The AIP in 1979

The Annual Report surveys a year of long-range planning during which the Institute re-examined its functions, resources and opportunities.

The Governing Board and staff of the American Institute of Physics applied themselves to some very basic questions during 1979: What are the functions of the Institute? How can its resources best be used in the future to attack the problems and seize the opportunities facing the US physics and astronomy community?

As a result of plans drawn up during the year all activities of AIP staff, as assigned by the Board, are now directed toward seven major functions. These seven, defined in Function Plans, are to be carried out through Operation Plans that will be reviewed annually. This Annual Report will describe the activities of 1979 under the seven function heads.

AIP's headquarters in Manhattan took on a new appearance during 1979, as shown in this photograph of the new lobby. Renovation of the four office floors was completed by the end of the year. (Photo by M. V. Koch.)

The first attempt at identifying long-range plans dates back to 1974; a committee appointed for that task submitted a single plan that was ahead of its time and not acted upon. Since then, *ad hoc* plans for buildings, computer facilities and programs of all AIP divisions have been developed as need arose. But with an operation of this size—staff of over 400, budget of $18 000 000, buildings and equipment at two separate locations—the importance of an overall planning framework becomes obvious.

What are the problems and opportunities that AIP's resources can help meet? The problems include the anticipated decline in job openings within the science facilities of major universities (bringing with it the threat of a decline in research vitality) and questions concerning copyright that inhibit the dissemination of physics and astronomy research information, both within the US and between the US and foreign countries. Among the opportunities one can identify the development of systems to communicate research information with the latest electronic and computing techniques, the provision of effective coupling between Member-Society operations and the Institute brought about by complete computerization of AIP's fiscal, publishing and office procedures, the formation of the proposed Board Committee on Public Policy, which would undertake concerted communal action on behalf of the Member Societies, and the stimulation of links between university and industrial research programs.

With this emphasis on planning we should not forget the other major accomplishments at AIP during 1979. Four that come immediately to mind

Submitted by the Director and accepted by the Governing Board of the American Institute of Physics as its Annual Report to the Member Societies of AIP, 29 March 1980.

are the history exhibit marking the centennial of Einstein's birth, the new cooperation with the German abstracts journal *Physics Briefs*, the successful defense of the Institute's tax-exempt status, and the design of a major building addition at the Woodbury site.

This Annual Report stands as a record of those accomplishments and others to which AIP staff made such important contributions. The staff has the thanks and appreciation of AIP management and the Society representatives on the Governing Board for another successful year.

The seven basic functions

Of the seven AIP functions adopted by the Governing Board as a basis for planning, four contribute to scientific and technical communication, three to community affairs.

The first four are:

- Publication production services
- Publication of research and education news and reports
- Distribution and marketing
- Fiscal accounting

The three contributing to community affairs are:

- Information collection and analysis
- Dissemination of information about physics and related sciences to the public
- Liaison activities

Now let us review the activities of the Institute function by function for 1979.

Publication production services

Production operations for the primary journals and secondary services are currently divided among rented office space in Manhattan, the new Woodbury site and an office at Brookhaven National Laboratory. They are expected to consolidate at Woodbury in 1980. The success of a partial relocation in 1979 from Manhattan to Woodbury—despite the high attrition of Manhattan-based employees—augurs well for the completion of these moves.

In an organizational change, a new unit, called "Publication Division II," for production of *Physical Review* and other APS publications is headed by Mitchell V. Koch. What had been the Publications Division under A. W. Kenneth Metzner is renamed "Publication Division I," and Metzner continues as director.

Primary journals. In 1979 the total number of primary-journal pages published by AIP in its own name and on behalf of Member Societies remained at about 100 000; this annual rate has remained about the same since 1973. The Institute publishes, in this category, 18 primary journals, 3 Member-Society bulletins and 19 translation journals.

Composition is still handled by an assortment of different techniques, including both computer and typewriter methods under outside contract, in-house typewriter composition and two different in-house computer methods, UNIX and ATEX.

A group of AIP employees under the management of The American Physical Society at Brookhaven National Laboratory has been using the UNIX system on *Physical Review B*. In Manhattan, an AIP composition group uses the ATEX program to set type for *Journal of Applied Physics*, *Applied Physics Letters*, *Journal of Mathematical Physics*, *JETP Letters* and a wide variety of smaller jobs.

Current plans call for all of *Physical Review* to be typeset by the new Publication Division II; the decision whether to adopt UNIX or ATEX for this purpose will be made after reviewing both systems and AIP experience with them.

During 1979 the Woodbury Composition Division produced about 38 000 journal pages, nearly all by conventional typewriter composition. The exceptions, pages for *Soviet Journal of Optical Technology*, were typeset on an IBM Selectric Composer (a more advanced machine than the traditional typewriter-composition devices) for comparison between the two methods. The Composer turned out to be roughly competetive in efficiency while producing a more attractive page.

Secondary services. *Current Physics Index*, *Physical Review Abstracts* and SPIN (*Searchable Physics Information Notices*) continued to be produced as timely, low-cost by-products of AIP's primary journal publishing program. A new activity started in 1979 was the furnishing of data on the SPIN magnetic tapes to Fachinformationszentrum Energie Physik Mathematik, the German publisher of *Physics Briefs*. This comprehensive English-language compilation of abstracts appears semimonthly; it will be joined by a magnetic-tape version called SPIN—*Physics Briefs* in 1980. The Institute also supplied abstracts to *Engineering Index*, to DOE's *Energy Research Abstracts* and (via DOE) to the IAEA *Atomindex*.

Much of the secondary-service production is handled by the Datapoint minicomputer system; publication-division staff use it to keyboard all abstracts, compose all journal indexes and prepare membership directories for five Member Societies.

Publications of news and reports

In 1979 new editors took office for *Review of Scientific Instruments* (Thomas H. Braid, Argonne, and Consulting Editor Simon Foner, MIT) and *Journal of Mathematical Physics* (John R. Klauder, Bell Labs), and new translation editors were appointed for *JETP Letters* and *Soviet Physics—Doklady*.

In line with the Institute's policy to review its own journals from time to time, the Governing Board appointed an Ad Hoc Committee for the Review of *The Journal of Chemical Physics*. This committee reported on the good health of the journal and the efficiency of its editorial functions, and recommended that AIP consider eliminating the time

Marketing Division's exhibit at the Physics Show held in conjunction with the annual joint meeting of APS and AAPT in New York, January 1979. This was one of six such shows attended by the Division during the year, including one at the International Book Fair in Moscow.

delay for nonpayment of page charges.

During 1979 the Copyright Clearance Center transmitted to AIP the first payments of fees for systematic copying of AIP material. Libraries and information centers make payments (an agreed sum for each AIP page copied) voluntarily to the CCC, which passes them on to the Institute for crediting to the appropriate journal accounts. The number of article copies reported for the first three quarters of 1979 was about 11 800—a substantial increase over 1978, when the total reported for the entire year was only 7300.

PHYSICS TODAY. The number of copies printed each month of PHYSICS TODAY, AIP's news magazine for physicists and astronomers, reached 73 500.

Three special issues appeared during the year: on Albert Einstein in March, on magnetically confined fusion in May and on microscience in November. Individual articles of more than usual interest included "Debate on Salt II" by W. K. H. Panofsky and Edward Teller, "People and publishing in China" by H. William Koch and "A physicist looks at biomedical investigation" by Rosalyn S. Yalow. The "Search and Discovery" department expanded by two pages to six pages each month, and "Guest Comment" was added as a new department.

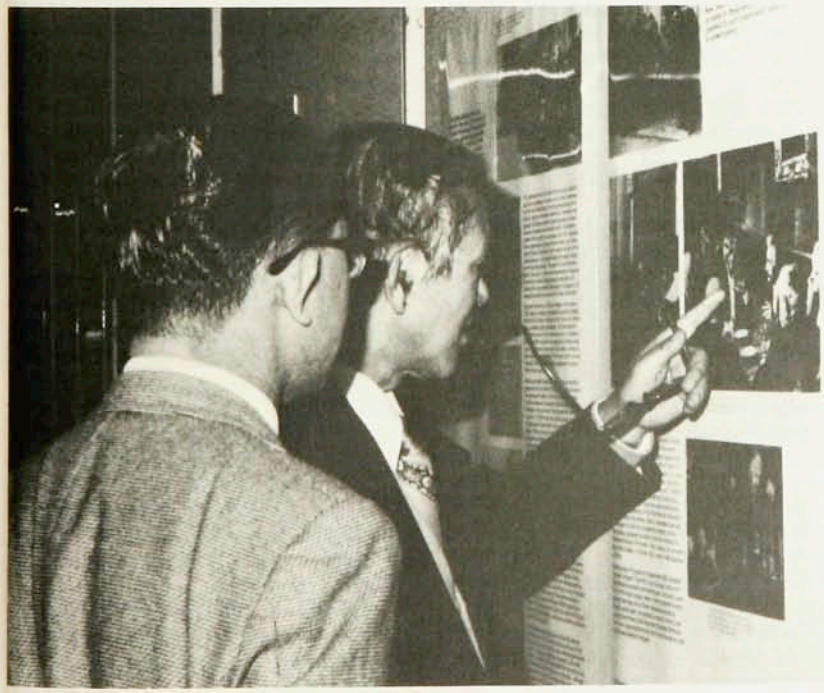
Distribution and marketing

Activities included in the third Function Plan are subscription fulfillment, marketing services, single-article sales, advertising and exhibits.

Subscription fulfillment. Addition of the new publication *Physics Briefs*, produced in Germany with AIP input through SPIN, brought to 61 the number of publications whose subscriptions are handled by the Institute. AIP distributes *Physics Briefs* in the US, Canada and Mexico. The total number of subscriptions to all these publications—member and nonmember, direct and through agencies—reached 285 000. The value of the approximately 85 000 invoices covering these subscriptions and including Member-Society dues totalled about $13 100 000.

Some 25 000 additional orders were processed for around 80 000 back numbers of journals in hard copy or on microfilm and AIP and IOP Conference Proceedings. New procedures and equipment—particularly the new Raytheon PTS/1200 system for data entry—enabled the subscription-fulfillment staff to set records during December 1979 for both the number of items handled and their cash value.

Marketing services. Rita G. Lerner, who had been Manager, Special Projects, became manager of AIP's Marketing Division in October, 1979. Marketing programs for AIP, Member Society and Institute of Physics (UK) publications continued with the addition of the new product *Physics Briefs*, and included exhibits at the 2nd International Book Fair in Moscow, several physics meetings and meetings of the Special Libraries Association and the American Library Association.



The Einstein Centennial Exhibit, prepared by AIP's Center for History of Physics, was distributed worldwide in multiple copies during 1979; here we see one of the eighteen panels making up the exhibit displayed, with a Japanese translation, at the Science Center in Kyoto.

Single-article sales. Demand continued to increase for single copies of articles from AIP and Member-Society journals, which are provided for a modest cost through the Current Physics Reprints service. Extra copies of articles from *Reviews of Modern Physics* and *Journal of Physical and Chemical Reference Data* are made as offprints at the time these journals are printed; single copies of articles from other journals are supplied as tear sheets or photocopies.

AIP continued an NSF-funded project with three NASA laboratories and several other groups to provide on-line searching of the SPIN data base via Lockheed's Dialog service, using a communications satellite and telephone lines, with delivery of full text of articles by facsimile transmitter. An on-line file of abstracts of articles accepted for publication but not yet in print, updated semimonthly, was also made available to participants in the experiment.

Advertising and exhibits. During 1979, some 1390 pages of advertising appeared in the seven publications handled by the Advertising Division, up 10% from the 1978 figure. Advertising income increased some 18%, reflecting the increased use of two- and four-color ads and the surge of recruitment advertising in the classified-ad section of PHYSICS TODAY.

The Division sold and managed the APS–AAPT Physics Show, the March APS Show, the AVS Show and, for the first time, the Plasma/Fusion Show held in conjunction with the APS Plasma Physics Division meeting in Boston.

Fiscal accounting

The emphasis in the fiscal-accounting area during 1979 was on computerization—an essential development if the fiscal-accounting services are to be kept cost-effective and efficient. Other important advantages are the continuous updating of systems, on-line access and the ability to generate statistics needed for analysis of fiscal data.

In November, John Auliano, Manager of Data Processing in the Publications Division, was re-assigned as Technical Adviser to the Director's Office; his principal responsibilities are to coordinate computerization of accounting and to study a new computer configuration for AIP. He works in cooperation with the accounting and data-processing staff and with the Institute's Financial Systems Consultant.

Operational problems led to the Auditor's Report for 1978 appearing late and to slow progress in computerization. The particular difficulties arising in 1979 that combined to cause these problems included a major conversion of financial records, the move of some Institute activities to Wood-

bury, relocation of personnel in the Headquarters building during its renovation, and breakdowns in the equipment. With a reorganization of staff assignments in the second half of the year it is hoped that such problems can be better handled in the future.

The accounting firm of Touche Ross and Company was appointed auditors for 1979. Their schedule for the 1979 audit included systems testing and completion of the audit by the end of May 1980. The Balance Sheet included with this report is the result of their efforts.

Computerization. AIP acquired software applications packages from Univac and tailored them to handle its needs in Accounts Payable and Accounts Receivable. When fully set up the Accounts Payable package will maintain the vendor invoice files, monitor accounts-payable status, and print checks when due, as well as prepare the usual reports to fill general accounting needs.

Hardware to provide on-line enquiry into the general ledger and membership files arrived during the summer; with its supporting software it should be ready to use early in 1980. On a similar time-scale is an automatic interface through which the general ledger can be updated directly from the subscription fulfillment system. Other projects remain in the planning and system-dating stages.

Data processing. The new Raytheon data-entry system for subscription fulfillment, mentioned above, operates as a link between fulfillment and accounting services and has improved efficiency in these areas since its installation in July.

Also in 1979 the data-processing staff successfully installed a system to enter cash receipts from single-copy sales (back numbers and microfilm) automatically into the general ledger. Fulfillment master files now include members' telephone numbers for The American Physical Society and the American Crystallographic Association, enabling these numbers to appear in membership directories for those societies. Among routine operations this division continued to produce mailing labels for publications and other material—eight million labels during the year.

Accounting statistics. The volume of AIP's accounting services are reflected in the fact that in 1979 accounts were maintained for 9 societies, 63 publications, 56 AIP organizational units, 12 grants and contracts and 7 special projects. About 20 000 checks were disbursed (1500 more than last year) totalling approximately $24.5 million, exclusive of short-term investments and bank transfers. Disbursements in 1979 were $2.0 million greater than in 1978, primarily because of accelerated payments to the societies for collection of their dues and subscriptions. About 12 600 invoices for page charges and reprints covering 21 journals were processed during the calendar year.

Internal Revenue Service. The Institute's annual report for 1978 told of a successful defense of its tax-exempt status. The IRS returned in 1979 to audit AIP's unrelated-business-income tax returns for calendar years 1974 through 1978. A number of issues have been raised with reference to advertising, page charges, the allocation of membership receipts to PHYSICS TODAY, and others. Another round with IRS is in the offing for 1980.

American Institute of Physics Incorporated

ASSETS

	Total Funds	Operating Fund	Property and Equipment Fund	Restricted Funds
Current Assets:				
Cash and Short-Term Cash Equivalents	$ 2 970 204	$2 957 378	$ –	$ 12 826
Short-Term Investments, at cost (Market Value $74 115)	87 215	–	–	87 215
Accounts Receivable	883 033	883 033	–	–
Due from Member Societies	890 138	890 138	–	–
Prepaid Expenses and Other Current Assets	227 959	227 959	–	–
Deferred Production Expenses	251 577	251 577	–	–
Due to Affiliated Funds	(24 368)	–	–	(24 368)
Total Current Assets	$ 5 285 758	$5 210 085	$ –	$ 75 673
Property, Plant and Equipment, at cost, less accumulated depreciation	4 711 394	–	4 711 394	–
Long-Term Investments— (Market Value $931 096)	945 196	733 947	–	211 249
Other Assets	49 943	–	–	49 943
Totals	$10 992 291	$5 944 032	$4 711 394	$336 865

Information collection and analysis

The fifth of the seven Function Plans brings us into the arena of community affairs, in contrast to the first four which had to do with scientific and technical communication. Under the overall heading for "Information Collection and Analysis" we find two completely distinct activities: statistical studies of the education and employment of physicists, and the work of the Center for History of Physics on the preservation and use of original source materials.

Trends in education and employment of physicists continued to be monitored by statistical surveys derived from mailings to physics and astronomy department chairmen, students and new degree holders; several of these annual surveys have a history going back nearly two decades.

In 1977–78 the data showed 1000 new PhD's, 1400 masters' and 4500 bachelors' degree recipients—the graduate-degree production exhibiting a continuing but slowing decline and the bachelors' degrees maintaining a steady rate. Preliminary figures for 1978–79 are approximately the same, indicating a levelling-off for all degrees. The number of first-year graduate students is also relatively unchanged, suggesting that PhD production will be stable for several years to come.

As in the past couple of years, the job market for both new graduate and new bachelor's degree recipients continued to improve, and a decreasing proportion of graduates accepted temporary postdoctoral positions.

Reports on several of the studies conducted for APS in the late 1970's were published by APS in a volume called *The Transition in Physics Doctoral Employment 1960–1990* and as separate monographs. (See the January 1980 issue of PHYSICS TODAY for a summary.)

As an initial step towards developing an on-line computerized data base, taken in the Spring of 1979, AIP staff surveyed a 10% random sample of the Member Society membership. Statistical data from this survey showed considerable diversity:

- While more than half of the Society members identified themselves as physicists, others in a broad spectrum of other scientific and engineering disciplines make up a full 40%.
- Two thirds of the members hold PhD's; one fifth have masters' degrees

Balance Sheet Year Ended 31 December 1979

LIABILITIES AND FUND BALANCES

	Total Funds	Operating Fund	Property and Equipment Fund	Restricted Funds
Current Liabilities:				
Trade Accounts Payable	$ 1 312 649	$1 312 649	$ –	$ –
Accrued Expenses	263 300	263 300	–	–
Current Maturities of Long-Term Debt	18 469	–	18 469	–
Deferred Income	397 920	397 920	–	–
Due to The Institute of Physics (UK)	65 356	65 356	–	–
Total Current Liabilities	$ 2 057 694	$2 039 225	$ 18 469	$ –
Deferred Subscription Income	4 020 205	4 020 205	–	–
Long-Term Debt	386 350	–	386 350	–
Fund Balances:				
Unrestricted:				
Designated for Special Purpose	10 000	10 000	–	–
Undesignated	4 181 177	(125 398)	4 306 575	–
Restricted Funds	336 865	–	–	336 865
Totals	$10 992 291	$5 944 032	$4 711 394	$336 865

and one tenth, bachelors' degrees.

- More than 40% of the degrees were awarded during the 1970's.
- About half the members in the sample are in academic employment.
- Average salaries at the time of the survey were $29 000 for PhD's; $23 000 for masters, and $26 000 for bachelors.

The work of the Center for History of Physics in connection with the Einstein Centennial provides a fine example of what has been accomplished with resource material here and elsewhere in sparking public interest in physics and physicists.

The Center and its Niels Bohr Library were overhauled in 1979 as part of the general AIP renovation, and the Library's entire holdings were reshelved. Particularly important to the preservation efforts is the new, climate-controlled, archives room, which has ample space for further expansion. Among the valuable gift collections received during the year were the papers of the late Samuel Goudsmit, one of the Center's best-loved friends.

Between the Einstein Centennial and the AIP renovation the Center had limited time to undertake new projects. Under a grant from the National Science Foundation, and with help from the Princeton University Library, the Center organized the papers of the astronomer Henry Norris Russell at Princeton to make the 30 000 items readily accessible to researchers for the first time.

Oral-history interviews for the Sources for History of Modern Astrophysics project were largely completed with a burst of activity at the International Astronomical Union meeting in Montreal, where the voices of Russian, Chinese and other astronomers were captured on tape. Most of the interviews conducted during the three-year project are already fully edited, retyped, indexed and available to scholars. Arrangements are underway to complement these recollections with microfilms of correspondence, and the American Philosophical Society and the Regenstein Library of the University of Chicago are participating in this aspect of the project.

The Sloan Foundation supported other preservation work involving interviews in geophysics and in industrial physics. The Center also announced the microfilming of the papers of Henri Poincaré. But the largest effort went into the Center's contract to advise the Department of Energy on how to preserve the history of its great national laboratories. People employed by the project worked full-time at Lawrence Berkeley, Argonne and Oak Ridge National Laboratories, surveying their historical materials and records-management practices.

After long service, E. R. Piore resigned as chairman of the Friends of the Center for History of Physics, but his valuable work continued under the new chairman, Frederick Seitz, and a reorganized Friends' Council. In particular, $15 000 was received as the first installment of a National Endowment for the Humanities Challenge Grant. This grant matches 1:3 donations to the Friends' endowment fund from new sources, such as from the AAPT, APS and OSA members who generously responded to an appeal included with their membership renewal invoices.

Public dissemination

Three divisions of AIP are directly involved in the dissemination of information about physics and physicists to the public: the Public Information Division, the History Division, and the Education Division.

TV and radio programs. The Public Information Division made its debut on commercial television screens in 1979. A growing public interest in science, along with an appreciation for the vast number of people reachable through TV, led AIP to submit a grant proposal to the National Science Foundation. In June, NSF awarded the Institute $141 000 to produce—over a twelve-month period—fifteen short news features reporting on the work of physicists. Called *Science TV News*, these programs, in the form of 3/4″ videocassettes, are distributed nationwide without charge to 100 local TV stations to be incorporated into local news broadcasts. The fifteen selected topics have been divided into three five-part series, and the first series—"Physics in Medicine"— was aired by stations all over the country beginning in December. AIP chooses the topics, writes the scripts and manages the project, with a subcontractor (Kleinerman/Kalser Associates, Ltd.) to produce and distribute the programs.

AIP's similar and longer-established project on radio, *Science Report*, continued in 1979 with particular emphasis on verification and expansion. A telephone survey of public radio stations throughout the country indicated that over one million persons per week hear the programs. At the time of this survey 250 radio stations aired the programs; since then 75 more stations have started using them, so adding more listeners to the audience. The six editions of *Science Report* completed so far feature the work of 120 scientists. Comments on return cards indicate that *Science Report* has become a standard and welcome feature on the nation's airwaves.

News rooms and physics news. Among its major continuing activities, the Public Information Division operated news rooms at six Member Society meetings and serviced two others *in absentia* by mail distribution of popularized versions of significant and newsworthy papers. News releases directing press interest to articles appearing in AIP, Member Society and AIP-distributed journals included reports on results from the Einstein orbiting observatory, the James Clerk Maxwell one-hundredth anniversary, a new value for

American Institute of Physics Incorporated

Statement of Revenue and Expense — **Year Ended 31 December 1979**

Revenue	
Advertising Sales	$ 1 170 825
Back Number and Microfilm Sales	445 276
Educational Activities	202 120
Grant and Contract Activities	305 166
Member Society and Corporate Associates Dues	172 766
Revenue from Investments	350 514
Revenue from Special Projects	25 909
Subscriptions	5 045 915
Voluntary Page Charges	1 857 322
Other Revenue	682 849
Total Revenue	$ 10 258 662
Expense	
General and Administrative	$ 392 890
General Operations	1 478 404
Publishing Operations	8 068 488
Other Expense	215 483
Total Expense	$ 10 155 265
Excess of Revenue over Expense	$ 103 397

Hubble's constant, the atmosphere of Triton and lepton universality.

All AIP's Societies and the Corporate Associates Advisory Committee contributed to *Physics News in 1979*, the division's thirteenth annual summary of newsworthy developments. The print order for this booklet exceeded 9000 copies, and the mailing list of science writers, university and college physics-department heads and scientific research centers included more than 2500 names.

Einstein Centennial. In the early months of 1979 the AIP History Division's preparations for the Einstein Centennial Year became feverish. Every day journalists and others seeking information and photographs spent hours with Center for History of Physics staff, and by the beginning of the Centennial Year in March AIP had helped people from all the major TV networks and many national magazines and newspapers. Particularly helpful to the visitors were more than 600 photographs of Einstein gathered from around the world and catalogued by Center staff. In February the Center published *Images of Einstein: A Catalog*, which contained miniature reproductions of all these photographs and information on where they could be obtained. (The catalog was aided by a grant from NSF and by the Friends of the History of Physics.) Over a hundred of these photographs could be ordered directly from the Center, and thousands of prints were distributed in this way; the Center's photographic service, which has been expanding rapidly in the last few years, distributed more than twice as many photographs in 1979 as in any previous year.

The Center's own Einstein Centennial Exhibit (prepared through a contract with the Institute for Advanced Study in Princeton, under a grant from the National Endowment for the Humanities) consists of a set of eighteen printed panels bearing photographs, reproductions of documents, quotations from Einstein and text material. Over a hundred sets of panels were sold at nominal cost to physics departments, museums and other institutions in most states and a dozen foreign countries, and 75 other copies were sent out on travelling exhibition. Most of these copies are still on display. They have visited about a thousand locations, including public libraries, airport lobbies, corporation headquarters buildings, hotels and state fairs. A brochure summarizing Einstein's life was designed to accompany the exhibit, and 350 000 copies were given away.

Science-writing awards. The AIP–United States Steel Foundation Science Writing Awards are administered by the Public Information Division. The winner of the 1979 award to a journalist was Robert C. Cowen, science editor of *The Christian Science Monitor*, for his article "The New Astronomy" published in *The Christian Science Monitor*. The scientist winner was Hans C. von Baeyer, professor of physics at the College of William and Mary and director of the Virginia Associated Research Campus of the college, for his article "The Wonder of Gravity," published by the *Alumni Gazette* of the College of William and Mary.

Educational publications. The 1979–80 edition of *Directory of Physics and Astronomy Staff Members* lists 28 000 staff members from 2900 North American colleges and universities, US federally funded research and development centers, US government laboratories and industrial and not-for-profit laboratories.

Now in its fourth edition, the 1979–80 *Graduate Programs in Physics and Astronomy and Related Fields* provides information on 283 graduate departments at 227 institutions in the US and Canada that offer doctoral or master's programs.

Some 40 000 copies of the booklet *Physics: A Career for You?*, which was reprinted in the spring, have been distributed since the original printing in the fall of 1977.

Liaison activities

The Institute's officers and staff worked closely with its members—the Member Societies, the Corporate Associates, individual physicists and the students who are members of the Society of Physics Students. They also served as officers and on committees of outside organizations whose aims and efforts coincide with those of the Institute. Beyond this, the need to interact with government required an involvement in public affairs. Some of these activities are reported here.

With Member Societies. AIP management attended a number of Society council and committee meetings when appropriate in an effort to coordinate

objectives and programs. They also worked closely with Society officers in some special areas—for example, the discussions that led to AIP's new Function Plans.

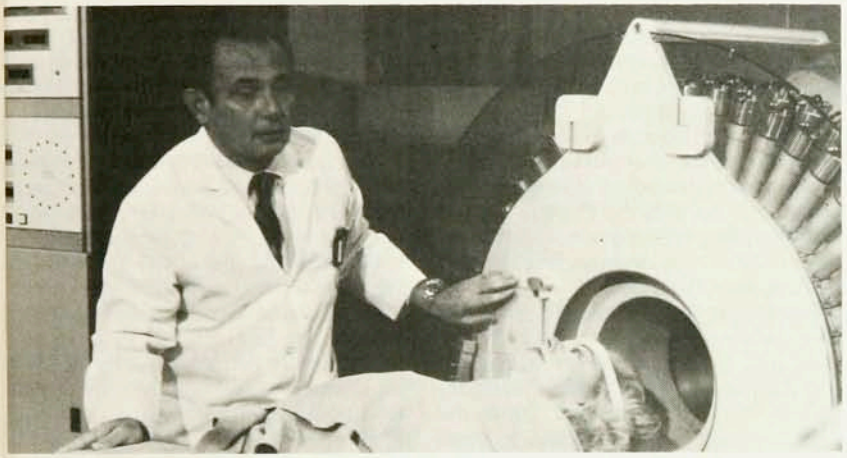
In the selection of winners and presentation of the Heineman Prizes, AIP cooperates with APS and with the American Astronomical Society. The Dannie Heineman Prize for Mathematical Physics was awarded by AIP and APS in January to Gerard t'Hooft. The first winner of a newly established prize, the Dannie Heineman Prize for Astrophysics, will be named in 1980 in cooperation with the AAS.

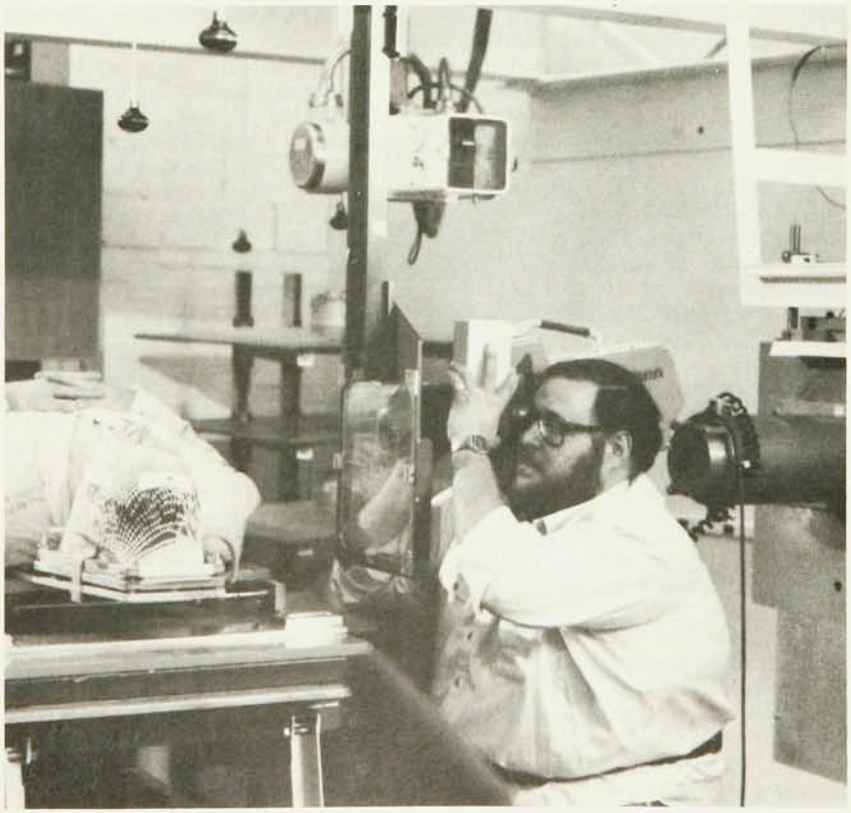
With Corporate Members. The Corporate Associates numbered 104 in calendar-year 1979. Regular mailings keep them informed about Institute activities, and they have been cooperating in various Society programs, such as the APS Visiting Physicists Program. Also, the AIP Corporate Associates Advisory Committee has endorsed, in principle, the APS Program of Corporate Scholarships for Minority Undergraduate Students in Physics.

An exceptionally successful Corporate Associates meeting was held in October at the General Electric Research and Development Center in Schenectady, New York. Some 210 persons from industry, universities and government—the largest attendance yet—heard talks on energy, on innovation and on international development.

A. H. Bobeck of Bell Laboratories became the second recipient of the AIP Prize for Industrial Applications of Physics, which is sponsored by the Corporate Associates. He was cited for his leading role in the invention and development of single-walled magnetic bubble memory devices, which has stimulated new discoveries and understanding in the field of magnetism.

The Society of Physics Students maintained a high level of activity, with more than 5600 members at 474 campus chapters in the US and Canada. Through a grant from the Bendix Corporation, ten chapters received SPS Bendix Awards to support chapter re-





Science TV News, a project of the Public Information Division, began in 1979 with the production of ten two-minute features. In the photograph at lower left Melvin Gottlieb, in the control room of the Princeton Large Torus, talks about fusion. The photograph at left shows physicist Michel Ter-Pogossian demonstrating positron-emission transaxial tomography at Washington University in St Louis. In the photograph below a cameraman videotapes a proton-beam therapy story at the Harvard cyclotron.

search projects and hence to promote a student interest in physics. Four of the 15 SPS regional meetings were held in conjunction with national meetings of APS, AAPT and OSA. The 1979–80 version of *Speakers, Tours and Films*, the seventh edition of this book produced by SPS, contained over 1100 sources in the US and Canada useful in planning programs for SPS chapters and others.

Alumni of Sigma Pi Sigma, the honor-society component of SPS, again gave record support both to the general program and to the Sigma Pi Sigma Trust Fund; contributions came from about 20% of the alumni contacted. Marsh W. White Awards, which are supported by the income from the Sigma Pi Sigma Trust Fund, were made to six SPS chapters to support projects to popularize physics with the general public.

Placement Services. Although physics graduates of several years ago still experience problems of temporary or under-employment, the outlook for new physics graduates and for those with special expertise has brightened considerably, especially in the industrial sector. The willingness of employers to consider physicists for jobs not labelled "physics" is a welcome sign.

The use of each of the principal services offered by the Manpower Placement Division—the Summary of Open Positions, the Placement Centers at Member Society meetings, and the Employment Referral Service—continued to increase. The distribution of the Summary of Open Positions is approximately 3000, and the number of applicants registered in the Employment Referral Service averaged around 1100.

The Division conducted Placement Centers at the APS/AAPT Annual Joint Meeting in New York, the APS March Meeting in Chicago and the APS Spring Meeting in Washington. The ratio of jobs to applicants at these centers showed considerable improvement averaging approximately two jobs per participant. Personal career counseling services were available through the year at AIP Headquarters and at the Placement Centers.

Public Affairs. Many situations connected with, for example, proposed legislation or changes in federal agency rules, call for reactions on the part of AIP and its Member Societies. The AIP Governing Board therefore began working toward the organization of a Committee on Public Policy, similar to the APS Panel on Public Affairs (with which it could interact as desired). The new committee's general purpose would be to recommend suitable actions for the Institute.

AIP's Public Information Division continued to send PHYSICS TODAY to all members of Congress and to staff members of science-related Congressional committees with attention called to items of particular interest.

General administration

Administratively, 1979 has indeed been a forward-looking year—not only in terms of long-range planning but also in the attention paid to the buildings and to the staff needed to carry out the Institute's programs.

Constitution and membership changes. The Member Societies voted to reduce AIP's Governing Board to a more manageable size—a change requiring a constitutional amendment. Under the new formula the total number of directors will become 28 (down from 37) on 28 March 1980. H. Richard Crane chairs a committee that is currently reviewing the Constitution and the Memorandum of Agreement with the Societies, and the criteria for membership in the Institute.

The Physics Section of the American Association for the Advancement of Science was elected an Affiliated Society of AIP in 1979; the Physics Club of Philadelphia, no longer a functioning organization, was dropped from the list of Affiliated Societies.

Building facilities. Much effort in 1979 went into plans for expansion at Woodbury and renovation of the headquarters building in Manhattan. Substantial savings are expected from the consolidation of all publishing operations made possible by the Woodbury expansion; by the end of 1980 all AIP staff will be housed in these two locations.

Construction bids received for the Woodbury addition as originally conceived proved too costly in relation to the budget. Design modifications successfully lowered the cost, and a construction contract was signed at the end of the year. The addition will total 22 000 square feet, including a 4500-square-foot basement and utility area and 4500-square-foot lunchroom. Publication activities currently housed in rented space at 800 Second Avenue are scheduled to move into the new addition in the fall of 1980. Long-term financing of the new building will be provided by low-interest tax-exempt bonds arranged by the Nassau County Industrial Development Commission.

Renovation of the four office floors of the headquarters building was complete at the end of the summer. By the end of the year renovation of the basement had begun, and the staff could look forward to a new lunchroom there—a feature that had been missed for several years. The basement will also house a new mailroom, the archives of the Center for History of Physics and individual storage rooms for the resident societies.

A new Building Facilities Office, managed by Alan Z. Kranz, includes the functions of the old Office Services Division, together with the management of all AIP's properties and the supervision of renovation and construction projects. The Duplicating Section—the last of the Manhattan-based activities scheduled to move to the existing Woodbury building—successfully completed its move early in the year with little interruption in its work.

Personnel. By the end of 1979, AIP had approximately 420 fulltime employees, about 215 at Woodbury and 205 in New York. By the end of 1980 the anticipated pattern will have changed to 300 in Woodbury, 120 in New York.

After a new salary study of all positions, completed by the end of 1979, new salary scales were designated and adjustments made where salaries proved to be substantially out of line with the market place.

Turnover in 1979 was 45%, down from 58% in 1978 when the Woodbury operation began. The rate will probably increase again, temporarily, in 1980 when the rest of the Publications Division moves to Woodbury.

In an additional organizational change, the Education Division of AIP was formally reinstated early in 1979. Its primary responsibilities are to provide administration for the Society of Physics Students and to prepare the educationally oriented publications of the Institute. Dion W. J. Shea serves as Director of both the Education Division and the Society of Physics Students.

Fiftieth anniversary. 1981 will be a year of celebration for the Institute. Plans are underway for a fiftieth-anniversary meeting, an exhibition, a new handbook, and much more.

Finances

The Institute ended the year 1979 with a net operating revenue of $ 103 397.

1979 was a year of a major accounting change. Our auditors recommended a change in accounting method for revenue recognition for our Soviet translation journals, which we adopted. In prior years we followed the accounting practice of recognizing revenue and expense for a complete subscription year, regardless of whether or not all the issues were published. Under our new method, we defer revenue and expense for all issues that are not actually published during the subscription year.

During 1979 we experienced a significant increase in advertising income.

The Institute made a substantial investment of approximately $ 1 100 000 in property, plant and equipment. □