Union in the chapter on the solar system. The rapidly increasing number of newly discovered exoplanets and the general interest in the possibility of finding life and intelligent life in the universe have led the editors to add a new chapter on astrobiology to the previous edition. The revision and expansion of the chapters on the galaxies, the Milky Way, and cosmology also accurately reflect the progress in learning about these areas. These improvements make *Fundamental Astronomy* a valuable handbook for astronomers. The text is delicately balanced, it avoids long derivations of equations and, at the same time, remains mathematically correct and precise. Unnecessary mathematical treatments—which would make the real message difficult to digest—are wisely replaced by the combination of clear textual explanations and illustrations, comprising hundreds of plain drawings, graphs, and photos.

The essential mathematics is summarized in appendix A. In appendix B, we can even read a chapter on relativity. That section, with its three and a half pages, is the shortest discussion of both special and general relativity I have ever read. Readers who first want to see pictures depicting the beauty of the world of astronomy should start their exploration of this book with its 34 color photographs of various celestial themes. Those who want to find a particular topic can use the detailed index of names and subjects.

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**Fundamental Astronomy** is an excellent work in the field of astronomy. When I start reading a chapter, I can hardly put it down (though the hardcover book, with 510 pages of acid-free paper, weighs almost 1.5 kilograms). And, this book does not have an astronomical price; it is affordable even for students. I recommend this book for any higher-education astronomy classes and to all those who are interested in astronomy.

—BALÁZS PINTER, Solar System Physics Group, Institute of Mathematics and Physics, Aberystwyth University, Aberystwyth, UK; E-mail: b.pinter@aber.ac.uk

ABOUT AGU

**Outstanding Student Paper Awards**

The following members received Outstanding Student Paper Awards at the 2007 AGU Fall Meeting, in San Francisco, Calif.

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**MINERAL AND ROCK PHYSICS (MRP)**

**Ludmila Adam**, Colorado School of Mines, Golden, Laboratory measurements and modeling of seismic attenuation in saturated limestones.

**Amelia Bengston**, University of Wisconsin-Madison, Fe spin crossover in lower mantle materials: A first-principles study.

**Kevin P. Driver**, Ohio State University, Columbus, Quantum Monte Carlo study of the elastic instability of stishovite under pressure.

**Tania Dutta**, Stanford University, Stanford, Calif., Seismic response of carbonate cemented sandstones.


**Yoichi Nakajima**, Tokyo Institute of Technology, Japan, Effect of hydrogen and carbon on the melting temperature of the core.

**Lara O’Dwyer**, University of California, Davis, Numerical simulations of falling sphere viscometry experiments.

**Richa**, Stanford University, Stanford, Calif., Transport properties at different scales using digital rocks.

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**SEISMOLOGY (S)**

**Bettina Altmann**, University of California, San Diego, La Jolla, A high-frequency secondary event during the 2004 M6.0 Parkfield earthquake.

**Antonella Cirella**, Istituto Nazionale di Geofisica e Vulcanologia, Rome, Using a global search inversion to constrain earthquake kinematic rupture history and to assess model uncertainty.

**Kevin C. Edgar**, Arizona State University, Tempe, Receiver function imaging of upper mantle discontinuities beneath the Oregon High Lava Plains and surrounding regions.


**Jean E. Elkhoury**, University of California, Los Angeles, Correlations and non-predictability in the time evolution of earthquake ruptures.

**Eileen L. Evans**, University of California, Berkeley, Linking faults: Subsurface creep on a contiguous fault structure connecting the Hayward and Calaveras faults.

**Aron J. Meltzer**, California Institute of Technology, Pasadena, Coseismic, postseismic, and interseismic deformation, and long-term segmentation near the boundary of the 2004 and 2005 Sunda megathrust ruptures.

**Hiroyuki Noda**, Kyoto University, Kyoto, Japan, Transition to pulse-like rupture, with and without inclusion of evolving temperature and pore pressure, when accounting for extreme weakening at high slip rates.

**Daniel B. Peter**, Institute of Geophysics, ETH Zurich, Zurich, Switzerland, Surface wave tomography: Where does ray theory break down on a global scale?

**Zaihong “Kathy” Zou**, Saint Louis University, St. Louis, Mo., An analysis of small-scale heterogeneity in the mantle with PKP precursors recorded at IMS arrays using a seismic phonon method.

**Space Physics and Astronomy (SPA)**


**Wen Li**, University of California, Los Angeles, Calculation of path-integrated growth of whistler-mode chorus waves with the HOTRAY code based on CRRES observation.

**Chia-Lin Huang**, Boston University, Boston, Mass., Quantifying ULF waves in the inner magnetosphere and their effects on radiation belt electrons.

**Seth G. Claudepierre**, University of Colorado, Boulder, Discrete, global ULF modes in the Lyon-Fedder-Mobarry (LFM) MHD simulation.

**Akimitsu Nakajima**, Nagoya University, Nagoya, Japan, Broadband electrons during storm-time substorms: Simultaneous FAST and Double Star observations.

**Hui Zhang**, Boston University, Boston, Mass., Multiple cusps under northward IMF conditions: Observations and MHD simulations compared.

**Yohei Miyake**, Kyoto University, Kyoto, Japan, Numerical analysis on electric field antennas in space plasma environment via electromagnetic particle-in-cell simulation.

**Peter Hunana**, University of California, Riverside, Density fluctuations in the solar wind: Effects of nearly incompressible theory.

**Andrew Jordan**, Boston University, Boston, Mass., GCR modulation by small-scale features in the interplanetary medium.

**Linghua Wang**, University of California, Berkeley, First results on impulsive SEP events from the STEREO IMPACT suprathermal electron (STE) instrument.

**TECTONOPHYSICS (T)**

**Kaushik Bandyopadhyay**, Stanford University, Stanford, Calif., Effect of fluid on seismic anisotropy.

**Birte-Marie Ehlers**, Alfred Wegener Institute, Bremerhaven, Germany, Constraints on a palaeobathymetric model of the northern North Atlantic.

**Daniela Berger**, Alfred Wegener Institute, Bremerhaven, Germany, Seismic studies along the East Greenland margin between 72°N–81°N.

**Veronica Arrigoni**, Texas A&M University, College Station, Is there evidence for recent compression along the Northwind Ridge and Chukchi Borderlands?

**Cari Henrik Pettersson**, Stockholm University, Sweden, U-Pb zircon provenance of metasedimentary basement of the northernmost terrane, Scalvand: A central East Greenland correlation.

**Justin R. Brown**, Stanford University, Stanford, Calif., Extracting low-frequency earthquakes from tremor.

**Ana Cristina Aguilar**, Central Washington University, Ellensburg, Tremor constraints on moment release during the 2007 ETS from surface and borehole seismometers.

**Masato Fukuda**, Nagoya University, Nagoya City, Japan, Precursory slow crustal deformation before short-term slow slip event in January 2006, recorded at Shingu borehole station southern Kii Peninsula.
Earthquake (MERCEA 2008)ing the 1908 Messia and Reggio Calabaria International Conference Commemorat-


generated by transpressional strain and faulting, with a change in the stress regime. The earthquake generated a significant amount of seismic energy, with a magnitude of 6.6 on the Richter scale. The event was felt across a wide area, including parts of Italy, Greece, and the Middle East. The earthquake caused significant damage and loss of life, with numerous buildings and structures collapsing. The event is a reminder of the seismic hazards posed by the region and the importance of earthquake preparedness and mitigation strategies.

The conference topics included the impact of climate change on groundwater and the estimation of groundwater resources and demand under a changing climate. It also sought to engage policy makers so that knowledge gained through research can be translated into practice. The conference aimed to enhance the dialogue among water and climate scientists and foster the exchange of ideas regarding the impact of climate change on water resources. The conference also featured a wide range of contributions from scientists, researchers, and practitioners from around the world, reflecting the global nature of the climate crisis and the need for international collaboration to address it.

The conference was supported by various organizations, including the International Atomic Energy Agency, the International Geosynthetics Society, and others. It was held in Reggio Calabria, Italy, from 24–28 June 2008, at the University of Reggio Calabria. The conference proceedings, including abstracts, papers, and other materials, can be found on the conference website.

Web site: http://www.mercea08.org/
In this earthquake engineering and geotechnics conference, topics include site characterization, microzonation and site effects, soil liquefaction and liquefaction countermeasures, Earth-retaining structures and geosynthetics, and urban planning and policies for seismic risk reduction.

11 July 2008 Fourth National Integrity in Science Conference: Rejuvenating Public Sector Science Washington, D.C., USA. Sponsors: Center for Science in the Public Interest (CSPI); Climate Science Watch; Canadian Association of Physicians for the Environment; others. (M. Goonner, Center for Science in the Public Interest, 1875 Connecticut Avenue, NW, Suite 300, Washington, DC 20009-5728, USA; Tel.: +1-202-332-9110; Fax: +1-202-265-4954; E-mail: mgoonner@csipnet.org; Web site: http://csipnet.org/integrity/conferences/modeling_science_conference.html)

The conference goal is to forge an agenda for independent, regulatory science and for protecting public-sector scientists from outside influence. Session topics include: unloading government research to tackle the climate crisis, empowering science and scientists at federal agencies, and reducing conflicts of interest on advisory committees.

3–8 August 2008 International Radiation Symposium (IRS 2008) Foz do Iguacu, Brazil. Sponsors: International Radiation Commission; International Association of Meteorology and Atmospheric Sciences; University of São Paulo Instituto de Astronomia, Geofísica e Ciências Atmosféricas; others. (T. Domareski, Naipi Travel, Travel Solutions, Grupo Naipi Av. Paraná, 574-Ed. Empresarial Naipi, Foz do Iguacu, Brazil CEP 85-852-000; Tel.: +55-45-3521-9414; Fax: +55-45-3521-9414; E-mail: secretariaeventos@travelsolutions.com.br; Web site: http://www.irs2008.org.br/site/index.php)

The symposium will provide a venue to present results about current problems in atmospheric radiation. Topics include radiative transfer theory and modeling, molecular and particle radiative properties, general remote sensing, satellite measurements, and the interaction of the biosphere and atmosphere.

22–26 August 2008 Sixth International Congress of Arctic Social Sciences (ICASS VI) Nuuk, Greenland. Sponsor: International Arctic Social Sciences Association (ICASS). (J. C. Kleist; E-mail: jack@asum.uni.wi; Web site: http://www.iasa.gi/cassvi/cass6.htm)

Conference topics include social issues and sustainable development in expanding the oil and gas activities in the Arctic, and the impact of oil and gas activity on people in the Arctic.

1–21 September 2008 Association of Earth Science Editors Annual Meeting, Flagstaff, Arizona, USA. Sponsors: Association of Earth Science Editors; Clear Creek Associates; Columbia Analytical Systems; others. (T. Overton; E-mail: toveton@gia.edu; Web site: http://www.aipg.org/2008/AIPIG-AHS-3IPGC.htm)

The conference goal is to strengthen the profession of Earth science editing. Topics include promoting the exchange of ideas regarding the selection, editing, and publication of research manuscripts, journals, serials, periodicals, and maps pertaining to the Earth sciences. Abstract deadline is 28 July.

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Meeting Announcements

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- 24–28 June 2008 International Conference on Groundwater and Climate in Africa, Kampala, Uganda. Sponsors: Institute of Geosciences and Natural Resources; Groundwater Management Advisory Team; International Atomic Energy Agency; others. (R. Taylor, Department of Geography, University College London, Gower Street, London WC1E 6BT, UK; Tel.: +44-0-207-679-0591; Fax: +44-0-207-679-0565; E-mail: r.taylor@geog.ucl.ac.uk; Web site: http://www.gwclim.org/)

The conference aims to enhance and develop networks of water and climate scientists. It also seeks to engage policy makers so that knowledge gained through research can be translated into practical strategies that help communities mitigate, or adapt to, the impacts of climate change. Conference topics include the impact of climate variability and change on groundwater-based livelihoods and on groundwater and groundwater-fed ecosystems, the estimation of groundwater resources and demand under a changing climate, and groundwater management.

- 8–11 July 2008 2008 Seismic Engineering International Conference Commemorating the 1908 Messia and Reggio Calabaria Earthquake (MERCEA 2008), Reggio, Calabria, Italy. Sponsors: Associazione Geotecnica Italiana; Anti-Seismic Systems International Society; International Geotechnics Society; others. (D. Girelli, Dipartimento di Meccanica e Materiali, Facoltà di Ingegneria, Feo di Vito, Reggio, Calabria, Italy 89122, Tel.: +39-0965-87522; Fax: +39-0965-875201; E-mail: merceoa08@unicrc.it;

The conference will bring together experts in the field of earthquake engineering and geotechnics to discuss the latest research and developments. The conference will cover topics such as site characterization, microzonation and site effects, soil liquefaction and liquefaction countermeasures, Earth-retaining structures and geosynthetics, and urban planning and policies for seismic risk reduction.

The conference will be held in Reggio Calabria, Italy, from 8–11 July 2008. The conference will be co-sponsored by the International Atomic Energy Agency, the International Geosynthetics Society, and other organizations. The conference Proceedings, including abstracts, papers, and other materials, can be found on the conference website.

Web site: http://www.mercea08.org/