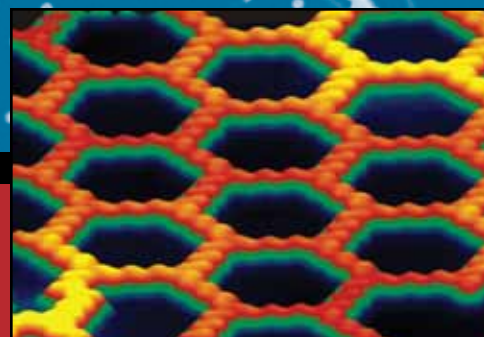
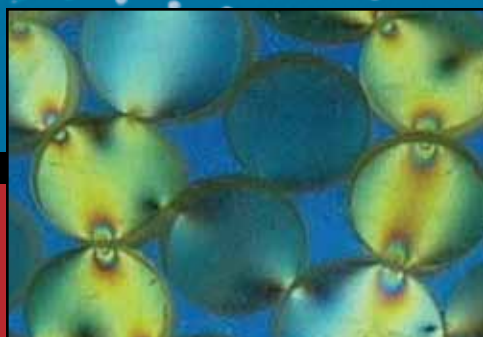
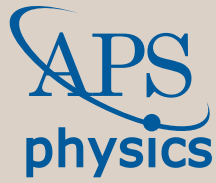


A M E R I C A N P H Y S I C A L S O C I E T Y



2 0 0 8 A N N U A L R E P O R T

APS
physics



The **AMERICAN PHYSICAL SOCIETY** strives to:

Be the leading voice for physics and an authoritative source of physics information for the advancement of physics and the benefit of humanity;

Collaborate with national scientific societies for the advancement of science, science education, and the science community;

Cooperate with international physics societies to promote physics, to support physicists worldwide, and to foster international collaboration;

Have an active, engaged, and diverse membership, and support the activities of its units and members.

FROM THE PRESIDENT



This past year saw continued growth and achievement for APS. Membership in the Society grew by close to 1000, exceeding 47,000. New student members continue to dominate the growth, and students became more active in APS governance, with the first student member of the APS Council taking her seat in 2008. Submissions to APS journals continued to increase, and APS added a new online publication, *Physics*, while celebrating the 50th anniversary of *Physical Review Letters*. APS also organized 18 meetings, including the March Meeting in New Orleans and the April Meeting in St. Louis. While all of this was occurring, physicists around the world produced stunning new results, such as cooling molecules to near absolute zero, finding a new and very different class of high temperature superconducting materials, imaging planets outside our solar system, and using imperfections in diamond to detect the spin of a single electron.

During 2008, APS and its partner organizations released a number of study reports that have had a major impact among policy makers. The most prominent of these is *Energy Future – Think Efficiency*, a report of a year-long study chaired by Burton Richter, which emphasizes the very large role that efficiency can play in reducing our need for energy. A report on nuclear forensics, the science of tracing nuclear materials to their source, has brought needed attention to this area and triggered legislation. In addition, the summary report from four expert workshops on various aspects of nuclear weapons policy is providing Congress and the new Administration with background material and discussion of key issues. Of greatest personal satisfaction to me was the release of the report from the

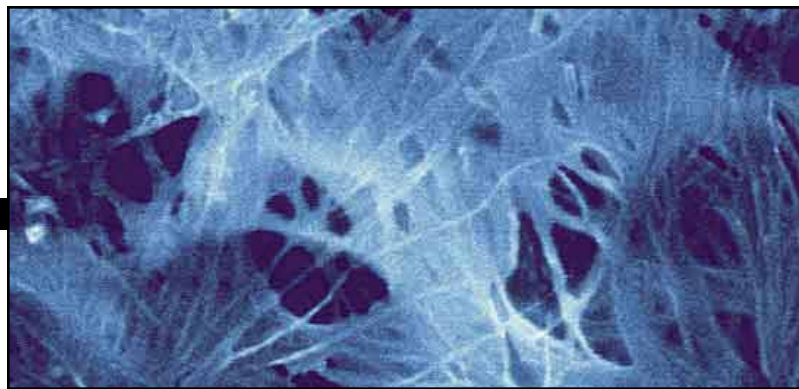
APS Gender Equity Conference, in which I played an active role in 2007.

APS staff continued to work to enhance programs serving the physics community. These include efforts to take physics to the public through the popular Physics Quest program for middle school students. Over 11,000 kits were distributed to teachers across the country to provide the materials needed for over 200,000 students to participate in the 2008 quest. A major emphasis was the ongoing lobbying efforts to increase funding for the physical sciences. 2008 was a very difficult year in this regard, but one success was a bill that provided \$340 million for science programs, saving a number of jobs at national laboratories. On the international front, the APS and the Indo-US Science and Technology Forum offered its first round of awards to support exchanges of graduate students and professors between the United States and India.

At the end of 2008, APS was very pleased to announce the successful completion of the 21st Century Campaign, a capital campaign to provide money for APS education and outreach programs. Major donations from industry, foundations, and APS members helped the Campaign raise \$4.3 million. This is already allowing APS to expand a very successful program to help universities increase the number of well-prepared physics teachers, and the APS minority scholarship for undergraduate students, to name but two of the APS Campaign-supported programs.

A handwritten signature in dark ink that reads "Arthur Bienenstock". The signature is fluid and cursive.

Arthur Bienenstock
APS 2008 President



A sense of expansion and outreach characterized 2008 at the APS Editorial Office. A new program to recognize referees who have provided outstanding service was inaugurated in the early part of the year. Astute peer review is the foundation of the APS journals, and many expert referees around the world contribute their time to this effort. A broad team of editors selected an initial group of 534 Outstanding Referees, based on the number, quality, and timeliness of their reports, as collected in a database over the last 20 years. Each received a certificate and a distinctive lapel pin, and simple recognition ceremonies were held at the March and April Meetings. A searchable list has been posted at: publish.aps.org/OutstandingReferees. The steady-state expectation is to recognize annually about one half of one percent of active referees, making the honor as selective as APS Fellowship, but the initial group was larger to reward the many individuals who deserve the honor.

Throughout the year, APS celebrated the 50th anniversary of *Physical Review Letters* with a variety of projects and events. These included a timeline of the history of the APS journals in general and *PRL* in particular, and a series of commissioned essays on the individuals, issues, and discoveries that have influenced the journal. A series of pivotal papers, among them many that eventually resulted in Nobel prizes, were designated as “Milestone” papers and were posted weekly along with commentary on the significance and impact of each article. Celebrations took place at the March Meeting in New Orleans and the April Meeting in St. Louis.

Reflecting the international character of APS journals, editors traveled to conferences and institutes in Germany, Brazil, China, Japan, and India. In particular, the Editor-in-Chief and a team of editors visited China in June. With the notable increase in submissions from China, it was an opportune time to meet with Chinese authors, students,

and librarians. At presentations in Wuhan, Hangzhou, Nanjing, Hefei, Beijing, and Shanghai, the group provided information about APS publications along with advice on preparation and submission of papers and negotiation of the peer review process.

The launch of a new online publication aimed at highlighting the best papers published by *Physical Review* and *Physical Review Letters* was probably the most important innovation in 2008. Called *Physics*, it can be found at physics.aps.org/. APS was fortunate to hire David Voss, a highly experienced scientific editor and journalist, to head up the new publication. Available in beta-test format since mid-summer, *Physics* launched formally on September 15, accompanied by a broad publicity and advertising effort. This online publication offers three kinds of features: expert commentary on a particular paper (Viewpoints), concise analysis of research in hot subfields (Trends), and single-paragraph summaries of individual papers (Synopses), which are written by in-house editors. By the end of the year 14,000 people had signed up for either weekly email alerts or RSS feeds for *Physics*. Together with *Physical Review Focus* and the Editors’ Suggestions, *Physics* assists readers in identifying and understanding important papers and helps authors get more notice for their best work.

In May, *Physical Review Special Topics — Accelerators and Beams* celebrated its 10th anniversary. To mark this decadal milestone, a number of essays on general topics of accelerator physics, written by well-known experts in the field, appeared in the journal. Sadly, Robert H. Siemann, the founding Editor of *PRST-AB* passed away in September. A series of personal essays dedicated to his memory was subsequently published.

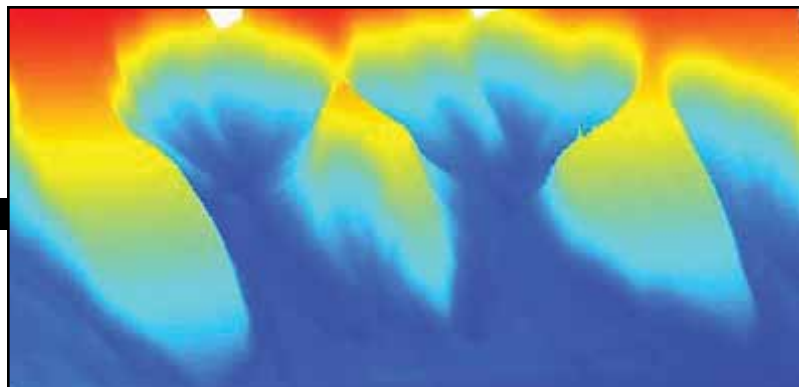
Submissions to APS journals rise every year, and so it was in 2008. Approximately 34,430 papers were submitted, representing a 4.3% increase over 2007. Improved electronic systems and tools have enabled existing support staff to handle the increase, but the need for more edi-

tors scales with increasing submissions. Increased editorial community outreach and more involvement in internal projects put additional pressure on editors' time. All of this has caused space problems in the Editorial Office, and during 2008 a special task force undertook a preliminary investigation of how best to provide additional space.

Revisions to APS copyright policies, to allow authors more freedom to create derivative works and to post on

Wikipedia, have been under discussion with input from the community over the last two years. The emerging philosophy regarding copyright is to keep only those rights that APS needs to safeguard the continuity and value of the journals and to cede the rest to authors. A new copyright form that expands and clarifies authors' rights was approved by the APS Publications Oversight Committee in September and implemented shortly thereafter. ■

SCIENTIFIC MEETINGS



The annual March and April Meetings in 2008 were again very successful. The March Meeting, held in New Orleans, was one of the largest in its history. More than 7,000 people attended, with more than 6,700 abstracts being presented in invited, contributed, and poster sessions. More than 2,500 students attended, and there were 1,661 international attendees. Both numbers have increased considerably in recent years.

Several pre-meeting programs were held at the March Meeting, including a short course, tutorials, and three workshops: one on opportunities in biology for physicists, one on professional skills development for women physicists, and one on opportunities in energy research. Several special evening sessions were held during the meeting, including evening sessions entitled “25 Years of Scanning Probe Microscopy” and “From Quarks to Cosmos: Breaking News at the Interface of Particle, Nuclear and Astrophysics.”

The 2008 April Meeting in St. Louis attracted more than 1,400 attendees and was joined by an international conference on High Energy Density Physics and High Energy Density Laboratory Astrophysics. The program consisted of approximately 200 invited talks and 700 contributed talks. The plenary talks, added to the program sev-

eral years ago, continue to be a highlight of the meeting. In addition, two special sessions were held on the Manhattan Project's 65th anniversary, as well as a session on the APS Energy Efficiency Study, and a public lecture entitled “The View from the Center of the Universe.” An evening town hall meeting was held on the new era for particle physics. Over 100 undergraduates attended the first ever Future Physicists Day, where they presented their research, participated in hands-on activities, and heard talks from professional physicists.

As it does each year, the APS sponsored High School Physics Teachers' Days in conjunction with the March and April Meetings. Seventy-six teachers attended the teachers' day at LIGO-Livingston, which featured a tour of the LIGO control room; and 63 teachers attended the April Teachers' Day in St. Louis, Missouri.

Throughout 2008 there were many other scientific meetings sponsored by APS units, including the meetings of the Divisions of Nuclear Physics (DNP), Atomic, Molecular and Optical Physics (DAMOP), Fluid Dynamics (DFD), and Plasma Physics (DPP), as well as several meetings sponsored by Topical Groups and a large number of Section meetings. ■



During 2008, turmoil continued to be the watchword describing the Washington political landscape. With the Bush Administration entering its final year, Congress still at odds with the White House, and the nation grappling with a financial meltdown, APS had to navigate difficult waters.

The reluctance of the White House to negotiate budget differences in 2007 had left federal science agencies with funding shortfalls. That was particularly true for the Department of Energy (DOE) Office of Science, which was still trying to cope with prior financial difficulties. In early January, APS initiated an effort to restore \$300 million of science funding within a defense supplemental appropriations bill. Support from the science community began to grow, and a coordinated lobbying and media push — with featured stories in *The New York Times*, the *San Francisco Chronicle*, *Newsweek*, the *Chicago Tribune*, MSNBC, *Tech Daily*, and *Congressional Quarterly* — yielded results. At the end of June, President Bush signed into law a bill that contained almost \$340 million for science programs at DOE, NASA, NIH and NSF, saving thousands of jobs at the national laboratories.

Efforts to secure strong science funding in the FY 2009 appropriations bill met with less success. Democrats opted to defer almost all budget action until a new president took office. Just before the start of the new fiscal year on October 1, Congress passed a Continuing Resolution that kept non-defense programs funded at FY 2008 levels until March 6, 2009.

Immediately following the November elections, with talk of a major economic stimulus bill gaining momentum, APS suggested that rebuilding the nation's decaying science infrastructure should be included in the planned legislation. By the end of December, House Speaker Nancy Pelosi, members of the Obama Transition Team, and key Senate leaders had all embraced the multi-billion dollar

concept. Final action on a stimulus bill was forecast for early 2009, with science expected to be featured prominently.

In late summer, APS wrapped up its yearlong examination of energy efficiency. The study group, chaired by Nobel Laureate Burton Richter and co-chaired by former House Science Committee Chief of Staff David Goldston, released its findings in a report, *Energy Future—Think Efficiency*, which emphasized that improving energy efficiency is an easy and inexpensive way to reduce oil imports and greenhouse gas emissions without causing loss of comfort and convenience. The report, which also called for a larger and better-focused federal R&D program to promote the development of future technologies, was well received on Capitol Hill and saw news coverage in many media outlets, among them CNN, *Business Week*, *Newsweek On-Air*, *Politico*, *The St. Louis Post-Dispatch* and *The Miami Herald*. An audio news release also aired on 150 stations in the top 50 U.S. markets, reaching more than 15 million households.

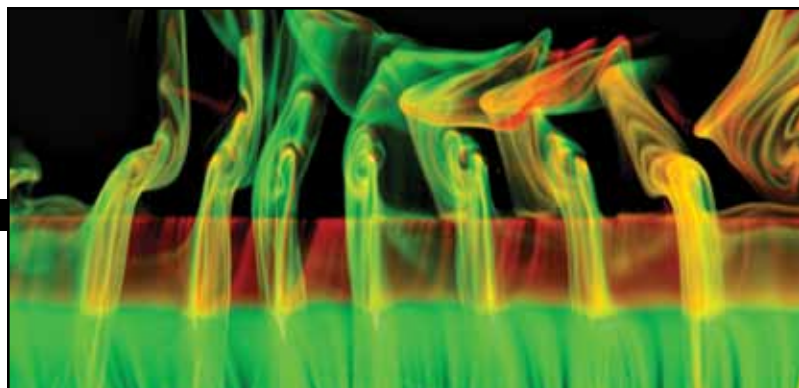
APS also devoted considerable time to several other public policy initiatives. Working through the Panel on Public Affairs, APS joined the AAAS Center for Science, Technology and Security Policy in a review of the U.S. nuclear forensics program that enjoyed wide media coverage, including *The Associated Press*, *USA Today* and *The Washington Post*. This report stresses the importance of being able to trace nuclear materials back their source. The House and the Senate implemented the report's major recommendations in the 2008 Defense Authorization Bill.

In addition, APS joined the AAAS and the Center for Strategic and International Studies in an examination of U.S. nuclear weapons policy. The summary report, which synthesized the results of four expert workshops on technical, international and military issues, is providing the Congress and the new Administration with background material and discussion of key issues. It has been presented to the U.S. Strategic Command. Earlier in the year, APS

joined ten science and engineering organizations in running a highly successful tutorial, covered by *USA Today*, which provided pointers for organization members who were considering running for public office.

In 2008, APS sponsored its 40th Congressional Science Fellow. Congressional Science Fellows go through a rigorous orientation program provided by AAAS and then spend a year assisting a member of Congress or a Congressional Committee. ■

EDUCATION



The Physics Teacher Education Coalition continues to be APS's largest educational effort. The project, aimed at increasing the number and quality of high school physics teachers, has been supported since 2001 by a major NSF grant. It includes two main initiatives — PhysTEC (www.PhysTEC.org), which provides significant funding to help a limited number of institutions (currently 5) make major improvements in their physics and physical science teacher education programs; and PTEC (www.PTEC.org), which is a larger network of 120 institutions that are committed to improving physics teacher education. APS leads the project with substantial assistance from the American Association of Physics Teachers (AAPT) and the American Institute of Physics (AIP).

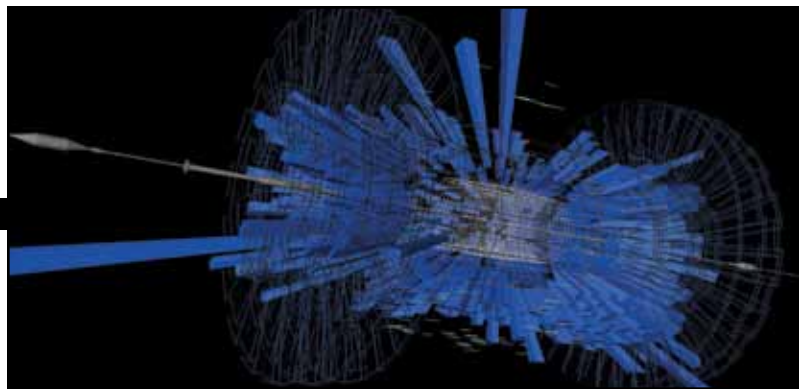
It is now clear that PhysTEC is producing major gains in the number of physics teachers graduating from participating universities. In 2008, PhysTEC was broadened to include Cornell University, Florida International University, Seattle Pacific University, the University of Minnesota, and the University of North Carolina at Chapel Hill. Each of these universities employs a master teacher from a local high school as a Teacher-in-Residence, and recruits future physics teachers through programs such as Learning Assistants, which give prospective teachers low-stress early teaching experiences in undergraduate classrooms and labs. Six other institutions completed their funding period over the summer, and report that they now graduate on average about three times as many physics teachers

per year as before the project started. APS and AAPT have also received a Robert Noyce Teacher Scholarship program award from the NSF to provide funding for scholarships to attract about 30 more future physics teachers at PhysTEC institutions.

The annual national PTEC Conference was held in March in Austin, Texas, and attracted 120 people committed to improving teacher education. Workshops on topics such as master teachers, building partnerships, and understanding assessment data were provided. The second regional PTEC conference was held in October, in Seattle, Washington, with over 70 in attendance. The project has also entered into an agreement with the National Association of State Universities and Land-Grant Colleges to develop faculty-administration partnerships to improve physics teacher education.

In January 2008, APS and AAPT held a conference to address the status and future of graduate education in physics. Conference participants included department chairs and directors of graduate studies from large and small physics departments, as well as members of the physics community from industry, funding agencies, and professional societies. The conference report is available at www.aps.org/programs/education/conferences/graduate/index.cfm. In addition, the two organizations continue to arrange annual New Faculty Workshops that help faculty members early in their teaching careers learn about their role as educators and manage their numerous responsibilities. ■

INTERNATIONAL AFFAIRS



This past year was a dynamic one for the Society's international programs. APS strengthened its service to physicists in the developing world, created ongoing physicist exchanges with new international partners, and united with other national physical societies to launch sustainable development workshops and international travel awards.

A highlight of this past year was the APS and the Indo-US Science and Technology Forum, which offered its first round of awards to support exchanges of graduate students and professors between the United States and India. This program funded physicists' visits overseas to teach short courses or provide a "physics lecture series" at a U.S. or Indian university. The program also enabled U.S. students to gain first-hand experience with Indian science and culture, and to gain a strengthened appreciation for the international nature of physics through the student visitation program.

APS underscored its ongoing commitment to physics colleagues throughout the developing world through several programs. For example, the Society enabled collaborative research between APS members and developing country physicists by means of its ever-growing International Travel Grant Award Program, which provides \$2000 for travel and lodging expenses for visits by an international collaborator. A new "start-up" initiative, the "Training-Travel Program for Developing Country Physicists," provided grants of up to \$2000 each to cover travel expenses for young physicists from developing countries, including graduate students and postdocs, to participate in training-workshops/schools in the United States.

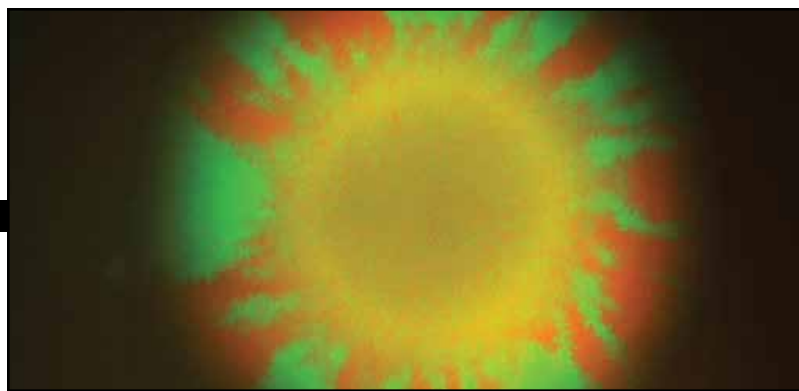
Likewise, two sustainable development workshops

served developing country interests. APS partnered with Ghana's Kumasi Institute of Technology, Energy and Environment, and the UK's Institute of Physics, to organize a two-day workshop on "Biomass Technology for Sustainable Energy in Western Africa." APS also partnered with the UK Institute of Physics toward a second workshop, "Entrepreneurship for Physicists and Engineers from Developing Countries," designed to introduce scientists and engineers to the process of innovation, generation and protection of intellectual property, technology transfer, and commercialization.

APS also supported the SESAME project, the synchrotron light source under construction in Amman, Jordan, which will bring together physicists from Arab countries and Israel for international scientific collaboration. APS partnered with both the UK Institute of Physics and the European Physical Society to establish a SESAME Travel Award Program, with each society providing funds for travel awards that would enable Middle East physicists to attend SESAME user's meetings or other training opportunities during the next three years.

Throughout the past year, APS continued its vigilance regarding important U.S. Government policies that impact international scientific collaboration, in particular, those regarding visas and export controls. APS also continued its advocacy for the rights of scientists in the U.S. and around the world and responded to calls to assist those scientists in need.

Since 1999, APS has hosted the administrative office of the International Union of Pure and Applied Physics (IUPAP) and been responsible for its finances, governance, and website. This major responsibility has now moved to the Institute of Physics in London. ■



In 2008, Rebecca Thompson-Flagg became Head of Public Outreach and immediately took over the popular APS Physics Quest program for middle school science classrooms. The 2008 version, “Nikola Tesla and the Electric Fair,” challenged students to perform experiments that investigate light, electricity and magnetism to help Tesla outdo Thomas Edison in the war of the currents (AC vs. DC). APS distributed this year’s Physics Quest kits to over 11,000 classrooms across the U.S., reaching about 200,000 students.

In fall 2008, APS partnered with the American Chemical Society and the American Geological Institute for the second year in a row to present a Physical Science and Earth Science Strand Day at the National Science Teachers Association regional meetings in Charlotte, NC, Portland, OR, and Cincinnati, OH. A total of over 400 middle and elementary school teachers took part in the all-day, hands-on workshops designed to improve their content knowledge in physical and earth sciences.

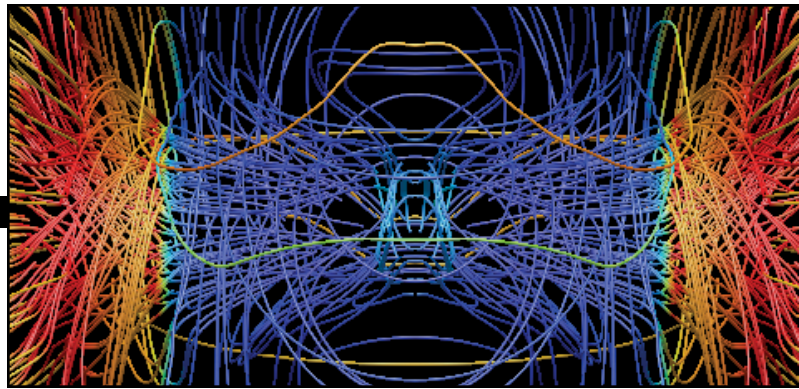
APS signed a memorandum of understanding with the Optical Society of America (OSA) to co-sponsor LaserFest, a celebration of the 50th anniversary of the invention of lasers. Most of the activities will take place in 2010, but planning is already well underway and a LaserFest website can be found at www.laserfest.org.

Physics Central (www.physicscentral.com), the APS outreach website, underwent a comprehensive redesign in 2008 to become more interactive and attract a new audience. New features such as podcasts, vodcasts (video), and a blog were added.

Media relations efforts at the APS focus on increas-

ing coverage of physics research in the popular media, and helping science journalists stay informed about the latest physics news. The APS Media Relations office fields inquiries from the media, assists APS members and staff interacting with media, and alerts members of the media to important physics news and policies. Vehicles for disseminating physics news include APS Tip Sheets (a newsletter consisting of brief summaries of papers accepted in the *Physical Review* journals), the *APS Physics News Ticker* blog (a password-protected compilation of advanced summaries of hundreds of APS journal papers), and press releases announcing APS news originating from sources other than the Society’s journals. In addition, APS Media Relations works closely with the media and government relations staff of the American Institute of Physics to ensure that APS-related news reaches the appropriate media outlets. The bulk of APS media relations activities involve traditional media outlets such as newspapers, magazines, radio programs and television news. However, an increasing portion of media relations activities focus on reaching out to informal media outlets such as blogs, online-only news services, and web pages.

The APS Historic Sites Committee engaged in its 4th successful year of selecting historic U.S. physics sites and arranging for ceremonies at these sites. In 2008, three plaques were presented: on March 3 at Cornell University, honoring the founding of the *Physical Review*; on October 16 at Caltech, honoring the discovery of the positron by Carl Anderson; and on December 9 at Bell Labs, honoring the discovery of the Cosmic Microwave Background at Holmdel, New Jersey by Arno Penzias and Robert Wilson. ■



Thanks to private donations, the Society has been able to continue its very successful Minority Scholarship Program for undergraduate physics majors. In 2008, 27 minority students received scholarships through this program. APS also had its brochure *Explore, Understand, Succeed: Physics*, aimed at minority students, translated into Spanish, in order to encourage Hispanic students in grades 7-12 to study physics and consider physics careers, and to provide information to the parents of these students.

In 2008, APS sponsored a working group with representation from the National Society of Black Physicists, National Society of Hispanic Physicists, and the AAPT to

develop action plans to develop joint programs to encourage more underrepresented minorities to study and succeed in physics. The group is working on joint sponsorships of events and common action on programs, including the 2010 April Meeting, which will be held in Washington DC.

APS awards the Blewett Scholarship for Women in Physics to women who are returning to physics careers after interruptions for family reasons. In 2008, APS was able to make three awards. APS also offered two NSF-funded professional skills workshops for 72 women post-doctoral associates and tenure-track women faculty in physics at the March and April APS Meetings. Participants worked in small groups with four professional facilitators to improve their communication and negotiation skills. ■

PRIZES, AWARDS, FELLOWSHIPS

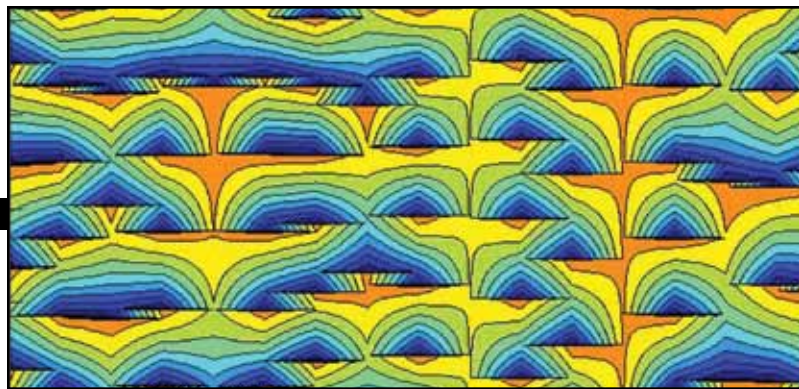
In 2008, APS bestowed 42 prizes and awards on a total of 57 individuals, covering a broad range of physics research as well as contributions by physicists to the physics community and to society at large. Fifteen prizes were presented at the March Meeting, 18 at the April Meeting, and 10 at various divisional meetings throughout the year.

The year was also marked by the first competition for the new Prize for Industrial Applications of Physics, to be awarded every other year. The selection is done in two stages. In this inaugural year, 16 strong preliminary

nominations were received, and from these the selection committee chose 5 excellent finalists. The second stage involved picking the recipient from among the finalists, and the Prize will be presented for the first time at the 2009 March Meeting.

The Society also elected 225 Fellows in the fall of 2008. Election to Fellowship represents recognition by one's professional peers, and is highly competitive because it is restricted to at most 1/2 of 1% of the Society membership in any given year. ■

MEMBERSHIP



The official APS member count taken for this year, 47,189, is up more than 900 from the previous year and is again a new record. Most of the growth came in the Student member category, and engaging those student members in Society activities provides a bright outlook for the stability of the APS membership. There also continues to be a significant international component, with approximately 10,000 members, or 21%, from outside the US.

APS units continued to thrive, with most increasing their memberships in 2008. Many units also got new websites with improved capabilities as their websites were brought into the same format and content management as the main aps.org site. In addition, a new unit, the Prairie Section (PSAPS), was initiated in 2008, covering Illinois, western Indiana, Iowa, Minnesota, Missouri, Wisconsin,

and neighboring regions to the west. Its inaugural meeting is planned for November 2009 in Iowa.

A general membership survey to a random sampling of approximately 5,000 regular and junior members was completed this year. The survey's intent was to update statistics from earlier surveys and gain current feedback on membership programs and services. The results of this survey will be used to reexamine the priorities for new APS activities and membership benefits.

The "Friends of APS" program, started in 2000, has increased to 159 participating institutions. Friends are APS members who have agreed to help facilitate communication with current and potential members. Throughout the year, information is sent to them regarding membership, programs, and benefits. This can be shared with colleagues and students. The Friends program is a useful tool in retaining and attracting APS members. ■

CAREERS

In 2008, the APS Committee on Careers and Professional Development worked extensively to improve the content and organization of the careers website (www.aps.org/careers), which resulted in significantly increased traffic to the site. The APS Online Career Center (careers.aps.org) saw a 30% increase over 2007 in jobseeker registrations, and a 52% increase in jobs posted, for a total of 334 jobs. APS and AAPT also began work on a new careers website, the Physics Careers

Resource, which will be part of the NSF-funded joint society digital library called ComPADRE. APS continues to sponsor career fairs and sessions at the national meetings to help members improve their resume and job interview skills. The April 2008 meeting featured a panel from national labs, industry, and university faculty who shared their thoughts about how to apply for hidden jobs, marketing your skills, and networking. ■

The tables and charts in this section summarize the financial operations of the Society as of December 31, 2008. The table headed Financial Position shows the final financial position of the Society for 2007 and 2008.

The table headed Statement of Activities shows the financial activities of the various components of the Society for the 2007 and 2008 fiscal years. The distribution of operating revenues and expenses across the components of the Society is also displayed graphically in the accompanying figures.

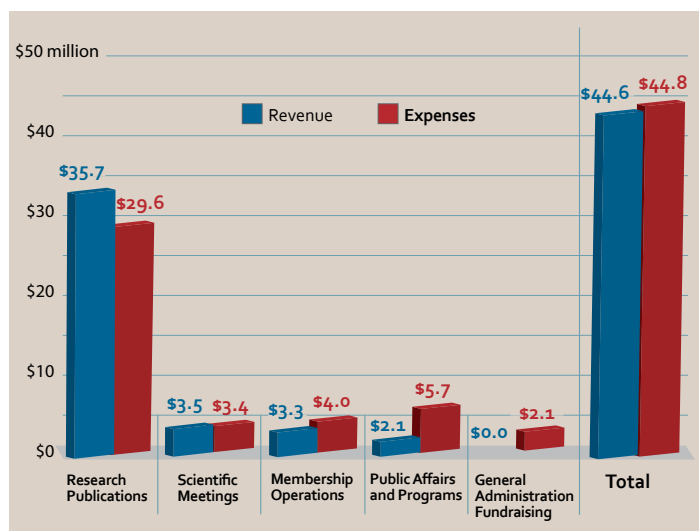
During the fiscal year 2008, the total assets of the American Physical Society decreased from \$135.1M to \$105.6M, while the Society's liabilities decreased to \$29.0M from \$30.9M the previous year. Net assets at the end of fiscal year 2008 were \$76.7M, compared with \$104.2M at the end of 2007. These net assets include \$11.2M in restricted net assets, which are funds for prizes and awards and for the programs of the current capital campaign, and which increased slightly from \$10.4M at the end of 2007. The unrestricted net assets include the Society's operating accounts (cash and cash equivalents), totaling \$17.0M at the end of 2008, and its investments in equities and fixed-income issues. During 2008 these investments decreased in market value by approximately 27%, from \$105.5M

on 12/31/2007 to \$77.0M on 12/31/2008, reflecting the world-wide financial crisis.

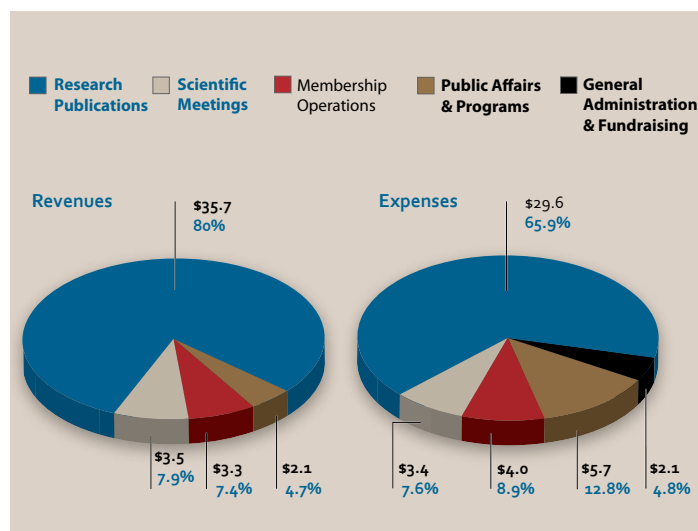
During 2007, the APS adopted FASB Statement 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans. Statement 158 requires APS to show the unfunded status of its post-retirement health plan as an accrued liability, and to show as part of net assets the net deferred and unrecognized gains and losses related to the plan. Previously, the net deferred and unrecognized gains and losses were netted in the accrued liability recorded for the post-retirement health plan. The impact on the balance sheet for 2007 was a decrease of \$326,762 in the accrued liability for post-retirement benefits and an addition of \$326,762 to the unrestricted net assets. The impact on the balance sheet for 2008 was an increase of \$98,593 in the accrued liability and a reduction of \$98,593 to the unrestricted net assets.

Business Continuity Plans (BCPs) are in place for the College Park, Washington, and Ridge offices. The BCPs provide action plans in the event of a disruption of normal operations by natural or manmade events. The BCPs include contact names, checklists of orderly procedures, and plans for off-site operations if necessary. The BCPs are updated annually and a report on their status is made to the audit committee. ■

OPERATING REVENUE & EXPENSES (IN \$M)



STATEMENT OF ACTIVITIES (IN \$M)



FINANCIAL POSITION

AS OF DECEMBER 31, 2008 AND 2007

	2008	2007
ASSETS		
Cash and cash equivalents	\$ 16,968,068	\$ 17,373,017
Investments, at fair value	77,012,043	105,534,845
Accounts receivable:		
American Institute of Physics	3,930,607	4,713,752
Other, net of allowance for doubtful accounts of \$87,000 and \$179,000 in 2008 and 2007, respectively	777,945	1,104,656
Pledges receivable, net	553,750	278,844
Prepaid expenses and other assets	836,762	769,467
Equity interest in American Center for Physics	1,408,222	854,064
Land, building and equipment, net	3,738,828	3,934,425
Beneficial interest in perpetual trust	404,391	495,594
Total assets	<u>\$ 105,630,616</u>	<u>\$ 135,058,664</u>
LIABILITIES AND NET ASSETS		
Liabilities:		
Accounts payable	\$ 2,851,852	\$ 2,534,869
Deferred revenues:		
Publications	12,608,560	16,161,312
Membership dues	2,599,219	2,577,963
Other	58,563	42,679
Liability for post-retirement medical benefits	10,857,806	9,576,501
Total liabilities	<u>28,976,000</u>	<u>30,893,324</u>
Commitments and contingencies		
Net assets:		
Unrestricted	65,430,644	93,787,828
Temporarily restricted	9,164,086	8,234,350
Permanently restricted	2,059,886	2,143,162
Total net assets	<u>76,654,616</u>	<u>104,165,340</u>
Total liabilities and net assets	<u>\$ 105,630,616</u>	<u>\$ 135,058,664</u>

STATEMENT OF ACTIVITIES

FOR YEARS ENDED DECEMBER 31, 2008 AND 2007

	2008	2007
Changes in unrestricted net assets		
Revenues		
Research publications	\$ 35,694,609	\$ 34,142,275
Scientific meetings	3,527,503	3,974,203
Membership operations	3,321,681	3,335,004
Public affairs and programs	1,652,177	1,600,948
Net assets released from restrictions	432,169	568,884
.....	44,628,139	43,621,314
Expenses		
Research publications	29,547,269	27,017,933
Scientific meetings	3,413,679	3,878,662
Membership operations	3,980,972	3,533,830
Public affairs and programs	5,300,039	4,646,516
Prizes and related costs	432,169	568,884
Total program services	42,674,128	39,645,825
Expenses from supporting services		
Fundraising	465,670	447,981
General and administrative	1,679,581	1,571,047
Total supporting services	2,145,251	2,019,028
Total expenses	44,819,379	41,664,853
Income (Loss) from operations	(191,240)	1,956,461
Non-operating activities		
Income from investments	2,803,703	5,292,250
Net unrealized and realized gain (loss) on investments	(31,425,211)	1,782,524
Equity interest in American Center for Physics	554,158	446,960
.....	(28,067,350)	7,521,734
Change in unrestricted net assets before effect of adoption of FASB Statement No. 158	(28,258,590)	9,478,195
Effect of adoption of FASB statement No. 158	(98,593)	326,762
Change in unrestricted net assets	(28,357,183)	9,804,957
Change in temporarily restricted net assets		
Contributions	708,988	768,298
Income from investments	652,917	604,958
Net assets released from restrictions	(432,169)	(568,884)
Change in temporarily restricted net assets	929,736	804,372
Change in permanently restricted net assets		
Contributions	(83,277)	41,459
Change in permanently restricted net assets	(83,277)	41,459
Change in net assets	\$ (27,510,724)	\$ 10,650,788

2008 CONTRIBUTIONS & GIFTS

APS is grateful for contributions from corporations, governmental agencies, national and international labs, foundations, and individuals that make possible the numerous education and outreach programs of the Society. In 2008, APS benefited from gifts to its 21st Century Campaign; new and existing prizes and awards; its annual gift fund supporting education, international and public affairs; the Bequest Society; special unit funds; and record sponsorship of the on-line journal *PRST-AB*.

The biggest accomplishment in 2008 was the successful completion of the 21st Century Campaign which will declare victory with the announcement that it raised \$4.3 million, substantially more than its goal of \$3.5 million. The Campaign's funds are providing needed support for APS programs that improve science education, inspire teachers and students, and attract great numbers of women and under-represented minorities to the sciences. More information about the specifics of these programs is available on the APS website: www.aps.org/about/support/programs.cfm.

Prize and award achievements in 2008 included a five-year renewal of support from Research Corporation for the Prize to a Faculty Member for Research in an Undergraduate Institution; holding a twenty-five year commemorative dinner for the Sakurai Prize and raising its

stipend to \$10,000; raising the Bethe and Bonner Prizes to \$10,000; supporting Polymer prize individual fundraising efforts, which in combination with support from Dow Chemical Company endows the Polymer Prize as of 2010; and successfully negotiating with several annual sponsors to enable them to continue their support of APS despite difficult economic conditions.

Planned giving to the Society was promoted in 2008 through an Estate Planning Session at the March Meeting in New Orleans, the distribution of planned giving brochures to members, and a special mailing to members letting them know about the renewed opportunity to donate to APS tax-free through their IRAs. The Bequest Society continues to welcome new members and interested individuals are encouraged to contact the Development Office to discuss options.

Annual giving in conjunction with membership renewals and as a result of special mailings continued to provide critical support to key programs of the Society. Approximately \$300,000 was received in annual gifts from members. Receptions for APS Fellows, which recognize this key constituency of the Society, were held in Santa Fe and Chicago this year.

We are grateful to all donors to the Society and are pleased to provide special recognition to those contributing \$100 or more in 2008 by listing their names in this Annual Report. ■

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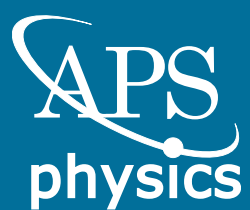
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Cover images, background: Reconstructed path from a high energy cosmic ray as detected by the Pierre Auger array in Argentina, which includes thousands of ground detectors (dots) and four ultraviolet fluorescence telescopes around the perimeter (Pierre Auger Observatory). *Inset images, left to right:* A set of disks, like coins on a table, is squeezed from two sides (top and bottom of image); the more pressure a disk feels, the brighter it appears in this image, which shows the resulting network of "force chains" that include many of the disks (Jie Zhang, Duke University). An electric field applied to this liquid crystal generates two "defects" — points where the orientation of the rod-shaped molecules varies in a special way, indicated by the four-fold swirls (Ingo Dierking, University of Manchester). Anthraquinone molecules form chains that weave themselves into a sheet of hexagons on a polished copper surface (Ludwig Bartels *et al.*, University of California, Riverside). *Page 2:* The "mat" pictured here was made by mixing nanotubes in water and draining the water away through nanoscale filters to leave behind this delicate nanotube structure (Michael Baum, NIST). *Page 3:* To study the physical processes that create eroded channels and drainage networks, water is allowed to seep through "sand" consisting of glass beads, which are then imaged with a specialized laser-aided topography technique (Braunen Smith and Arshad Kudrolli, Clark University). *Page 4:* A new technique folds simple sub-millimeter shapes from sheets of rubber using only the force of surface tension from a drop of water (Phys. Rev. Lett. **98**, 156103 (2007)). *Page 5:* A cylinder oscillating transversely in water, producing a "centrifugal instability," as shown by fluorescent dye (Miguel Canals and Geno Pawlak, University of Hawaii). *Page 6:* One of the first images from CMS, a detector at the Large Hadron Collider at CERN, showing the debris detected after the beam was steered into it on 10 September 2008 (CERN). *Page 7:* Fluorescent image of a bacterial colony (*E. coli*) grown from a mixture of two different strains; the pattern reveals the spatial segregation of lineages as a population expands (Oskar Hallatschek, Max-Planck Institute for Dynamics and Self-Organization). *Page 8:* Magnetic field lines from a simulation of a supernova, showing the effects of rotation (Adam Burrows, Princeton University). *Page 9:* Simulated neural system responding to real visual input from a webcam. Horizontal axis is neuron number, vertical axis is time. Neuron voltages shown as color values (Lyle N. Long, Pennsylvania State University). *Annual Report Design:* Leanne Poteet/APS/2009



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