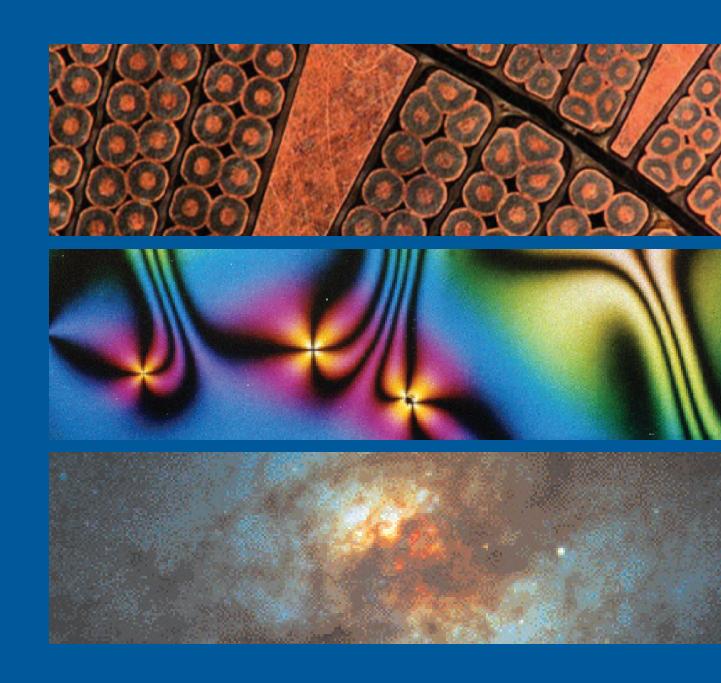


# Annual Report



#### 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.

Cover photos: *Top*: Wires in a superconducting magnet coil (Fermi National Accelerator Laboratory). *Middle*: Thin liquid crystal film after rapid cooling through a phase transition, showing topological defects — points in the image where four dark regions converge (Oleg Lavrentovich, Kent State University). *Bottom*: Super star clusters in the heart of the galaxy Ar 220 as seen by the Hubble Space Telescope's Advanced Camera for Surveys. NASA, ESA and C. Wilson (McMaster University, Hamilton, Ontario, Canada).

n 2006 APS marked several milestone achievements. Membership in the Society grew by more than 2000, passing 45,000. Many of these new members are students, which bodes well for the future of physics and APS. The APS March Meeting had over 7400 participants, an all-time high and an astounding number for those of us who remember that when this figure reached 4000, people complained the meeting was too large! Submission of articles to APS journals also continued its growth, and wonderful new scientific results were published: unbelievable precision in the electron's magnetic moment, new evidence for dark energy in the early universe, antimatter hydrogen atoms, new insight into the properties of graphene, energy landscapes predict gene regulation, and many more.

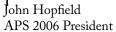
Increasing the funding for physics research and education continued to be a top priority for APS in 2006. The year started with the importance of the physical sciences for national competitiveness highlighted in the President's State of the Union Address. APS, along with many other organizations, had worked extremely hard to get this national attention, and these efforts continued unabated throughout the year as the President's budget was debated by Congress. With many ups and downs along the way, we now know that our efforts have not been in vain, and NSF, the DOE Office of Science and NIST have received the first installment of the increases that should double their budgets in the next ten years.

Through the work of the APS Panel on Public Affairs (POPA), the Society prepares studies and reports that advise the Administration and Congress on physics-related issues of public concern. This year POPA subcommittees concentrated on energy-related issues, interim storage of nuclear waste and electricity storage, as well as concerns about the introduction of "intelligent design" in science classrooms.

APS made a special effort to reach out to various groups throughout the year. A Task Force on APS Industrial Members considered the special concerns and needs of this important part of APS membership and came up with good recommendations, many of which are now being put into practice. A new website, with new technology and structure was implemented to better serve APS members and to communicate better with policy makers and the public. In addition, a new Committee on Informing the Public was initiated to advise APS on its increasing activities in this area. Improving the education of physics teachers remains a major priority for APS, and I'm pleased to report that our programs to involve more universities in these efforts have been flourishing.

During the year, Tom McIlrath, APS Treasurer and Publisher, retired after 10 years of meritorious service, leaving the Society in good financial shape. Joe Serene was welcomed as the new Treasurer/Publisher, and I believe that he will serve APS with equivalent insight and expertise.

With APS journals and meetings thriving, our new logo "APS Physics" making it clearer to policy makers and the public who we are, and with the APS membership growing in both size and range of activity, the Society is in a strong position to face the future.



John M. Hopfield



False color view of supernova remnant Cassiopeia A combining x-ray, visible, and infrared images. (NASA/CXC/SAO/STScl/JPL-Caltech, see http://chandra.harvard.edu/photo/2005/casa/)

The APS Free to Read program allows individuals or institutions to pay a comparatively low fee to have access on the APS site to full text versions of

articles without subscriptions.

## **Journals**

► hange is certainly a constant, but 2006 had even more of it than usual in the areas of personnel, technology, and the physical environment at the APS Editorial Office. Along with their Maryland colleagues, Editorial Office staff bid a fond goodbye to Publisher and Treasurer Tom McIlrath in October. Joe Serene, with a background in academic administration and a strong knowledge of APS and its journals, stepped ably into that position. Charlie Muller also retired as Director of Journal Operations. Muller had been employed by APS in a number of locations and capacities since 1981, and most recently played a key role in streamlining and modernizing editorial support processes. Christine Giaccone moved up to the Director position upon his departure.

Towards the end of the summer, the news arrived that Gene Sprouse, a nuclear physicist and professor at the State University of New York, Stony Brook, had been selected to succeed APS Editor-in-Chief Martin Blume, who retires on February 28. Sprouse became involved almost immediately, attending meetings and events, dropping in on staff, and browsing the office and organization websites. He joined the staff full time as of January 22, 2007.

In September, APS announced its Free to Read open access program. Free to Read allows individuals or institutions to pay a comparatively low fee—\$975 for a Physical Review (PR) article and \$1300 for Physical Review Letters (PRL)—to allow access, on the APS site, to the full text versions of articles at no cost to readers without subscriptions. Not limited to recent articles, Free to Read can be applied to any articles from APS's complete archive. Several papers of current or historic interest to the general public, as well as an entire issue of Reviews of Modern Physics, were made Free to Read by the APS to inaugurate the program, and CERN has also financed two articles. About 20 more have already been purchased or are under consideration for Free to Read. The Free to Read model promises better sustainability and flexibility than other such schemes, and it joins the Special Topics journals (in Accelerators & Beams and Physics Education Research) as part of the open access offerings sponsored by APS.

Following recommendations from the recent PRL Review Committee and others, the editorial staff developed and tested a scheme for selecting a small subset of Letters each week for special attention. "Editors' Suggestions" has now been implemented. PRL editors nominate a few Letters each week, and an

internal PRL committee marks a subset of those as "Suggestions" for being particularly interesting and clear to readers who want to venture outside of their own fields and their usual interests. The goal is to encourage broad reading and to foster unity in physics.

The Electronic Office Project (EOP) continued its progress in 2006. Two major systems have increased efficiency, reduced delays, and sped processing time. One accelerates the processing of incoming submissions; the other enables streamlined check-ins of new papers as well as updating, correcting, and proofing of database entries. The "paperless office" liberated substantial square footage formerly devoted to paper files, but the space was quickly gobbled up for new offices.

Now that the EOP is nearing completion, the skills, momentum and human resources marshaled for it will be directed to a new initiative, Journal Innovations (JIN), which was funded by the APS Council in the fall of 2006. JIN will develop new services and new content that will highlight and supplement traditional journal articles.

The *Physical Review Focus* web site (focus. aps.org) continued to produce weekly, broadly accessible accounts of selected recent papers from the Physical Review journals, along with attractive images. Focus also covered four pa-



Theoretical polymer density map of a nanoparticle with "hair" made of polymer molecules. (J.-R. Roan, Phys. Rev. Lett. 96, 248301 (2006), see http://focus.aps.org/v17/st22)

pers from the Physical Review archives, all of which led to Nobel Prizes, on the discovery of the positron, wave-particle duality, nuclear magnetic resonance, and the theory of superconductivity.

The annual increase in submissions to the Physical Review is not exactly news anymore, although there was a slower rate of increase in 2006. In four months of 2006, submissions were below or virtually equal to submissions in that month the year before. Overall the increase for 2006 was 4.1%, compared to 5.7% in 2005.

# **Scientific Meetings**

The annual March and April meetings were again very successful. The March ▲ Meeting, held in Baltimore, was the largest ever. More than 7,400 people attended and more than 6,800 abstracts were submitted for invited, contributed and poster sessions. The attendees included 2,660 students and 1,460 international scientists. Both of these numbers have increased considerably in recent years. More than 1,100 new members joined APS during the March Meeting registration process.

Two pre-meeting workshops were held,

one on opportunities in biology for physicists and one on teaching quantum mechanics. Several special sessions were held during the meeting, including two evening sessions, entitled Emerging Emergent Phenomena; Intelligent Design: Its Impact and Responses to It and Perspectives on our Energy Future.

The location of the March Meeting in Baltimore afforded attendees the opportunity to participate in scheduled trips to Washington, DC. More than 100 physicists boarded buses to Capitol Hill to meet with their representatives in Congress.

The 2006 April Meeting held in Dallas attracted more than 1.100 scientists. It was joined by the Sherwood Fusion Theory Conference. The program for the April Meeting consisted of approximately 200 invited talks and 700 contributed talks. The plenary talks, added to the program several years ago, continued to draw a large crowd. A special lunchtime talk by Norman Augustine, entitled Rising above the Gathering Storm: Addressing America's Competitiveness Challenges, was also very well attended.

Throughout 2006 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), Plasma Physics (DPP), Particles and Fields (DPF), as well as several meetings sponsored by the Topical Groups and Sections.

A special task force on the future of the April Meeting, chaired by Chris Quigg of Fermilab, reported its findings at the APS Council meeting in November. It strongly recommended that the April Meeting be retained with roughly the same format, but also put forward ideas for a number of changes to enhance the attractiveness of the program. The April Program Committee will now be asked to work with staff to try to carry out these changes.

The 2006 March Meeting was the largest ever. More than 7,400 people attended and more than 6,800 abstracts were presented. More than 1,100 new members joined APS during March Meeting registration.

## Membership

The APS membership showed remarkable growth again in 2006. The official APS member count, 46,293, increased by almost 800 members from the previous year. The growth in membership was spread broadly over subfields of physics, but much of the growth was in the student member category. APS now has almost 11,000 active student members. Membership in the Forum on Graduate Student Affairs is now sufficient for it to elect its first member of the APS Council.

A focused beam of green light from the sun is transformed into blue inside an "up-conversion" liquid. If coupled with certain solar cells, a similar solution could help capture more of the sun's energy. (Phys. Rev. Lett. **97**, 143903 (2006), see http://focus.aps.org/v18/st11)

During 2006, as part of an effort to confront the issue of "intelligent design" and to challenge efforts that dilute science teaching in the nation's public schools, APS helped establish a working group of 29 scientific societies.

In 2006, APS carried out an extensive survey of all of its industrial members. Results were shared with the Committee on Membership and the Task Force on Industrial Physicists. The Task Force, chaired by Charles Duke, put forward eight recommendations on ways that APS could better serve its industrial members, and APS staff is now looking at how to implement them. Initiatives already underway are: upgrading searchable features of the Bulletin of the APS archives, a possible new prize for industrial members, and a strategic agreement with Fortnight Solutions, a company that matches engineering problems with leads for their solutions. The agreement allows the Society's members to use the Fortnight's services at a discount and join its network of experts free of charge.

The APS Member Article Pack was scheduled to include downloads from the *Physical Review* Online Archive by year-end. This means that members will be able to access twenty articles of their choice from all of *Physical Review* going back to 1983 for \$50 per year.

Lastly, APS members now have access to their Member Profiles on the membership website, www.aps.org/membership/services. Contact information can be updated, payment status viewed and services added at any time.

## **Public Affairs**

PS public affairs activities reached a high point in 2006. With guidance and oversight provided by the Physics Policy Committee (PPC) and the Panel on Public Affairs (POPA), APS was active in the areas of energy policy, non-proliferation, "intelligent design" (ID), and funding for science research and education.

The President's decision to feature science and competitiveness in his State of the Union Address represented the culmination of a two-year drive by the Task Force on the Future of American Innovation, which the APS helped found in 2004. The Administration's American Competitiveness Initiative called for investments in science education, visa reforms, legislation making the R&D tax credit permanent, and a plan to double aggregate support of basic research in the physical sciences over ten years. The President's Budget for Fiscal Year 2007, released in early February, featured a 9.3 percent down payment on the ten-year plan.

Scientists rallied around the plan, delivering their message to Congress in hundreds of Capitol Hill visits and more than 4,000 written communications from APS members alone. The House adopted the proposed

spending plan, but in the Senate the initiative stalled. No funding bills reached the floor, except for Defense and Homeland Security.

Congress passed a series of Continuing Resolutions that kept the government afloat, but only at the previous year's spending levels. As the year drew to a close, science was left only with a vague promise that the newly elected Democratic majority would follow through on the bipartisan intention to increase funding for research and education. Staff members in the APS Washington Office spent the holiday season, in concert with industrial and association partners, preparing for a major thrust on science and innovation in January when the 110th Congress would convene under Democratic control. We now know these major efforts led to good results.

On the policy side, APS continued its activities on energy, focusing on two POPA initiatives, one on interim storage of nuclear waste and the other on electricity storage. The study committee on interim storage, led jointly by Roger Hagengruber and John Ahearne completed its work in December, in anticipation of POPA's consideration at its February 2, 2007 meeting. The study committee, comprising nationally recognized experts on safety, cost, security and transportation of nuclear waste, framed its report with advice to



Distance vs. time plot showing atoms entering and then "reflecting" back out of an atom "mirror." (E. Vliegen/ ETH-Zurich, see http://focus.aps.org/story/v18/st3)

members of Congress and congressional staff in mind.

With alternate energy sources assuming greater importance in the national and international arena, POPA elected to initiate a study on electricity storage, which is essential for intermittent sources of electric power, such as wind or solar. The electricity storage committee, co-chaired by Ruth Howes and Sekazi Kauze Mtingwa, attempted to evaluate technical issues, identify the benefits of large-scale storage applications, assess the challenges associated with broadening the use and implementation of storage technologies, and suggest areas where research might have a high-payoff in improving storage technologies.

During 2006, as part of an effort to confront the issue of "intelligent design" and to challenge efforts that dilute science teaching in the nation's public schools, APS helped establish a working group of 29 scientific societies. In order to assess public attitudes on creationism and ID, the group engaged two research organizations that specialize in conducting focus groups and public opinion polling. The participating societies expect to make use of the survey findings in their 2007 education and outreach programs on evolution and ID.

Finally, in September APS hosted a reception on Capitol Hill in honor of the retiring Chairman of the House Science Committee. Sherwood Boehlert. The event was attended by several members of Congress, many Congressional staff, members of the Administration, and numerous representatives of the Washington science policy community, as well as many physicists in the greater Washington area.

## **Education**

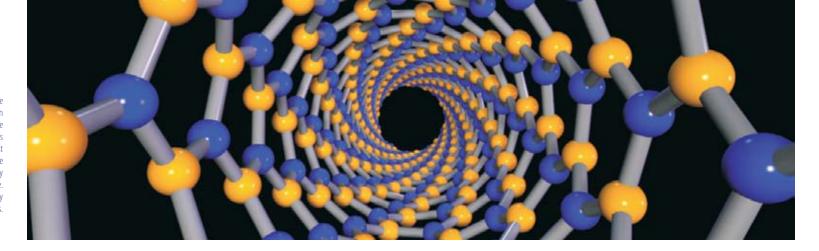
T n 2006, the most significant education effort of APS continued to be improving the Inumber and quality of physics and physical science teachers. The project, the Physics Teacher Education Coalition (PhysTEC), carried out in collaboration with the American Association of Physics Teachers (AAPT) and the American Institute of Physics (AIP), completed its fifth year of a major grant from the NSF (see www.PhysTEC.org). This past year approximately 10% of all new graduating seniors ready to teach physics came from seven PhysTEC-supported university physics departments. This represents on average a doubling at these institutions. Given that only about a third of all high school physics teachers have a physics major or minor, such an increase can have a dramatic impact on the number of well-prepared teachers. This

year, PhysTEC established a database of all teachers graduating from universities within the project in order to collect retention data that will serve as a valuable guide for future initiatives in recruitment and preparation of physics teachers. To expand the influence of this project, APS undertook, with substantial support from corporate gifts and APS members, an expansion of the project to new institutions, with the aim of adding four new sites in 2007. The initial solicitation to universities to gauge interest in becoming one of the new supported sites yielded 45 applications. It is exciting to see significantly growing interest on the part of universities in educating future teachers of physics.

As a second initiative in working to increase the number of physics teachers, APS and its partners encouraged more universities to join PTEC, a Coalition of institutions with a significant interest in physics teacher preparation (see www.PTEC.org). The Coalition doubled its membership to 60 institutions in 2006 and held its second national conference on physics teacher education in March 2006 at the University of Arkansas at Fayetteville. The conference brought together national leaders in physics teacher education, and featured workshops that exposed attendees to critical issues and provided direct experience This past year approximately 10% of all new graduating seniors ready to teach physics came from seven PhysTEC supported university physics departments. Locally, this represents a doubling at these institutions.

Boron nitride nanotubes are materials whose existence theorists predicted before they were synthesized in laboratories. This image is a simulation of a single nanotube. Theory predicts that when doped, this material has the intriguing property that the greatest density of conduction electrons will be along the tube axis. Hence, boron nitride nanotubes can ballistically conduct electrons down the center of the tube.

Reprinted with permission from Physics Today (59, No. 6). © 2006, American Institute of Physics.



APS is also now offering free on-line access to its journals for institutions located in Sub-Saharan Africa.

with innovative ideas that have been shown to improve teacher education.

In collaboration with the AAPT and the American Astronomical Society (AAS), APS is helping to lead several efforts aimed at disseminating innovative materials and ideas in education. APS continues to play an active role in cosponsoring the New Faculty Workshop, now in its 11th year. This workshop, funded in part by the NSF, continues to reach out to a large fraction (about one third) of all new physics and astronomy faculty across the country. The workshop, which features nationally recognized leaders in physics and astronomy education research, presents practical examples of how to implement research-tested pedagogical techniques, and offers help with skills such as time management and active engagement of students in large lecture settings.

A second joint society effort, which also includes the Society of Physics Students, collects and disseminates web-based educational materials through an NSF-funded digital library project (www.compadre.org). APS now directly manages the goals and content of web "portals" on informal science (www.Physics-ToGo.org) and teacher education (new this year, www.PTEC.org), and co-sponsors two others including a portal on physics education research.

In 2006, APS continued to organize High School Physics Teachers' Days at both the APS March and April Meetings. These events offer local high school physics teachers research talks, hands-on workshops, and networking. The March 2006 Teachers' Day in Baltimore was attended by 103 teachers; the April 2006 Teachers' Day in Dallas, by 54 teachers.

## **International**

he year 2006 was an important one for the Society's international programs. During this past year, APS expanded its outreach to scientists in both the developed and developing world through its international lectureships, workshops, travel grant award programs, and journal offerings. Moreover, APS continued to influence federal policies affecting international scientific collaboration.

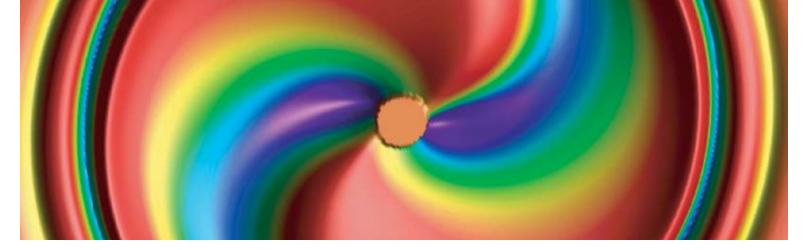
APS recognizes that funding for collaborations between U.S. and developing country scientists is often insufficient to meet existing needs and opportunities. In response to this, the Society expanded its International Travel Grant Award Program (ITGAP). New funding partners came on board in 2006, nearly doubling ITGAP's funding levels and its abil-

ity to promote international scientific collaborations between APS members and physicists in developing countries.

The Society is also offering expanded opportunities to bring distinguished international scientists to the APS March and April Meetings. In 2006, the Society increased the number of Beller Lectureships from one to three. The Society also provides travel support for invited speakers from developing countries and Eastern Europe through the Marshak Lectureship.

In 2006, APS was pleased to be able to expand journal offerings in the Middle East and sub-Saharan Africa. APS is a partner in the Iraqi Virtual Science Library (IVSL). The IVSL is a digital portal that provides Iraqi universities and research institutes with access to millions of articles from over 17,000 scientific and engineering journals. Its goal is to help rebuild the educational and scientific infrastructure in Iraq. APS is also now offering free on-line access to its journals for institutions located in Sub-Saharan Africa. This offer is made available through the International Network for the Availability of Scientific Publications' (INASP) Program for the Enhancement of Research Information (PERI).

APS continued its involvement in projects resulting from the World Conference



Still image from an animation showing two black holes merging. (Campanelli, Lousto, & Zlochower, The University of Texas at Brownsville)

on Physics and Sustainable Development (WCPSD) of 2005, where 300 representatives from nearly 90 countries met in Durban, South Africa to initiate new programs. As a result of the WCPSD, many of these projects have already been launched during 2006. Some of these include:

- Development of workshops for teacher-trainers in Asia, Latin America and Africa that exemplify how active learning methods can be adapted to help meet the needs of students in developing countries.
- Planning for a series of workshops focused upon local energy solutions and appropriate technology for developing regions in Africa.
- · A workshop focused on helping developing country scientists transfer research results from the laboratory to the commercial environment.

Throughout 2006, the Society continued to influence important U.S. government policies that impact visa regulations and export controls. APS had encouraged its members to oppose new federal export control proposals that would severely restrict the ability of foreign scientists to perform research in U.S. universities. Given the outcry from the scientific and higher education community, the Administration backed away from these proposals and announced the creation of a federal advisory committee that would review and collect data, and seek advice on how to shape U.S. export control policy.

APS also worked with the U.S. Department of State for further clarification regarding the need for travelers to relinquish their passports to Consular Officers when applying for U.S. visas. With the help of the State Department, APS spread the word overseas and in the U.S. that it is not necessary to relinquish passports during visa processing, and travelers should feel free to inform Consular Officials that they wish to retain them.

# **Diversity**

In 2006, the APS Committee on the Status of Women in Physics (CSWP) offered Ltwo NSF-funded workshops for 59 nontenured women faculty at the March and April meetings. Participants worked in small groups with four professional facilitators to improve their communication and negotiations skills. CSWP continued to improve the website where prospective graduate students can compare various Ph.D.-granting departments' treatment of women. The site, cswp.womeninphysics.org/results.php, collects information

from department chairs on issues such as family leave, and the fraction of female faculty and graduate students in the department. CSWP also awarded the second Blewett Scholarship to Elizabeth Freeland of the School of the Art Institute of Chicago. The scholarship enables women physicists who have had to interrupt a research career in physics to resume their physics research.

APS awarded 2006-2007 scholarships to 27 minority students under the APS Scholarship Program for Minority Undergraduate Physics Majors. This year, the Committee on Minorities in physics, which acts as the selection committee for the program, saw an increased number of renewal applicants. This reflects the committee's renewed commitment to mentor these minority scholars directly and to work closely with their assigned mentors at their universities to facilitate their success.

Toward the end of the year, APS initiated a project that will produce a brochure, website and poster aimed at attracting more minority students to study physics.

The APS Committee on the Status of Women in Physics offered workshops for 59 non-tenured women faculty at the March and April meetings. APS awarded scholarships to 27 minority students under the APS Scholarship Program for Minority Undergraduate Physics Majors.

Placing surface texture on part of a "wing" in a wind tunnel maintains a smooth left-to-right air flow across that portion of the plate. Without it, the flow is turbulent. (Phys. Rev. Lett. **96**, 064501 (2006), see http://focus.aps.org/v17/st6)

Careers

n 2006, APS Council passed a new Statement on Career Options for Physicists that acknowledges the wide range of career options available to those with physics degrees, and encourages departments to ensure that their programs include educational experiences beyond those traditionally considered. This new Statement will be a starting point for dialogue and further career activities between APS and physics departments.

As a part of this dialogue, the Committee on Careers and Professional Development developed two online resources. The first resource features short summaries of career programs and activities in several physics departments, which can be used by other departments or students evaluating departments. The second resource is a Professional Development Resource Guide to assist students in preparing for a broad spectrum of jobs (www.aps.org/careers).

The APS Online Career Center saw a 16% increase in jobseeker registration and a 20% increase in employer registration to 172 employers in 2006. The APS March and April meetings job fairs continue to enjoy increased participation by employers and jobseekers as well. The March Meeting had 50 employers

who conducted 400 interviews for 353 positions. Thirty-three employers conducted 70 interviews for 105 positions.

# Informing the Public about Physics

Throughout 2006, the APS website for the public, PhysicsCentral (www. physicscentral.com), continued to be a top physics site on the web. It is used as a resource in classrooms around the globe and continually attracts users who are curious about how their world works. APS also continued its popular 2005 offering, PhysicsQuest. This project is a story-based problem that challenges physical science students to perform simple physics experiments that will offer them clues to solve a mystery. The 2006 version, "Benjamin Franklin's Secret Message," was distributed free-of-charge to 8700 classrooms, serving over 150,000 children in the U.S. At the 2006 April Meeting in Dallas, the outreach team organized "An Evening of Cosmology and String Theory with Lisa Randall," a highly successful event for the public which attracted over 700 attendees, a large majority of whom were middle and high school-aged

students. Also in 2006, the APS-produced video "Einstein's Miracle Year" was awarded a CINE Golden Eagle award in the non-telecast children's entertainment and education category in the Spring 2006 competition. Copies of this video have been distributed to thousands of middle school classrooms across the country. Examples of these and other APS public outreach programs can be viewed at www.physicscentral.com/projects.

Media relations efforts at the APS are designed to increase coverage of physics in the popular media, and to help science journalists keep informed of the latest physics news. The APS fields inquiries from journalists, assists APS members interacting with media, and produces and distributes press releases relating to important physics news. In 2006, media relations activities expanded to include reaching out to informal media outlets including web logs (blogs), online-only news services and web pages, and the leading communityassembled news sites such as Slashdot.org and Wikinews.org. Although online-only news resources are rapidly gaining in popularity and respectability, traditional media outlets such as newspapers, magazines, radio programs and television news remain the primary news sources for most people, and also remain the primary targets of APS media relations ef-

The 2006 version of PhysicsQuest, a story-based problem that challenges science students to perform physics experiments, was distributed free-of-charge to 8700 classrooms, serving over 150,000 middle-school children in the U.S.



View of the ALICE Time Projection Chamber, part of the inner detector of ALICE, in a clean room. (© CERN 2005)

forts. APS produces and distributes Tip Sheets and other press releases to point out items of broad interest in APS Journals and meetings. In 2006, these were regularly covered in all of the major US newspapers, including the Los Angeles Times, the New York Times, Washington Post, Wall Street Journal, USA Today and the Associated Press. Tips Sheet items have also increasingly led to web-based news stories, as well as radio features and news items on public, commercial and subscription satellite radio services. APS also organized press activities at the 2006 March and April meetings, resulting in broad coverage of APS meeting news both in the U.S. and abroad. As in past years, a large portion of physics research coverage in 2006 (five to ten percent) was directly attributable to the coordinated activities of APS Media Relations, APS's Physical Review Focus, and AIP Media and Government Relations.

The APS Historic Sites Initiative has the goal of raising the visibility of physics among the public, and highlighting important contributions by physicists, via the presentation and installation of plaques at historically relevant sites. Launched during the World Year of Physics in 2005, the initiative continued strong in 2006. New sites are selected by a special committee, and plaques are presented in ceremonies by members of the APS Presidential line. In 2006, plaques were presented to the Johns Hopkins University in honor of Henry Rowland by APS past-President Marvin Cohen; to the University of Chicago in honor of Robert Millikan by APS Presidentelect Leo Kadanoff; and to Bell Labs in honor of John Bardeen, Walter Brattain, and William Shockley by APS President John Hopfield.

# **Redesigned Website**

n 14 November 2006, a completely redesigned website (www.aps.org) was launched, culminating more than a year of effort. The new site has an updated design and structure, while retaining all the information and services previously available. However, the new site also offers expanded content, with the homepage continually changing to highlight the latest APS information and activities for site visitors. One of the goals achieved by the redesign was to provide easier site navigation for new types of audiences, including anyone with an interest in physics, as well as the media and policy makers in Washington, DC.

# **Prizes, Awards and Fellowships**

Tn 2006, APS bestowed 43 prizes and awards on a total of 52 individuals, most-■ ly for excellence in research, but also for service to the physics community in a variety of other ways. Twenty-one individuals were honored at the APS March Meeting, 22 at the April Meeting, and 9 at more specialized meetings of APS divisions and topical groups.

In addition to its prizes and awards, APS also recognizes members through a Fellowship program. In 2006, the APS Council elected 212 new Fellows of the Society, in keeping with the APS bylaws restriction that the number of new Fellows in a given year be no more than half of one percent of the Society membership. Toward the end of 2006, APS began taking Fellowship nominations online, streamlining efforts for nominators, reviewers and staff, and saving many trees in the process.

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## **Finances**

**DECEMBER 31, 2006** 

he tables and charts in this section summarize the financial operations of the Society as of December 31, 2006. The table headed Statement of Financial Position shows the final financial position of the Society for 2005 and 2006. The table headed Statement of Activities shows the financial activities of the various components of the Society for the 2005 and 2006 fiscal years. The distribution of operating revenues and expenses across the components of the Society is also displayed graphically in the accompanying figures.

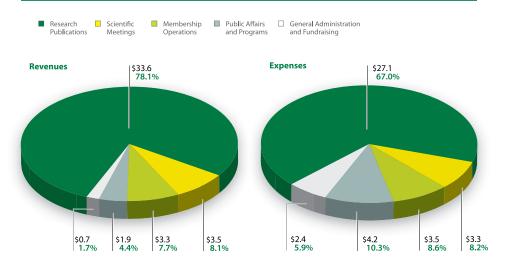
During the fiscal year 2006, the total assets of the American Physical Society grew from \$111.7M to \$125.0M. The Society's liabilities were \$31.4M, up from \$30.2M the previous year. The increase in long-term liabilities is primarily due to post-retirement benefits. Net assets at the end of fiscal year 2006 were \$93.5M, compared with \$81.4M at the end of 2005. These net assets include \$9.5M in restricted net assets and \$84.0M in unrestricted net assets. The restricted net assets are funds for prizes and awards and for the programs of the current capital campaign. The unrestricted net assets are primarily the Society's reserves, which may be used for any of the operations of the Society. The Society's reserves are invested in equities and fixed income issues. During 2006 these investments had a net income of \$9.4M. The budget of the Society is constructed to allow, on average over time, a portion of the income from investments to augment contributions from members in support of the Society's programs, while the remaining portion of this income is reinvested to allow the reserves to grow with inflation.

Business Continuity Plans (BCPs) are in place for the College Park, Washington, and Ridge offices. The purpose of the BCPs is to 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.

### 2006 Operating Revenue and Expenses (in \$M)



### **2006 Statement of Activities** (in \$M)



2006	2005
\$ 21,234,312	\$ 15,264,547
90,977,690	82,198,855
6,006,839	6,715,387
	986,021
,	983,336
	430,769
	518,159 4,144,619
	433,080
\$ 124,953,396 ————————————————————————————————————	\$ 111,674,773
\$ 2,309,218	\$ 1,943,906
	17,393,576
	2,447,176
	131,978 8,331,263
\$ 31,438,844	\$ 30,247,899
¢ 02.002.070	\$ 72,050,165
' '	\$ 72,050,165 7,330,553
	2,046,156
<del></del>	
<del>3 93,314,332</del>	\$ 81,426,874
\$ 124,953,396	\$ 111,674,773
	\$ 21,234,312 90,977,690 6,006,839 753,613 186,336 338,928 1,039,735 3,929,496 486,447 \$ 124,953,396 \$ 2,309,218 17,231,482 2,528,737 241,703 9,127,704 \$ 31,438,844 \$ 83,982,870 7,429,978 2,101,704 \$ 93,514,552

# **Statement of Financial Position**

AS OF DECEMBER 31, 2006 AND 2005

# **Statement of Activities**

FOR THE YEARS ENDED DECEMBER 31, 2006 & 2005

Changes in Unrestricted Net Assets	2006	2005
Revenues:		
Research publications	\$ 33,588,651	\$ 34,022,589
Scientific meetings	3,496,905	3,972,180
Membership operations	3,311,932	3,347,169
Public affairs and programs	1,875,264	2,128,542
Net assets released from restrictions	728,707	622,130
	43,001,459	44,092,610
Expenses:		
Research publications	27,106,551	28,887,220
Scientific meetings	3,308,046	3,452,460
Membership operations	3,475,145	3,424,322
Public affairs and programs	4,164,530	4,521,439
Fundraising	381,046	373,701
General and administrative	1,301,681	981,456
Prizes and related costs	728,707	622,130
	40,465,706	42,262,728
Income from operations	2,535,753	1,829,882
Non-operating activities:		
Income from investments	4,178,278	2,746,920
Net unrealized and realized gains on long-term investments	5,218,674	2,052,633
	9,396,952	4,799,553
Increase in Unrestricted Net Assets	\$ 11,932,705	\$ 6,629,435
Changes in Temporarily Restricted Net Assets		
Contributions	278,355	196,451
Income from investments	549,777	491,658
Net assets released from restrictions	(728,707)	(622,130)
Increase in Temporarily Restricted Net Assets	\$ 99,425	\$ 65,979
Changes in Permanently Restricted Net Assets		
Contributions	55,548	135,994
Increase in Permanently Restricted Net Assets	\$ 55,548	\$ 135,994
Increase in net assets	12,087,678	6,831,408
Net assets at beginning of year	81,426,874	74,595,466
Net Assets at End of Year	\$ 93,514,552	\$ 81,426,874

## 2006 Contributions and Gifts to APS

PS is grateful for contributions from corporations, governmental agencies, national and international labs, foundations and individuals. These gifts are vital for the continuation and expansion of APS education and outreach, international and public affairs programs. They also fund new and existing prizes and awards of the Society. In 2006, APS members again showed outstanding support by giving approximately \$300,000 in conjunction with their membership renewals or at year-end.

This year, APS held the kickoff of the public phase of its 21st Century Campaign. Approximately \$1.8 million has been raised to date on a goal of \$3.5 million. The Campaign's purpose is to raise substantial support for key APS science and education programs with the centerpiece of the campaign being to expand the breadth of the PhysTEC program.

Several prizes and awards saw the culmination of successful fundraising efforts in 2006. The Biological Physics Prize, renamed the Max Delbruck Prize in Biological Physics, reached its endowment goal of \$100,000. The Excellence in Plasma Physics Award was renamed the John Dawson Award for Excellence in Plasma Physics to honor the late UCLA professor, and received support from the Dawson Fund at UCLA. The Dwight Nicholson Medal for Human Outreach reached its endowment goal of \$40,000. The new Excellence in Education Award became fully endowed in 2006 and will be awarded for the first time in 2007.

As in recent years, an estate planning session was conducted at the 2006 March Meeting and proved to be popular with those interested in information about minimizing the taxation of their estate. APS Fellows Receptions were held in Boston and Los Angeles to honor this important constituency of the Society as well as to inform them and seek their advice about APS programs. A new Development Advisory Committee was also established in 2006 and is serving to advise the APS Development Office on future fund-raising initiatives.

APS is thankful to all donors to the Society and is pleased to provide special recognition to those contributing \$100 or more annually by listing their names in this Annual Report.

The Society looks forward to keeping its donors apprised of current program accomplishments and future fund-raising opportunities.

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