Special Programming Planned for 1996 March and Spring Meetings

1996 March General Meeting — St. Louis, MO

Job Market, Science Policy Featured

On 1 December 1995, the deadline for the 1996 March Meeting arrived, and along with it, some 4,400 contributed papers. Together with the over 500 invited presentations that had previously been decided on, this turnout promises to make the 1996 March Meeting one of the largest ever. The meeting will take place at the Cervantes Convention Center in St. Louis, which, fortunately, can house the entire program under one roof. (This has not always been the case).

Over 86 percent of the contributed abstracts came in via the new electronic abstract submission process, demonstrating clearly that such a method of submitting papers to meetings was long overdue. For a look at the complete program, go to the APS Home Page (http://aps.org), under Meeting Programs.

Along with the traditional technical programs made up of the contributed papers and invited symposia, there will be a number of sessions devoted to non-technical topics, and less formal presentations. On Monday morning, 18 March, the Forum on Physics and Society and the Forum on Education will be presenting a panel and open forum on “Science Policy in an Era of Political Change”, which will feature speakers from the political arena. Along similar lines, the Forum on International Physics has a session entitled “The Changing International Environment for Science” on Tuesday morning, 19 March.

There will be several sessions concerning the current job market in physics. On Sunday evening, 17 March, the Forum on Physics and Society will be jointly sponsoring a session with the Forum on Education and the Forum on Industrial and Applied Physics, entitled, “Jobs and Education: A Progress Report and Open Forum.” On Monday, 18 March, the Forum on Education (FED) will be sponsoring a symposium entitled “Beating Today’s Job Market.” As always, the APS will be running a career placement service at the registration desk, with the assistance of the American Institute of Physics’ Career Services Division. APS has also arranged a free career workshop run by AIP on Sunday, 17 March.

1996 May APS/AAPT Meeting — Indianapolis, IN

High Level Unified Physics Featured in Indianapolis

The Joint Meeting of the APS and the American Association of Physics Teachers will be held in Indianapolis, 2-5 May 1996. Planners anticipate the highest attendance at this meeting in many years, due not only to its central location and weekend schedule, but to changes in the program structure and a list of very impressive speakers.

Martin Ped (1995 Nobel Prize winner) will be speaking at the meeting. Kip Thorne, the 1995 Julius E.莉flefeld Prize recipient will be delivering a talk at the Unity of Physics session on Friday, 2 May, as will Carl Wieman, who will be talking about recent results in Bose-Einstein condensation.

Part of the mission of the meeting is to emphasize the unity of the discipline of physics. Toward that end, on Thursday evening, there will be a special tri-divisional colloquium, organized by the Divisions of Nuclear Physics (DNP), Astrophysics (DAP), and Particles and Fields (DPF), entitled “Shadows of Creation: Dark Matter in the Universe” (see IN BRIEF). On Friday, the Unity of Physics session will also feature the retiring APS Presidential address of C. Kumar N. Patel. The DNP and DAP have organized a special memorial session on William A. (“Willie”) Fowler for Friday evening.

The unity of physics is further emphasized by the annual meetings of three APS-divisions coming together in Indianapolis: the DAP, Physics of Beams (DBP), Computational Physics (DCOMP) and the new Topical Group on Gravitation. Each division has its own specialized symposia, as well as sessions co-sponsored and organized by other units of the APS. Some of those sessions are: Precise Experiments in Gravitation; Measuring Fundamental Properties of Complex Materials; Future of Renewable Energy: Efficiency, Fusion, and Fusion; and Particle Beam Processing of Materials.

Other joint sessions include Computations in Beam Physics; Synchrotron Radiation; High Energy Accelerators - Present and Near Term Future; Intense Beams; Beam and Technological Effects; and Control and Diagnostics.

Council Takes Stand on Helium Conservation

At its November 1995 meeting, the APS Council adopted a strongly worded statement calling for measures to conserve and enhance the nation’s helium reserves. Drafted by the APS Panel on Public Affairs, the action was prompted by pending legislation that would require the nation’s helium reserves to be sold off by 2015.

In the rush to downsize government, the helium program has become a metaphor for ‘boondoggle’ among politicians who associate it with blimps and party balloons,” said Robert L. Park, APS director of public affairs, in the December issue of “What’s New,” the Society’s weekly electronic opinion newsletter. “There is scant awareness of helium’s growing cryogenic uses, or of its rapid depletion.”

Helium is a constituent of natural gas from a few “helium-rich” fields in the U.S. Only about half of the helium in the gas pumped from these wells is extracted to supply current demand. Thus, it is inevitably lost to the atmosphere when the methane is burned. Thus, the exhaustion of our helium is determined less by helium usage than by natural gas demand, which is growing. These helium-rich fields are being rapidly depleted.

The federal government does maintain a helium reserve that could supply the current market demand for about ten years, but demand is growing at about 10% per year. Unfortunately, current legislation aimed at balancing the budget, calls for selling off even this meager reserve by the year 2015 — about the time the helium rich fields will be exhausted.

The text of the APS statement follows. The American Physical Society is profoundly concerned about the potential loss of the nation’s accumulated helium reserves. Helium is essential for achieving the extremely cold temperatures required by many current and emerging technologies, as well as for advanced scientific research. The overall demand for helium has been steadily increasing, and there is every reason to believe that this trend will continue.

Although the United States is fortunate in having a greater abundance of this critical element than any other nation, the supply has severe natural limits. Helium is economically extracted from natural gas. If not extracted, the helium is irretrievably lost to the atmosphere when the gas is burned. For this reason, the federal government prudently established a reserve, and legislation now being considered would dispose of virtually this entire helium store within two decades.

In view of the importance of this unique and irreplaceable natural resource to modern science and technology, The American Physical Society urges that measures be adopted that will both conserve and enhance the nation’s helium reserves. Failure to do so would not only be wasteful, but would be economically and technologically short-sighted.

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Insert
Novel Plasma Applications Highlight 1995 DPP Meeting

More than 1,200 plasma scientists gathered in Madison, Wisconsin, to hear about the latest in plasma applications, as well as plasma transport, laser physics, and helicon sources. A key challenge in today’s hydrodynamic (MHD) process, during the 37th annual meeting of the APS Divi- sion of Plasma Physics (DPP), held 6-10 November, Over 1,450 papers were presented, including five review and prize addresses and 50 invited talks. There were three special evening sym- posia and panel discussions on challenges to physics graduate education, future directions in plasma physics and fusion research, and short-pulse lasers and wakefields. 

In addition, the DPP program included sessions on: career employment issues, including one focusing on mid-career changes; science education; public out- reach; government science policy; women in plasma physics; and human rights, among others.

Plasma Applications. Researchers at the Princeton Plasma Physics Labora- tory, in conjunction with the Charged Ionization Corporation (CIC), have been working to simulate ionization and its applications to fuel injection, paint spray, and agriculture, among other areas. The team analyzed charged droplet formation, and found that the capillary force — such as a droplet and multi-modal droplet distributions for a given charge-to-mass ratio. In addition to the advantage of simplifying the numerical modeling effort was made to help develop electrostatic sprays at unlimited flux rates with arbitrary drop- 

Improvements in plasma processing — particularly high-density RF plasma sources — have been developed and applied to a wide variety of etching applications, as well as plasma transport, and plume-solid interactions. The newest of these is the helicon wave — a low-frequency whis- 

The pulsed laser ablation technique for deposition of thin films has proven ex- tremely successful at growing high-quality films of very complex and novel materials, as well as having the high-temperature superconducting compounds and diamond-like carbon. Modeling this can be difficult because of the complex plasma-etching interactions at the target, plasma for- mation off the target, vapor/plasma plume transport towards the deposition substrate, and plasma-solid interactions at the substrate. Scientists at Oak Ridge National Laboratory (ORNL) have de- 

As a result of this new technique, the observed instabilities driven electro- 

Transport and Self-Organization. Chaotic radial transport plays a central role in the formation and evolution of energetic particle populations trapped in planetary magnetospheres. A recent experiment at Columbia University used electron-cyclotron resonance heating to create a localized population of mag- 

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Council Approves Mass Media Fellowship Program

In a November, the APS Council approved a proposal from the Forum on Education (FED) to establish an APS Mass Media Fellowship program to enable advanced physics students to spend up to three months working in the mass media. Its purpose is to improve communication and mutual understanding between physicists and the media, thus leading to better coverage and more accurate reporting of scientific topics and increased scientific literacy of the general public.

The program will be administratively coordinated with a similar existing program of the American Association for the Advancement of Science (AAAS).

Initially, the fellowships will be for two physicists in early stages of their careers, according to David Bodansky, chair of the APS Panel on Public Affairs. The proposal. The cost of the program was estimated to be $220,000, to be covered by gifts to the APS from other types of programs. The program would be funded by the nonprofit organization.

"Physicists generally agree that the public doesn't understand or appreciate the real value of physicists' work," said FED Chair Ruth Howes (Ball State University). "Frequently we contrast inadequate media coverage of physics research with physicists generally agree that the public doesn't understand or appreciate the real value of physicists' work," said FED Chair Ruth Howes (Ball State University). "Frequently we contrast inadequate media coverage of physics research with physicists' work — now used in virtually all the physical and biological sciences — and radiation diagnostic and therapeutic medical applications. These developments were aided by Fano's work to achieve a deeper understanding of the structure of atoms and molecules and the ways they interact with light, electrons, and each other.

Fano, 83, will receive the award for pioneering contributions to the theory of atomic and radiation physics, work that has had great implications for the field of nuclear medicine. Kamien, 82, will receive the award for his discovery of Carbon-14 and his development of its use as a tracer atom.

Fano's research has been important to the development of both the gas laser — now used in virtually all the physical and biological sciences — and radiation diagnostic and therapeutic medical applications. These developments were aided by Fano's work to achieve a deeper understanding of the structure of atoms and molecules and the ways they interact with light, electrons, and each other.

Born in Turin, Italy, Fano earned his doctorate in mathematics at the University of Turin. His postdoctoral work contributed papers in chemistry, physics, biosciences, medicine, nonlinear optics, ultrafast phenomena, and instrumentation, with attendees from all of the physical and biological sciences.

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CIFS to Petition China

At the March and May meetings the Society's Committee on the International Freedom of Scientists (CIFS) will be co-sponsoring a petition signing station with the New York-based Committee of Concerned Scientists. The petition will be on behalf of imprisoned physicists and scientists in the People's Republic of China and will be sent to China's President Jiang Zemin and Premier Li Peng. A reception to kick off the signature drive will be held at 6 o'clock on the evening of Sunday March 17, 1996. All March meeting participants are invited to attend. CIFS hopes to see the signatures being added to the petition as quickly as possible.

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A study in this issue of APS News discusses the statement on "Conservation of helium" adopted by the APS Council at its meeting on November 19, 1995. It was a bold action, calling for conservation and enhancement of the nation’s helium reserves at a time when pending legislation calls for abolishing the reserve. Faced with the prospect of severe cuts in science spending over the next seven years, most scientific groups have been reluctant to speak out on issues that might offend powerful members of Congress. But silence carries its own risk.

Most political leaders share in the general scientific illiteracy of the public. Their decisions on scientific and technical issues, therefore, should be informed by the views of the scientists. Also, the scientific community has been notoriously timid about letting its views be known on controversial issues. This is particularly true in the case of what might be called politically motivated science projects, that is, projects that are funded primarily because they address particular political objectives, rather than because of their promise in advancing scientific understanding. The prevailing view seems to be that nothing is to be gained, and might well be lost, by speaking out on the scientific merits of such projects.

The "nothing-to-be-gained" argument contends that funds taken from these politically motivated projects will not go to worthy science, but will be lost to science altogether. It’s a seriously flawed argument. Funding is limited. In opposing politically motivated projects, scientists aren’t looking for a transfusion, they’re trying to stop the bleeding. The “might-might-be-lost” argument holds that the statement itself may be politically unpopular, and runs the risk of alienating powerful members of Congress who may otherwise be friends of science. But taking a position based on the temporary occupants of political office is short sighted and foolish. Nevertheless, these arguments have intimidated much of the scientific community.

Not so the physicists. In 1991, ignoring veiled threats of retaliation, the Council adopted a position on the manned space station stating that, “Scientific justification is lacking for a manned space station in Earth orbit.” The statements of the APS Presidents and the Nobel Prize (in the January issue of APS News) about the manned space station wereresepective of such arguments. The APS President takes his name spelled Albert Michelson. I would like to applaud Alan Fowler’s article, “What Has Happened To Research at Industrial Laboratories?” Fowler correctly points out that a successful economy cannot be sustained without continued investment in basic research. I share this view, but feel that it is becoming a minority viewpoint within the physics community. It seems that physicists have been ac-

OPINION

In the January issue of APS News, we mistakenly identified Robert R. Wilson (APS President, 1985) as the winner of the Nobel Prize in 1978. The 1978 Nobel Prize went to R.W. Wilson (along with Arno Penzias) for “work that made it possible to obtain information about cosmic processes that took place a very long time ago, at the time of the creation of the universe.” R.W. Wilson did not serve as APS President — although it would have been nice if he had. We have now informed him that the first APS President would have preferred his name spelled Albert Michelson.

I would like to applaud Alan Fowler’s article, “What Has Happened to Research at Industrial Laboratories?” Fowler correctly points out that a successful economy cannot be sustained without continued investment in basic research. I share this view, but feel that it is becoming a minority viewpoint within the physics community. It seems that physicists have been ac-

ut the way. However, the industries that are abandoning long-term research due to the quarterly market pressures must also realize that the “worthless” basic pat-

ets are in the short term, if pursued purely for profit, they lead to disaster in the long term.

Basic research should be aggressively funded by the federal government be-

cause it is the raw material from which technologies are built. The laser and the transistor are just two examples of technologies which have transformed society, and which could not have been conceived of without the basic under-

standing of matter and energy which basic research provided. Product de-

velopment and applied research are equally important and should be pur-

ased just as aggressively.

Alan B. Fowler’s thoughtful analysis of the changing research climate in our country with respect to industrial research labs has one startling omis-

sion from its considerations: research at multi-disciplinary national lab-

oratories. Although single-purpose labs might well be excluded as too nar-

rowly focused, laboratories such as Los Alamos (where there are at least a half dozen to which this applies) are extremely well suited “to dig into an innovation on the three-
to-10 year span,” as evidenced by many and recent successful product creations and transfers to industry. We are “particularly adept at the cross-disciplinary efforts required” that Fowler finds lacking at universi-

eties.

John R. Saylor

Naval Research Laboratory

The changes are in the direction is wrong. More and more, basic research is becoming a minority viewpoint within the physics community. It seems that physicists have been ac-

cept its legislation (H.R. 359) to establish a patent term of 17 years from 20 years from filing, whichever is longer. Such a formula would protect breakthrough inventions, which often take five to 10 years to be processed by the Patent Office and are therefore favorably treated for basic research. However, applied research should be done in in-house laboratories, and has been eminently better prepared and motivated to do such work than universities or fed-

eral laboratories. Basic research, on the other hand, will always find a limited role in industry since the quarter-time scale upon which companies must operate makes the decades-long time scale of basic research untenable. Thus, the fed-

eral government is the only embodiment capable of funding the basic research ef-

fort which will provide the knowledge and understanding necessary for the de-

velopment of new technologies.

The community of physicists seems to want funding for basic research. It is, however, reticent in stating its case forcefully. Rather, we tend to move along with the general winds even when we feel the direction is wrong. More and more, physicists are adopting the view that the pursuit of basic research is an “investment.” It is my hope that this trend will reverse itself and that physicists will cease to apologize for their success and demand funding for basic research. The community believes it is deserved, but because it is necessary.

Let us be clear: the transistor is not the last scientific discovery which will trans-

form the human race. Other profound and fundamental discoveries await. The important question is not whether these discoveries will occur; but where.

John R. Saylor

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is not surprising in light of their abandon- 
ment of basic research in recent years, as Dr. Fowler noted.

Universities and inventor groups have strongly supported H.R. 359 and opposed further weakening of American patent rights. The scientific community has been eloquent or needlessly temporing. It is clear that over dependence on government funding has blinded scientists to the possibilities of research funding from the private sector. The decimation of industrial laboratories proceeded while physicists were learning to walk on the sidelines, just as patent protections are being undermined today with our silent acquiescence.

Alan Fowler has aptly described the apparently dwindling prospects for American industrial — and academic — physics. I would like to suggest at least a rosier light at the end of the tunnel.

The “pure” versus “applied” dichotomy is an illusion, even though these are convenient categories for politicians. For example the canonical exhibit, the transistor, evolved from 1949 to today’s “silicon empire” by a long, intimate interplay of physics, chemistry and engineering lore. Today’s outpouring of discovery and invention is clearly, owing to the powerful synergy of a like variety of disciplines and efforts. Our problem is not downsizing in the future, but the threatened decline of this broad and deep scientific culture, in which the diversity of research institutions, including industrial, and the ready movement of scientists and ideas between them, is a notable aspect.

The “bottom line now” spirit in industry, that Fowler describes, seems an instance of game theory’s Prisoner’s Dilemma. Any one enterprise, by dropping out of a field, gives the entire science culture, can still to an extent benefit from its existence; but only so long as the others stay the course. Otherwise, all may elect to be impoverished in concert. The challenge is for government to contrive a dispensation where the prosperous alternative, with industry broadly participating together with academia and the public laboratories, prevails. Such though interventions may not be possible during a reign of economic fundamentalists in Congress.

There is indeed “a dance in the old girl yet.” The sciences today are enjoying a remarkable innovative vitality and speed of advance. My choice of exemplar is the technology and uses of atomic-scale observation and atomic manipulation, at solid surfaces. In a few years since the first STM’s, we have a growing capability to “see” via probe force and sensed electron density and “near field” light, elucidated by spectroscopy, and to interfere with individual chemical bonds and push atoms around. The steep learning curve apparently is continuing. Applications in materials science and chemistry (and possibly in electronics) are naturally following. Biology is reported on in Physics Today, December 1995. Practical consequences of the field could indeed come to be more than we are prepared for (such as the ethics of gene surgery). But no one can see as was memorably suggested in 1980 — that our science is about to run out of steam.

Peter J. Price
IBM/T.J. Watson Research Center

Cold Water Thrown on Dowsing...

In reference to the letter by L.W. Frederick et al., (APS News, November 1995), supporting the use of dowsing to find water, we are sorry to pour cold water on their beliefs. They cite work by H-D Betz as evidence of the reality of dowsing. The two Betz papers referred to were examined in an excellent article, “Dowsing Expectations,” by J. Raloff in Science News, 141, 90-91 (1992). The APS reader is urged to read Raloff’s article, which is epitomized by a photograph of one of Betz’s blindfolded dowsers, wearing an obviously incompetent blindfold. Betz is no doubt sincere, but his study is woefully lacking in the sort of controls that are the sine qua non of modern research. Nor must one rely solely on the study by Randi. Almost a quarter of a century ago, a beautifully done study by R.A. Foulkes was published in Nature, 229, 163-168 (1971) — that’s no older than the car one of us drives, so it must still be relevant. Foulkes’ results were in complete agreement with Randi’s.

In most regions, dowsing is no big deal; water is ubiquitous. Pick a spot at random and you’ll probably find water. In fact, however, it may be even easier in thinly populated desert regions, since the population is to be expected along aquifers. Want to find the water? Find the people. As desert enthusiasts, we volunteer for any expeditions to check out these Hydrologically yours, Leonard Finegold, Dressel University and Robert Park, University of Maryland

Upon closer examination, the highly-publicized Betz endorsement of the dowsing stick, offered for sale to the public, is just as less than well-founded. Betz and his colleague Koenig have steadfastly refused to identify the one dowsor who produced most of the data reported, even to the Gesellschaft zur wissenschaftlichen Untersuchung von Parawissenschaften (GWUP), a reputable organization of skeptical scientists in Germany that wished to look into the claims. Furthermore, the press release that preceded the Betz paper referred to it as the result of a “10-year study.” That would imply that 10 years ago, an experiment was launched to gather and assess data on this phenomenon, when in actuality the paper was a summary of 10 years of reports made by the dowser themselves.

Dowsing still is, not to the surprise of most scientists, an unfounded claim. My present challenge, now amounting to U.S. $507,000 for the performance of ONE successful series of experiments establishing the existence of a dowsing facility, remains unclaimed, even by the Quaflo Corporation, who manufacture and sell a $955 high-tech version of the popular bent-coat-hanger version of dowsing stick, offered for sale to boards of education to detect arms and drugs in school lockers.

James Randi
Plantation, Florida

Alan Fowler
IBM, Yorktown Heights, NY

Bay Bridge Connects

Bay Bridge Connects
New studies of various aspects of turbulence and the behavior of single strands of DNA in aqueous suspensions were among the highlights of the 1995 APS Fluid Dynamics Division of Fluid Dynamics, held 19-21 November in Irvine, California. More than 850 contributed papers were presented, including high-speed imaging and visualization. The meeting also featured the 13th Annual Gallery of Fluid Motion, an exhibit of contributed photographs and videos of experimental dynamics. Outside exhibits and entries, selected for originality and their ability to convey and exchange knowledge, will appear in the September 1996 issue of Physics of Fluids.

Breakdown Into Turbulence of Propagating Internal Waves. Internal waves are ubiquitous phenomena in the stably-stratiﬁed regions of the atmosphere and oceans, and it is thought that much of the turbulence in these regions is due to the breakdown into turbulence of these waves, according to P. A. M.time 775 seconds, with Alfven waves in a fusion reactor. He has concluded from stability analysis that internal waves are unstable, even at small amplitudes, due to a parametric resonance. Riley’s observations revealed that a few small structures, through wave intensiﬁcation and steepening, caused, for example, by interaction with ambient currents, or by reflection off sloping terrain. 

Viscous Flow Ducts. Research experiments at AT&T Bell Laboratories on the behavior of single DNA strands in aqueous suspensions causes the linear instability to broaden with time, similar to that of water. According to AT&T’s Paul Kolodner, this has opened the way to experimental observation of oscillatory convective states resulting from viscoelasticity. Performed in a long, narrow, nematic cell, the experiments revealed that the traveling waves (which appear to move at the left-hand wall) propagate much faster than expected: the oscillation periods are hours, while the relaxation times are typically 30 seconds. 

New Prize and Award Honors. Two new prizes and awards will be presented at the meeting. There will be two evening poster sessions, with some food and beverage service, after the opening session on Tuesday, with over 125 exhibitors of equipment and books. Over 5,000 physicists are expected to attend. For more information, please consult the APS Home Page, or the APS News Meeting insert in this issue.

1995 DPP Meeting Highlight

The Committee on the Status of Women in Physics and the Committee on Minorities in Physics joined forces in putting together a session entitled “Minorities and Women in Physics: Current Status” on Tuesday, 21 March. The centennial of Becquerel’s discovery of radioactivity occurs in 1996, and in that vein, the Forum on History of Physics will be presenting a session on the history of radioactivity.

There will be the usual trappings of the largest physics meeting in the world. The opening reception will be held Monday evening, after the ceremonial sessions. The exhibits, poster sessions, and awards will be presented at the meet- ing. There will be two evening poster sessions, with some food and beverage service, after the opening session on Tuesday, with over 125 exhibitors of equipment and books. Over 5,000 physicists are expected to attend. For more information, please consult the APS Home Page, or the APS News Meeting insert in this issue.

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March Meeting Programs

The Committee on the Status of Women in Physics and the Committee on Minorities in Physics joined forces in putting together a session entitled “Minorities and Women in Physics: Current Status” on Tuesday, 21 March. The centennial of Becquerel’s discovery of radioactivity occurs in 1996, and in that vein, the Forum on History of Physics will be presenting a session on the history of radioactivity.

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Spring Meeting Programs

The Committee on the Status of Women in Physics and the Committee on Minorities in Physics joined forces in putting together a session entitled “Minorities and Women in Physics: Current Status” on Tuesday, 21 March. The centennial of Becquerel’s discovery of radioactivity occurs in 1996, and in that vein, the Forum on History of Physics will be presenting a session on the history of radioactivity.

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Harry Lustig to Retire as APS Treasurer

Harry Lustig, the APS Treasurer for over 10 years, announced his intention to retire at the end of June 1996. He joined the APS as Treasurer in July 1985, overlapping a few months with outgoing Treasurer Joe Barton, before becoming Treasurer.

During his tenure, Lustig has helped guide the APS with great skill and af- fection through a period in which the Society has undergone many changes, including the relocation of APS headquarters to College Park, Maryland. Since 1985, the operating budget of the APS has grown from about $10 million to more than $30 million, and the Society has operated in the black every year. As treasurer, he is one of the three operating officers of the APS.

Born in Vienna, Lustig did not initially pursue a career in physics, earning his Ph.D. in physics in 1953. He returned to CCNY as a faculty member, where he later chaired the physics department and eventually be- came provost. Lustig’s research primarily centered on the theory of nuclear reac- tions and on the Mossbauer effect.

Lustig’s professional career has been di- vided between research and teaching at a university and APS administration, with additional interests in public ser- vice, such as international development and science education. In addition to his duties as treasurer, Lustig acts as ad- ministrator of the APS Leroy Apker Award, established in 1978 to recognize outstanding achievement in physics by undergraduate students.

Although Lustig and his wife, Rosalind, will move to their new home in Santa Fe, New Mexico, after his retirement, he said that he intends to remain active in APS affairs.

An announcement seeking candidates for a new APS Treasurer can be found on page 7. An extensive profile and in- terview with Lustig was featured in the December 1995 APS News.

CAUGHT IN THE WEB

Notable additions to the APS Web Server for the 1996 Annual Meeting. The APS Web Server can be found at http://www.aps.org

Meetings
• Online Housing Board for May Meeting
• Online Ride Board for March Meeting
• 1996 DAMOP Annual Meeting
• 1996 Joint APS-AAPM Meeting

Physics Related
• “Physics Around the World” project
• APS Meetings
• APS Journals

Good fortune to all with the 1996 annual meeting of the APS. The APS News Online will be 625x1000
ANNOUNCEMENTS

NOMINATIONS FOR PRIZES AND AWARDS

The following award is among those which will be bestowed at APS meetings in 1996. Members are invited to nominate candidates. A brief description is given below, along with the address of the selection committee chair to whom nominations should be sent. Please refer to the 1996-1997 APS Membership Directory, pages xxiii-xxxix or the APS Home Page (http://aps.org) under the Prizes and Awards button, for complete information regarding rules and eligibility requirements for individual prize and awards.

1996 APKER AWARD

Endowed by Jean Dickey Apker, in memory of LeRoy Apker.

Purpose: To recognize outstanding achievement in physics by undergraduate students, and thereby provide encouragement to young physicists who have demonstrated great potential for future scientific accomplishment.

Description: In 1996, two awards may be made, one to an undergraduate student from an institution which does not have a Ph.D. program in physics, the other to a student from an institution which does have such a program. Each Award consists of $3,000, an allowance for travel to the meeting of the Society at which the Award is presented and a certificate citing the work and school of the recipient. In the annual competition (from whom the recipients are chosen) each will receive an honorarium of $1,000 and a certificate as an Apker Award Finalist. Certificates will also be presented to the home institutions of the winners and of the finalists. Beginning in 1996, the Physics Departments whose nominees become finalists or recipients will also receive awards, for the purpose of supporting undergraduate research. Each departmental award will be half of the stipend for the student, i.e. $1,500 for recipients and $500 for finalists.

Qualifications of Applicants: Nominations are open on behalf of students at colleges and universities in the United States who were enrolled as undergraduates during at least a part of the 12 months period preceding the 14 June 1996 deadline. Only one candidate may be nominated by an institution. The candidate should have completed or be completing the requirements for an undergraduate degree with an excellent academic record and should have demonstrated exceptional potential for scientific research by an original contribution to physics.

Application Procedure: The nomination should include: 1) a letter of nomination from the head of the physics department, 2) an official copy of the student’s academic transcript, 3) a description of the original contribution, written by the student, such as a transcript or reprint of a research paper or senior thesis (unbound) and a 1,000-word summary thereof, 4) two letters of recommendation from physicists who know the candidate’s individual contribution to the work submitted, 5) the nominee’s address and telephone number during the summer. The deadline for completed applications is 14 June 1996. Each nominee will be granted a free APS Student Membership for one year upon receipt of the completed application.

Send name of proposed candidate and supporting information before 15 June 1996 to: Administrator, Apker Award Selection Committee, The American Physical Society, One Physics Ellipse, College Park, MD 20740-3844; telephone: (301) 209-5220; email: lastj@aps.org.

1996 operating and bylaws committees

COMMITTEE ON APPLICATIONS OF PHYSICS: Fred Dyilla (Chair), Arthur Bienvenustock, Cynthia Carter, Robert Doering, David Fraser, Steve Garret, Robert Kwanwic, Marc Prestinos, Roy Richter, Peter Rosenthal, John Rowell, Andrew Tam.

AUDIT COMMITTEE: Arthur Bienvenustock (Chair), Virginia Brown, Gordon Dunn.

COMMITTEE ON COMMITTEES: Barbara Levi (Chair), Martin Blume, Joseph Dehmer, Laura H. Greene, Ernest Henley, Anthony Johnson, Zachary Levine, James Wynne.

COMMITTEE ON CONSTITUTION AND BYLAWS: Miriam Forman (Chair), Claire Aucoin, Frank Price, Peter Ley, Michael Libell, Ivan Sellin.

COMMITTEE ON EDUCATION: Leroy Cook (Chair), Bunny Dail, Don Corell, Lori Golden, Kenneth Krane, Eric Mazur, Lyle Reekof, Alan van Heuvelen, Clifford Will.

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COMMITTEE ON MEETINGS: Ernest Henley (Chair), Edward Berger, Judy Franz, Harry Lustig, Anthony Nore, Joe Thompson, Virginia Trimble, John Wilkerson.

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NOMINATING COMMITTEE: Martin Blume (Chair), Lowell Brown, Jolie Czceski, Jan Heebst, Paul Horn, Boris Kayser, Kate Kirby, James Langner, C. Kumar N. Patel.

PANEL ON PUBLIC AFFAIRS: David Halefemeister (Chair), William Appleton, Sam Austin, David Mansky, Albre Brecher, Paul Craig, Anthony Fryenberg, William Finzer, Edward Greigoy, Philip Hammer, Carolyn Herzenberg, Ruth Howes, Duncan Moore, Thomas Pichaux, Mark Salkitt, Nicholas Samios, Andrew Seesler, Steven Sim, Robert H. Stokell, Ellen Stochel, Jeremiah Sullivan, Robert M. White.


PUBLICATIONS OVERSIGHT COMMITTEE: John Wilkins (Chair), Barry Barish, Benjamin Bederson, Stephen Berry, Judy Franz, Allen Goldman, Martin Goldman, David Hertzog, Noemie Keeler, Chuan Lin, Harry Lustig.

COMMITTEE ON THE STATUS OF WOMEN IN PHYSICS: Catherine Grover (Chair), Peggy Gebe, Gerard Crawford, Elsa Garmire, Howard Georgi, Ruth Howes, Donna Hurley, Laurie McNeil, Linda Vahala.

INTERNATIONAL NEWS

The U.S. Civilian Research and Development Foundation (CRDF) announced a call for proposals for its new Cooperative Grants Program. This program will support teams of former Soviet and U.S. scientists and engineers for cooperative projects. Proposals must be submitted to the CRDF’s office in Arlington, Virginia by March 1, 1996. For more information on the CRDF Cooperative Grants Program, please contact the U.S. Civilian Research and Development Foundation, 1800 North Kent Street, Suite 1106, Arlington, Virginia, 22209; Phone: (703) 526-9720; Fax: (703) 526-9721; email: information@crdf.org; web: http://www.internext.com/crdf.
Cold War Radiation Experiments: A Legacy of Distrust

by Mark Goodman

The April 1995 APS Meeting in Washington DC marked two significant events in the history of research in the field of radiation and health. The first was the celebration of the 50th anniversary of the first use of nuclear energy for military purposes and the second was the 50th anniversary of the Manhattan Project. The latter, more widely observed as the standard of humanity. Still, they were not judged against humanity. Nevertheless, the Green Run raises more specific and serious concerns about secrecy and whether national security interests override respect for basic human dignity.

One of the first challenges of the Manhattan Project was the handling of radioactive material. There is a strong consensus among scientists and health physicists that the Manhattan Project is widely praised for the way it carried out its two other main tasks, but served on its staff. The staff was responsible for most of the historical consensus on the ethical judgment of past actions, however, and health physicists recognized the need to explain what we are doing. The Advisory Committee’s report has been widely praised, even though some have expressed disappointment with its failure to condemn certain experiments and scientists. Reaching consensus on the ethical judgment of past actions proved quite difficult given the limited amount of information available. The committee was widely praised for the way it carried out its two main tasks, providing a public accounting of the events of the past and making recommendations for the future based on lessons from these events.

I was not a member of this committee, but I was an active researcher. The Advisory Committee was responsible for most of the historical research, and drafted findings and recommendations for the committee. My work focused on experiments involving the deliberate release of radioactive materials into the environment. More than most scientists, biomedical researchers face ethical questions of what makes an experiment legitimate for gathering experimental data, particularly when the experiments involve human beings as subjects. This requires judgment and the ethical and scientific community.

These principles seem fairly obvious, and served as the basis for the Nuremberg Code that provided a standard for judging Nazi doctors accused of crimes against humanity. Still, they were not widely observed as the standard of practice until decades later. Even in the 1960s, the physician was vested with greater authority than the patient, often honored in the breach. But the Cold War history of human experimentation raises more specific and serious concerns about secrecy and whether national security interests override respect for basic human dignity.

The Back Page is intended as a forum to foster discussion on topics of interest to the scientific community. Opinions expressed are not necessarily those of the APS, its elected officers, or staff. APS News welcomes and encourages letters and submissions from its members responding to these and other issues.