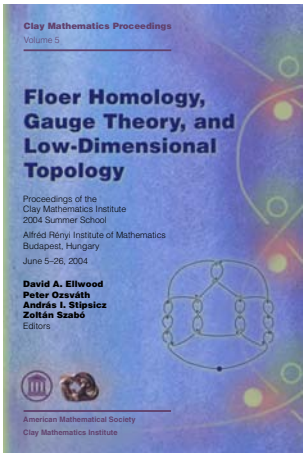
Analytic Number Theory; A Tribute to Gauss and Dirichlet; Editors: William Duke, Yuri Tschinkel. CMI/AMS, 2007, 265 pp. www.claymath.org/publications/Gauss_Dirichlet. This volume contains the proceedings of the Gauss–Dirichlet Conference held in Göttingen from June 20–24 in 2005, commemorating the 150th anniversary of the death of Gauss and the 200th anniversary of Dirichlet's birth. It begins with a definitive summary of the life and work of Dirichlet by J. Elstrodt and continues with thirteen papers by leading experts on research topics of current interest within number theory that were directly influenced by Gauss and Dirichlet.



Ricci Flow and the Poincaré Conjecture; Authors: John Morgan, Gang Tian. CMI/AMS, 2007, 521 pp., www.claymath.org/publications/ricciflow. This book presents a complete and detailed proof of the Poincaré Conjecture. This conjecture was formulated by Henri Poincaré in 1904 and has remained open until the recent work of Grigory Perelman. The arguments given in the book are a detailed version of those that appear in Perelman's three

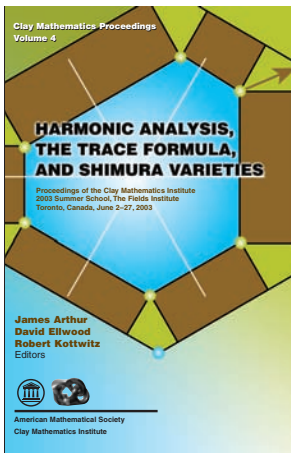


The Millennium Prize Problems; Editors: James Carlson, Arthur Jaffe, Andrew Wiles. CMI/AMS, 2006, 165 pp., www.claymath.org/publications/Millennium_Problems. This volume gives the official description of each of the seven problems as well as the rules governing the prizes. It also contains an essay by Jeremy Gray on the history of prize problems in mathematics.



Floer Homology, Gauge Theory, and Low-Dimensional Topology; Proceedings of the 2004 CMI Summer School at Rényi Institute of Mathematics, Budapest. Editors: David Ellwood, Peter Ozsváth, András Stipsicz, Zoltán Szábo. CMI/AMS, 2006, 297 pp., www.claymath.org/publications/Floer_Homology. This volume grew out of the summer school that took place in June of 2004 at the Alfréd Rényi Institute of Mathematics in Budapest, Hungary. It provides a state-of-the-art introduction to current research, covering material from Heegaard Floer homology, contact geometry, smooth four-manifold topology, and symplectic four-manifolds.

Lecture Notes on Motivic Cohomology; Authors: Carlo Mazza, Vladimir Voevodsky, Charles Weibel. CMI/AMS, 2006, 210 pp., www.claymath.org/publications/Motivic_Cohomology. This book provides an account of the triangulated theory of motives. Its purpose is to introduce the reader to Motivic Cohomology, to develop its main properties, and finally to relate it to other known invariants of algebraic varieties and rings such as Milnor K-theory, étale cohomology and Chow groups.



Surveys in Noncommutative Geometry; Editors: Nigel Higson, John Roe. CMI/AMS, 2006, 189 pp., www.claymath.org/publications/Noncommutative_Geometry. In June of 2000, a summer school on Noncom- mutative Geometry, organized jointly by the American Mathematical Society and the Clay Mathematics Institute, was held at Mount Holyoke College in Massachusetts. The meeting centered around several series of expository lectures that were intended to introduce key topics in noncommutative geometry to mathematicians unfamiliar with the subject. Those expository lectures have been edited and are reproduced in this volume.

Harmonic Analysis, the Trace Formula and Shimura Varieties; Proceedings of the 2003 CMI Summer School at Fields Institute, Toronto. Editors: James Arthur, David Ellwood, Robert Kottwitz. CMI/AMS, 2005, 689 pp., www.claymath.org/publications/Harmonic_Analysis. The subject of this volume is the trace formula and Shimura varieties. These areas have been especially difficult to learn because of a lack of expository material. This volume aims

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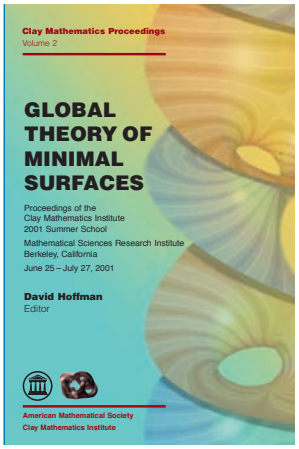
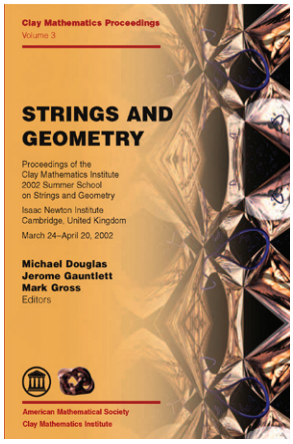
to rectify that problem. It is based on the courses given at the 2003 Clay Mathematics Institute Summer School. Many of the articles have been expanded into comprehensive introductions, either to the trace formula or the theory of Shimura varieties, or to some aspect of the interplay and application of the two areas.

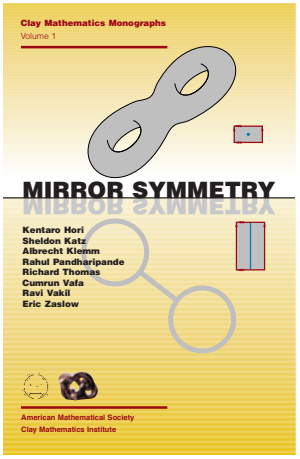
Global Theory of Minimal Surfaces; Proceedings of the 2001 CMI Summer School at MSRI. Editor: David Hoffman. CMI/AMS, 2005, 800 pp., www.claymath.org/publications/Minimal_Surfaces. This book is the product of the 2001 CMI Summer School held at MSRI. The subjects covered include minimal and constant-mean-curvature submanifolds, geometric measure theory and the double-bubble conjecture, Lagrangian geometry, numerical simulation of geometric phenomena, applications of mean curvature to general relativity and Riemannian geometry, the isoperimetric problem, the geometry of fully nonlinear elliptic equations, and applications to the topology of three-manifolds.





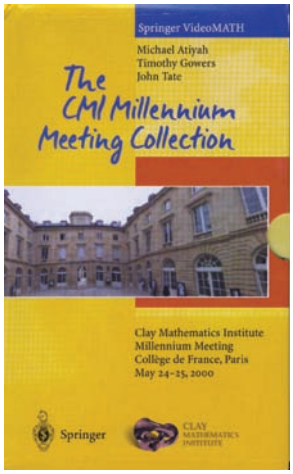
Strings and Geometry; Proceedings of the 2002 CMI Summer School held at the Isaac Newton Institute for Mathematical Sciences, UK. Editors: Michael Douglas, Jerome Gauntlett, Mark Gross. CMI/AMS publication, 376 pp., Paperback, ISBN 0-8218-3715-X. List: $69. AMS Members: $55. Order code: CMIP/3. To order, visit www.ams.org/bookstore.

Mirror Symmetry; Authors: Kentaro Hori, Sheldon Katz, Albrecht Klemm, Rahul Pandharipande, Richard Thomas, Ravi Vakil. Editors: Cumrun Vafa, Eric Zaslow. CMI/AMS publication, 929 pp., Hardcover. ISBN 0-8218-2955-6. List: $124. AMS Members: $99. Order code: CMIM/1. To order, visit www.ams.org/bookstore.



Strings 2001; Authors: Atish Dabholkar, Sunil Mukhi, Spenta R. Wadia. Tata Institute of Fundamental Research. Editor: American Mathematical Society (AMS), 2002, 489 pp., Paperback, ISBN 0-8218-2981-5, List $74. AMS Members: $59. Order code: CMIP/1. To order, visit www.ams.org/bookstore

Video Cassettes



The CMI Millennium Meeting Collection; Authors: Michael Atiyah, Timothy Gowers, John Tate, François Tisseyre. Editors: Tom Apostol, Jean-Pierre Bourguignon, Michele Emmer, Hans-Christian Hege, Konrad Polthier. Springer VideoMATH, © Clay Mathematics Institute, 2002. Box set consists of four video cassettes: The CMI Millennium Meeting, a film by François Tisseyre; The Importance of Mathematics, a lecture by Timothy Gowers; The Millennium Prize Problems, a lecture by Michael Atiyah; and The Millennium Prize Problems, a lecture by John Tate. VHS/NTSC or PAL. ISBN 3-540-92657-7. List: $119, EUR 104.95. To order, visit www.springer-ny.com (in the United States) or www.springer.de (in Europe).

These videos document the Paris meeting at the Collège de France where CMI announced the Millennium Prize Problems. The videos are for anyone who wants to learn more about these seven grand challenges in mathematics.

Videos of the 2000 Millennium event are available online and in VHS format from Springer-Verlag. To order the box set or individual tapes visit www.springer.com.