

The AIP in 1981

The Annual Report describes the first year of a new era of electronic composition and a year of celebration of the fiftieth anniversary of the Institute.

1981 was a year of celebration marking the 50th anniversary of AIP's founding. It was also a year marking a transition after 50 years of print publishing. It was the first full, productive year of electronic composition. With publishing operations now concentrated in Woodbury on Long Island, activities in the headquarters building in New York City focus on member-related services. AIP's successful two-site operation, the new emphasis on member-related services, and special commemorative events throughout this anniversary year are detailed in this Annual Report.

In the past, AIP has been successful in combining into one operating agency those functions that were best accomplished jointly for its nine Member Societies. Its principal function has been publication of physics and astronomy research journals: AIP and its Societies together have become one of the world's largest research journal publishers. It was, therefore, entirely appropriate that the 1981 AIP Annual Meeting, held in October at the National Academy of Sciences, brought together the largest assemblage ever of key physics and astronomy research managers. The Meeting had two outstanding publications associated with it: a special anniversary issue of *PHYSICS TODAY* (the November 1981 issue)

and a *Physics Vade Mecum*—a reference handbook containing numerical data, formulas and useful information in various sub-disciplines of physics and astronomy.

The member-related services that can best be accomplished jointly are still located at the New York headquarters. They include activities related to public information (press releases and conferences, radio and television programming, dissemination of science information to the media), instrument and education exhibits, manpower statistics and placement, physics history and *PHYSICS TODAY*. The Society of Physics Students and its related publication programs producing *Graduate Programs in Physics, Astronomy and Related Fields* and the *Directory of Physics & Astronomy Staff Members* are the exception, having moved from their Stony Brook location to the Woodbury facility. All of these services require funding from Member organizations as well as net income from AIP publications.

Due to the importance of publication income, AIP management is paying increased attention to the demands of efficiently managing two separate facilities. The need for such attention was

greatly highlighted in 1981 by the request from a group of Woodbury staff members for the establishment of a labor union. An official election, supervised by the National Labor Relations Board, was held on 10 December 1981. A majority of 204 voting employees voted against the establishment of a union.

The events of this year had, by and large, positive results because of the involvement and support of a competent staff and conscientious Society representatives on the Governing Board. To one and all, AIP owes a great debt of gratitude. The American Institute of Physics and its Member Societies can be encouraged by the success of the past 50 years to work toward similar success over the next 50 years.

Publication production services

Three separate Divisions of AIP provide publication production services within the Publishing Branch: Publication Division I, Publication Division II, and Composition. Overall, the Institute published 110 000 pages in 1981, an increase of 10 000 over the 1980 figure.

Publication division I handled journal production for five of the Member Societies, produced the six AIP-owned pri-

mary journals and one owned jointly with ACS and NBS; it managed the nineteen Soviet translation journals and the new Chinese translation journal, conducted the data-processing activities associated with AIP's physics information products and was responsible for an assortment of special publishing projects for the Institute and its Member Societies. 1981 was this Division's first full year of activity in AIP's Woodbury facility. The year opened with most production schedules in disarray, due to "start-up" problems in the new location, such as training of new staff and equipment failure. By the end of the year, however, all journals and secondary products were appearing essentially on time, the start-up problems having been corrected. *Chinese Physics*, AIP's new quarterly translation journal, completed its first volume with the four 1981 issues. This project, which began with the help of an NSF grant, was renewed for its second year of publication, and is expected to continue into the third year.

Publication division II is responsible for editing, production and composition of The American Physical Society publications: *Physical Review*, *Reviews of Modern Physics*, *Physical Review Abstracts*, and *The Bulletin of the American Physical Society*. Together they account for approximately 30 000 published pages per year. The APS publications were converted from typewriter composition, used in the early part of the year, to UNIX photocomposition. The UNIX software runs on a VAX 11/780 computer with 36 terminals. All papers are stored for potential reuse, and full text photocomposed pages may be previewed on a page-makeup terminal before being typeset. UNIX software development and start-up were aided by personnel on temporary loan from the APS editorial office, where a smaller UNIX system has been in operation for the past several years.

Physical Review changed its cover style during 1981 for improved readability of the table of contents. Also, the decision was made to change the text stock in 1982 to a groundwood-free neutral-pH paper. This specially manufactured stock, which will also be used by most AIP archival journals, will greatly improve journal shelf life.

The composition division made AIP's ATEX photocomposition system fully operational, after its relocation in late 1980 to Woodbury. The system, which had incurred some damage during relocation, managed to produce 19 000 journal pages over the year. An upgraded version of ATEX was installed in Au-

gust, raising ATEX capacity to about 35 000 journal pages a year. The new system was, however, only partially operational in 1981 because of delays by ATEX in installing and debugging hardware and software. (It is important to note that AIP is probably ATEX's most demanding customer, due to the difficulty of composing scientific text with a high content of mathematics.) The Videocomp phototypesetter set 60 000 published pages during 1981, considerably more than in previous years because of the changeover of *Physical Review* to photocomposition.

Journals, news and reports

The Publishing Policy Committee proposed, and the Governing Board approved, building a Publications Reserve Fund—eliminated during the last two years—from a major increase (60%) in subscription rates, effective in 1982.

The Physics of Fluids was the subject of a review committee's report, one of a series of such planned reports on all of AIP's primary journals. François

Frenkiel, editor of *The Physics of Fluids* since its founding in 1957, retired at the end of 1981. The review committee praised him for his excellent work during a 25-year tenure and made several practical suggestions. To address the problem of accommodating both areas of specialization represented in this journal, two editors were named to succeed Frenkiel: Fred Ribe is the editor for plasma physics and Andreas Acrivos the editor for fluid dynamics. Their appointments became effective 1 December 1981. Both new editors intend to take up another of the committee's recommendations and initiate a "Letters" section for rapid publication of short, timely contributions to *The Physics of Fluids*.

The next scheduled review committee was empaneled in December 1981, under the chairmanship of John Hulm, to study both *Journal of Applied Physics* and *Applied Physics Letters*.

As part of the celebrations marking its 50th anniversary year, AIP published the *Physics Vade Mecum*, a 336-page handbook of reference data com-



Atmospheric pollution: filming on location in Pittsburgh for a tv science news film, produced by AIP's public information division, with support from an NSF grant.



Science reports: editing a science news program, which will be sent (as the discs seen in the background) to radio stations throughout the US by AIP's public information division.

piled under the editorship of Herbert L. Anderson. It has been very well received.

Secondary services. AIP's information-retrieval products are created as a by-product of the journal production operation. Thus, the same data base produces article heads, journal indexes and tables of contents, as well as *Current Physics Index* and the SPIN tape. During 1981, programming was begun in anticipation of the eventual transfer of AIP's extensive back files from the Univac computer onto the Datapoint system that is currently used to produce the journal production data base. The Department of Energy's *Energy Research Abstracts* and the European *Physics Briefs* receive input from this same data base, provided under contract with AIP. In addition, a five-year cumulative index for *The Physics of Fluids*, also generated from the data base, inaugurated a projected series of such indexes for all six AIP journals. A five-year index for *Applied Physics Letters* will appear early in 1982.

PHYSICS TODAY. The press run of *PHYSICS TODAY*, AIP's news magazine for physicists, was 78 000 copies per month, and reached 80 000 in some months.

Two special issues were published during the year: *Synchrotron Radiation* in May, which included the articles "Facilities in the United States," "Research with x rays," "Wiggler and undulator magnets," and "Ultraviolet radiation—an incisive and versatile tool"; and *Five Decades of Physics in America: 50th Anniversary of the American Institute of Physics* (Novem-

ber). The anniversary special issue is the largest in *PHYSICS TODAY*'s history, containing over 250 pages and 13 articles by Benjamin Bederson, Robert Beyer, Peter Franken, Anthony P. French, Theodore H. Geballe, Martin Harwit, H. William Koch, James M. Lafferty, David Pines, Norman F. Ramsey, Spencer R. Weart, Victor F. Weisskopf and Robert Wilson. In the course of the year, other articles of unusual interest included "The social responsibility of scientists" by Andrei Sakharov (June); "Science, technology and human rights—a view from Congress" by George E. Brown Jr (March); "The future of nuclear energy" by Alvin Weinberg (March); "E pluribus boojum: the physicist as neologist" by N. David Mermin (April); "The emperor's new clothes—1981" by Frank von Hippel (July).

Distribution and marketing

The efforts in subscription fulfillment, marketing services, single article sales, advertising and exhibits are aimed at making Member Society and AIP journals as well as technical information about physics and astronomy readily available.

Subscription fulfillment activities included dues billing and collection for nine societies with a combined membership in excess of 71 000. Journal subscription billing and collection covered 63 publications with a total circulation of about 285 000. Single copy, back number, microfilm, and conference proceedings sales, required the processing of about 25 000 orders and produced a 1981 sales value of close to

\$1 million. The 1981–82 fiscal year and 1981 calendar year renewal billing statistics for the Institute and Member Societies were impressive. The member filing generated about 71 000 invoices covering dues and about 189 000 member subscriptions totaling \$3.4 million. The nonmember billing generated about 18 000 invoices totaling \$15.6 million.

Marketing services brings the Institute's publications and services to the attention of physicists, librarians, and the national and international scientific community as a whole, through catalogs, direct mail, advertising and exhibits. In 1981, a special effort was made to increase the overseas sales of conference proceedings, and to market AIP's new translation journal, *Chinese Physics*. Journals of *The Institute of Physics* (U.K.), conference proceedings from the Israel Physical Society, and *Physics Briefs* from the German Fachinformationszentrum Energie, Physik, Mathematik were also included in the Division's promotional efforts.

Exhibits were organized and staffed for the annual meetings of the Special Libraries Association and the American Library Association, the January APS-AAPT meeting, the March meeting of the APS, and the Third International Moscow Book Fair. Plans were made for exhibits in 1982 at the two library meetings; the AAAS meeting, the Temperature Symposium, the Pittsburgh conference on Analytical Chemistry and Applied Spectroscopy, the January APS-AAPT meeting, and the APS March meeting.

Selected books and journals were sent to the Frankfurt Book Fair, the China Book Fair, the India Book Fair, and a variety of specialized meetings.

Advertising and exhibits. During 1981, some 1531 pages of advertising appeared in the six publications handled by the Advertising Division, an increase of nearly 10% over the 1980 figure. Every publication showed an increase in revenue, with substantial increases realized by *PHYSICS TODAY*, *Medical Physics* and the *Journal of Vacuum Science and Technology*. The Division organized, sold booth space, and supervised the Physics Show (APS-AAPT Joint Meeting), APS (March) Show, APS (Nuclear) Show, APS (Plasma/Fusion) Show, AVS Show and the ASA Show. The AVS Show, managed on behalf of the American Vacuum Society, continued to grow, with some 160 booths in 1981.

Fiscal accounting

In 1980, AIP's Audit Committee concluded that the Accounting Division was unable to provide timely financial information and recommended that computerization of accounting be given highest priority. AIP's auditor, the

Computer composition: hardware for the new ATEX text-editing and composition system ("release 3"), installed at AIP at the end of 1981; the system supports 16 terminals at Woodbury.

accounting firm of Touche Ross & Co., was engaged to review the accounting system. They recommended that

► A new position of Controller be created with formal responsibility for financial control and timely reporting. This Controller should be experienced not only in the financial area, but in data processing as well.

► The timeliness of financial information could best be improved with the development of efficient and cost-effective accounting systems. This requires more than a simple computerization of the systems as they exist currently.

► A formal plan for improvement of the accounting function as well as its eventual computerization should be developed.

AIP has taken several steps to follow these recommendations. In June 1981 Bernard Dolowich joined the AIP staff as Controller. Shortly thereafter, two task groups were formed, one concerned with development of accounting systems and the other, with timely financial statements.

Some significant improvements in financial reporting were evident in 1981. The 1980 Auditor's Report was issued three months earlier than the 1979 report, and the 1980 Variance Statements were issued five months earlier than the comparable statements in 1979. In addition, Society Variance Statements and an AIP six-month Financial Statement as of 30 June 1981 were prepared by the end of the summer.

Accounting systems. The new Controller prepared an accounting system improvement plan, with four objectives:

► to design and implement a budgeting and accounting process capable of meeting AIP's needs;

► to restructure the organization of accounting to identify realistic manpower requirements;

► to document new procedures to ensure effectiveness; and

► to specify the software and hardware criteria required for a computer system.

By the year's end, computerization of accounts receivable for advertising, publication charges and reprints allowed AIP to eliminate outdated book-keeping machines. Increased attention to credit and collection problems has resulted in better, more current control over receivables. The already computerized Accounts Payable System has been revised, so that expense classification and payment information are pre-



pared simultaneously. This procedure eliminates duplication in manual analysis before the computer processing.

Data processing. In 1981, a plan to modernize AIP's computers was developed. Accounting and subscription fulfillment will be the major users of the new systems. The plan calls for the delivery of "turn-key" hardware and software systems using the same computer if possible.

A request for proposals for such a system for subscription fulfillment was released in the fall of 1981. Vendors were asked to include plans for the development of software and a recommendation for the hardware configuration. Several proposals are in, and a decision is to be made early in 1982. A request for proposals for accounting operations is tentatively scheduled for release in mid-1982.

Tax matters. In 1981, the IRS issued a National Office Technical Advice Memo on the Unrelated Business Income Tax liability of AIP for the years 1974 to 1979. As a result of this memo, the tax deficiency of AIP for those years was assessed at \$19 094, plus interest.

Because the New York City Tax Commission denied the Institute's 1980 application for real property tax exemption, AIP paid these taxes "under protest" for FY 1980-81, amounting to \$105 000, and is paying \$116 350 for FY 1981-82. The Institute engaged the law firm of Patterson, Belknap, Webb & Tyler, which has considerable exper-

tise in tax matters. Apparently AIP has a fair chance of reversing the decision of the Tax Commission. The basic issue is whether the Institute is an educational entity within the meaning of the New York City real property tax laws.

Information collection and analysis

The Institute provides an important resource for the entire physics and astronomy community by collecting and analyzing educational and historical information. This function has two distinct aspects: One is the collection and analysis of manpower data, chiefly through annual surveys of department chairmen, students and members of AIP Member Societies; the other is the efforts of the Center for History of Physics related to the preservation and use of original source material.

Trends in education and employment.

Physics bachelor's degrees have remained stable at around 4400-4500 for the past several years. The job market was slightly tighter for the 1980-81 bachelor's degree recipients than in the past. PhDs dipped to 912 in 1979-80, but preliminary figures indicate a leveling at 925 in 1980-81. A striking pattern to emerge from the annual education survey is the rapidly increasing proportion of foreign first-year graduate students—from 25% in 1978-79 to 38% in 1981-82.

The second in a series of society membership profiles was published in the fall of 1981. It offers an overview of

Society members' employment situations, as well as a brief profile. An expanded sample—drawing in new Society members and stratified to represent more fully the smaller AIP Societies—formed the base for a third annual survey conducted in 1981. A profile of these data will be published in 1982.

Data collected from the surveys are integrated into a computerized manpower data base. In 1981, basic structuring of the data base was completed, program and tape libraries were expanded, and interfaces were established with other computer files at AIP. Experimentation with new computer graphics will begin in 1982.

The manpower statistics division is also analyzing two national data tapes, which will yield information on secondary-school science education and an overview of distributions of physicists by employer type.

History of physics. The preservation of documents is of interest not only to historians, but also for the efficiency of ongoing work at laboratories. This was the conclusion reached following a three-year study, completed in 1981, of the Department of Energy (DOE) National Laboratories; it was the most extensive study ever conducted of records-keeping at scientific institutions.

Aided by an advisory committee of experts, the project staff concluded that the steps needed to improve records preservation for future historians would be cost-effective by improving management efficiency. The project made a number of specific recommendations to the DOE, which are applicable to other large laboratories as well. The project staff also produced a prototype *Handbook for Secretaries and Files Administrators*, and a set of "Appraisal Guidelines," which suggest what sort of postwar science records need to be saved to document laboratory activities for posterity. Equally important, the guidelines suggest what sort of documents may now be thrown out for economy's sake. Finally, and of immediate value to historians, the study project located many valuable records, ensured the preservation of at least some of them, and compiled a catalog of "Sources for History of Physics" at DOE National Laboratories (Argonne, Brookhaven, Lawrence Berkeley, and Oak Ridge).

Meanwhile, in 1981 efforts to preserve and document the history of solid-state physics moved into high gear. A group at the University of Illinois, orga-

nized and funded through the AIP Center for History of Physics, is cooperating with similar groups in Britain and Germany, and with individuals in other countries. Several dozen oral history interviews with senior scientists have been held and are being edited. A number of important sets of records were located, preserved and studied. Organizational work was a major task of the past year, and with staff now fully assembled and assignments given out, 1982 should be even more productive.

The Friends of the Center for History of Physics raised large sums in 1981 to support the solid-state physics project, and now nearly all the funds needed are in hand. These funds helped meet the requirements for the Challenge Grant matching funds offered by the National Endowment for the Humanities; the offer, which was fully matched, brought the Center's endowment fund to about a quarter of a million dollars. The endowment fund's income can now make a substantial contribution to the advancement of history of physics, a field that has been severely hampered recently by federal budget cuts that almost wiped out long-standing support programs.

Finally, the 1981 50th Anniversary Calendar produced by the Center was very well received, with interest expressed by a number of people in obtaining 1982 calendars. In fact, this project was a gift from AIP to the physics community commemorating 50 years of its history. No plans are under

way at this time to produce another calendar due to the cost involved.

Public dissemination

Over the years, AIP has made a conspicuous effort to reach outside of the physics community. Reliable information about physics and its progress is passed on to all of the mass media by the public information division. Also, both AIP's history and education divisions are directly involved in providing information to the public about physics and the work of the physicist in today's highly technological world.

TV and radio programs. In early 1981, AIP received a second NSF grant to continue the Science TV Reports that were started the previous year. This project produces two-minute science news reports and places them on local and commercial tv news programs around the country. Fifteen such reports are scheduled to be produced under this grant, and are grouped into three series of five reports each. The first series, "News from Microworlds," was released in summer 1981. It enjoyed airings on some 60 of the top 100 television markets, including 13 out of the top 20 cities in the US. Topics covered included microprocessors, heavy-ion cancer therapy, computer visualization of molecules, and neutrinos.

The second series, "Science in Sports," was released in December 1981. The usage rate is expected to be at least as good as that of the first series. Topics included the physics of



Galley production: developer for processing the photographic output of the Videocomp electronic composer; it produces galleys for both ATEX and UNIX computer composition systems.

the knuckleball, running shoes, tennis rackets, and karate punches. The third series, scheduled for release in spring 1982, will focus on the environment.

In addition to airings on local tv news programs, the reports were run in science museums, classrooms, and several cable tv systems. Some foreign usage has also been reported. In late 1981, preparations were begun on a strategy to fund these tv reports without National Science Foundation grants.

"Science Reports" is AIP's internally produced radio program, acquainting the general public with interests and activities of physical scientists. The program is aired on some 400 public radio stations and their affiliates throughout the country and reaches well over 1½ million people a week. Its topics range from the acoustics of whistling to jet noise, from mirages to manganese nodules under the oceans. In the past year, more than 30 commercial stations have added "Science Reports" to their daily broadcasting schedules.

Films. Distribution of the films "Birth and Death of a Star" and "Life and the Structure of Hemoglobin" continues in active rental and sales programs. Occasional broadcasts by individual stations in the PBS network also continue.

Newsrooms. Newsrooms were operated at three Member Society meetings, while four other meetings were covered in absentia by distribution of lay language versions of significant and newsworthy papers. Press releases reporting on current physics research and developments continued to be sent to 481 weekly and small daily newspapers and college dailies. The sets of releases, managed and distributed by AIP, also have contributions from the American Chemical Society and the American Psychological Association.

Physics News in 1981 provided a capsule summary of the year's physics research developments, including such topics as neutrino oscillations, quasar fuzz, Voyager's trip past Saturn, the shortest optical pulse ever produced, the use of lasers in surgery, and the latest fusion reactor progress. This booklet serves a wide audience, from science journalists to college and university teachers and students.

Science-writing awards. The AIP-US Steel Foundation Science-Writing Award in Physics and Astronomy went to Leo Janos for his article "Timekeepers of the Solar System." It appeared in the May/June issue of *Science* '80. Eric Chaisson of Harvard University won the award for his book *Cosmic Dawn: the Origins of Matter and Life*, published by Atlantic-Little, Brown. The Foundation has renewed its grant for 1982.

Other activities. *Physics Goes Public*, a

American Institute of Physics Incorporated Balance sheets			
Assets		31 December	
		1981	1980
Current assets			
Cash and short-term cash equivalents and short-term investments, at cost		\$ 9 310 993	\$ 3 646 050
Accounts receivable, net of allowance for doubtful accounts of \$70 000		1 309 200	1 273 972
Due from Member Societies		—	744 634
Other current assets		636 855	746 164
Total current assets		11 257 048	6 410 820
Property, plant and equipment, at cost, less accumulated depreciation of \$2 534 054 and \$2 124 188		6 440 332	6 698 525
Long-term investments, at cost		480 987	359 602
Other assets		58 243	58 043
Total assets		\$18 236 610	\$13 526 990
Liabilities and fund balances			
Current liabilities			
Trade accounts payable and accrued expenses		\$ 2 215 249	\$ 1 589 552
Due to Member Societies		1 085 609	—
Current maturities of long-term debt		29 719	25 177
Other current liabilities		802 455	426 614
Total current liabilities		4 133 032	2 041 343
Deferred subscription income		7 019 536	4 624 027
Long-term debt		2 120 104	2 149 823
Total liabilities		13 272 672	8 815 193
Fund balances			
Net equity in property, plant and equipment		4 295 051	4 523 525
General fund		145 687	(264 126)
Restricted funds		523 200	452 398
Total fund balances		4 963 938	4 711 797
Total liabilities and fund balances		\$18 236 610	\$13 526 990

33-page "how-to" pamphlet designed for heads of physics departments and local committees in their dealings with the media, was published in February. More than 2000 copies have been mailed to date.

Educational Publications. The Education Division produced the 1981-82 *Graduate Programs in Physics, Astronomy and Related Fields*, which is the sixth annual edition of the book. Its coverage of graduate departments continued to expand, with 304 departments in the United States, Canada, and Mexico listed. Over 3000 copies were distributed to departments offering at least a bachelor's degree in physics, related field departments, SPS chapters, libraries and individuals. Requests for the booklet, *Physics: A Career for You?*, continued, with some 8000 copies distributed in 1981 and over 60 000 copies distributed since the

original printing in 1977. No 1981-82 edition of the *Directory of Physics & Astronomy Staff Members* was produced. This cost-saving measure marked the first break in a twenty-year tradition of annual publication. The 1982-83 edition will be published in the fall of 1982.

Liaison activities

The Institute maintains close ties with its Member Societies, its Corporate Associates, and individual physicists, including those who are members of the Society of Physics Students. In addition, the Institute interacts with government and many outside organizations with common interests.

With Member Societies. The Assembly of Society Officers, held in March, dealt with topics relating to science education, federal science policies, and implementation and implications of ad-

We're Doing Something For You

American Institute of Physics

50th Anniversary

Physics Vade Mecum

AIP celebrates 50 years of service with the publication of the *Physics Vade Mecum*—a special formulary covering twenty-two major fields. Beginning with the General Section which includes fundamental constants, SI Units, and prefixes, conversion factors, lists of mathematics and physics formulae, and tables of properties of materials, AIP's fiftieth anniversary publication is a storehouse of pertinent information.

Three hundred-forty pages, containing numerical data, definitions and many references, furnish the detail that makes this publication useful for both the practicing professional and the student.

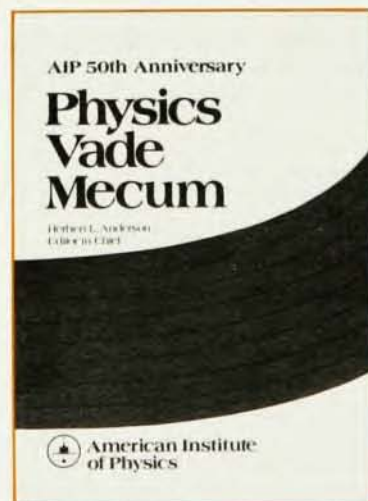
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vanced technology in several aspects of publishing.

The Dannie Heineman Prizes are cooperative efforts of AIP and two of its Member Societies. In cooperation with The American Physical Society, the Dannie Heineman Prize for Mathematical Physics was awarded in January to Professor Jeffrey Goldstone of MIT at the APS-AAPT Joint Meeting. The winner of the Dannie Heineman Prize for Astrophysics—established in 1980 and awarded in cooperation with the American Astronomical Society—was Riccardo Giacconi. He is a professor of astronomy at Harvard and Associate Director at Harvard's High Energy Astrophysics Division of the Smithsonian Center for Astrophysics.

With government. Complimentary copies of PHYSICS TODAY were sent to all members of Congress in 1981, resulting in favorable responses as in previous years. The Committee for Public Policy, under the chairmanship of Philip M. Morse, continued to provide government officials and members of Con-

gress with input related to public policy issues.

With corporate members. AIP added 13 new members to the Corporate Associates Program during 1981, bringing the total to 120. Regular mailings kept them informed about AIP's activities, and they become involved in various Society programs, such as APS's Industrial Postdoctoral Fellowship.

As mentioned earlier in this report, the 1981 Corporate Associates Meeting was a principal event in celebration of AIP's 50th Anniversary year. Held on 15 and 16 October in Washington, D.C., at the National Academy of Sciences, its theme was "Physics in Retrospect and in Prospect." In the interest of promoting an interchange of views on the theme, invitations were sent not only to AIP's Corporate Associate representatives, but also to heads of physics, astronomy and related departments, to government officials, to officers of AIP Member Societies, and to representatives of other scientific and engineering societies. As a result,

this meeting had over 300 attendees. Among the speakers were Victor Weisskopf, 1981 Wolf Medal winner, Presidential Science Advisor George A. Keyworth II, and Paul MacCready, an aeronautical scientist and designer of human-powered aircraft.

The AIP Prize for Industrial Applications of Physics was awarded on behalf of the Corporate Associates at this meeting to Alec N. Broers of IBM. Two other awards, presented at intervals of about three to five years were presented at this meeting. They are the prestigious John Torrence Tate International Award, presented to Pierre Aigrain for "distinguished service to the profession of physics by a foreign national"; and the Karl T. Compton Award, presented to Melba N. Phillips for her "distinguished statesmanship in science."

With students. In 1981, the Society of Physics Students achieved a milestone. It had over 500 active chapters, with 330 of those chapters also active in Sigma Pi Sigma, the physics honor society. Membership in the Society of Physics Students rose 5%, to over 6400 members. Over 300 of those members had joint membership with SPS and an AIP Member Society.

Publication of the new *Journal of Undergraduate Research in Physics* was approved by the AIP Executive Committee upon recommendation of the SPS Council. The Council has actively encouraged the creation of this new journal to provide a forum for undergraduate concerns and to encourage publication of research results performed by undergraduates. The journal will be published semiannually, with the first issue scheduled for April 1982. Over 200 prepublication subscriptions were received by the end of 1981. Rexford E. Adelberger of Guilford College is editor, and the journal is being published by Guilford College for SPS and AIP.

SPS Bendix Awards were given to six SPS chapters to support research projects. Marsh W. White Awards were given to seven SPS chapters to support programs promoting interest in physics among students and the general public. These awards are now given for the academic year instead of the calendar year.

With employers. Placement Centers were conducted at the APS-AAPT Annual Joint Meeting in New York and the APS Spring Meeting in Baltimore. The ratio of jobs to applicants at these centers remained the same as last year, averaging about two jobs per applicant. There was also a Manpower Placement Center at the October meeting of APS and the Division of Plasma Physics Annual Meeting in New York.

The Manpower Placement Division's Employment Service had about 1100

American Institute of Physics Incorporated Statements of revenue and expense

	Year ended 31 December	
	1981	1980
Revenue		
Publishing operations		
Subscriptions	\$ 6 083 964	\$ 5 205 088
Voluntary page/article charges	1 995 820	1 861 166
Advertising sales	1 410 122	1 256 000
Back number and microfilm sales	572 104	331 643
Other	443 989	395 117
	<u>10 505 999</u>	<u>9 049 014</u>
General operations		
Grant and contract activities	443 470	375 068
Educational activities	317 656	330 827
Member Society and Corporate Associates dues	218 379	191 033
	<u>979 505</u>	<u>896 928</u>
Other operations		
Investment income (net of \$17 608 paid to Societies in 1981)	628 393	315 314
Special projects	25 760	26 149
Other	322 984	250 388
	<u>977 137</u>	<u>591 851</u>
Total revenue	<u>12 462 641</u>	<u>10 537 793</u>
Expense		
Publishing operations	9 777 010	8 389 862
General operations	1 724 658	1 494 616
General and administrative	452 800	489 773
Other	229 513	202 711
Total expense	<u>12 183 981</u>	<u>10 576 962</u>
Excess (deficiency) of revenue over expense before the cumulative effect of a change in accounting policy	\$ 278 660	\$ (39 169)
Cumulative effect on prior years of a change in accounting for compensated absences	(97 321)	—
Excess (deficiency) of revenue over expenses	<u>\$ 181 339</u>	<u>\$ (39 169)</u>



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Marketing services display of AIP journals, conference proceedings and other materials produced by AIP at the American Library Association meeting in San Francisco, July 1981.

applicants registered. Upon request from employers, searches were made for suitable candidates among the registrants. About two people per week availed themselves of personal career counseling services at AIP headquarters, and distribution of the *Summary of Open Positions* and a monthly newsletter to Physics Department Chairmen and Employment Information Officers continued at approximately 3000.

To help find ways of assisting physically handicapped scientists and engineers with their careers, the Division gathered information to be shared with the American Association for the Advancement of Science Project on the Handicapped in Science.

All of these activities lead to this conclusion: that although several years ago physics graduates still had some difficulty finding satisfactory permanent jobs, the outlook for new physics graduates, especially those with special expertise, has brightened, primarily in the industrial sector. Employers are increasingly willing to consider physicists for jobs not necessarily entitled "physics."

As of 1 January 1982, the Manpower Placement Division established a fee schedule for use of the Placement Service, because it was felt that only those candidates truly seeking positions through the Placement Service would choose to remain on the applicant's list. Fees were planned to be quite modest, and AIP will certainly continue its

large subsidy for placement and other services provided.

General administration

AIP's third annual Long Range Function Planning Report was presented to the Executive Committee at its September meeting and to the Governing Board in October, with background and details given for each of the seven functions into which the Institute's operations are divided. Long-range concerns relating to the changing economy, funding the programs, and the potential of new technologies were discussed at both meetings. Special attention was also paid to the following special reports:

The AIP Journal System: Relationship of Price, Page Charges, Demand, Cost and Income, report of a study made by King Research, Inc.;

An Accounting System Improvement Plan, which set forth objectives and immediate and long range plans for implementing effective and efficient procedures in this area;

The AIP Computer Operations Modernization Plan, which outlined four major required tasks to convert to new and more efficient Subscription Fulfillment and Accounting Systems.

Facilities. Renovation and landscaping of the Woodbury building was completed, with construction of new offices for the Director, his administrative staff, and the Personnel Division. New equipment was installed in the computer rooms, including a UNIX system and

expanded capabilities for the ATEX and Datapoint systems. Planning was begun for re-equipping the duplicating facility at Woodbury.

At the New York Headquarters, space was provided for the administrative offices of AAPM, which joined with the APS, ASA, AVS and ACA offices already located there.

Constitutional changes. A revised version of the AIP Constitution and Bylaws was approved by the Member Societies and became effective as of 1 January 1982. The changes were largely wording clarifications, and the "Rules" were amended and called "Bylaws." A new committee on the AIP Constitution and Bylaws, chaired by H. Richard Crane, considered other matters of concern to the Governing Board, including possible enlargement of the Executive Committee and the structure of the Memorandum of Agreement with Member Societies.

Personnel. By the end of 1981, AIP staff consisted of approximately 425 full- and part-time employees, 300 of whom were located in Woodbury, and 125 at Headquarters in New York. The turnover for 1981 was approximately 40% compared to 56% in 1980. Turnover had been abnormally high in the past few years due to the move of the entire Publishing Branch to Woodbury.

Kenneth Metzner, who had been Manager of publications I, resigned from AIP and was replaced by John T. Scott, who previously functioned as managing editor of *PHYSICS TODAY*. In August, Charlotte Maier, personnel manager, resigned and was replaced by Theresa C. Braun, who had previously been assistant manager. Dorothy Lasky, assistant to the Director, retired in September, and Lawrence T. Merrill and Cecelia M. Brescia joined the staff as assistant to the Director and administrative assistant to the Director, respectively. Early in the year, Beverly Citrynell was named manager of the manpower placement division.

Finances

The significant increase in 1981 assets shown in the table on page 30 results from increased subscription income.

Our total revenue for the calendar year 1981 amounted to \$12 462 641, while our total expense amounted to \$12 183 981, resulting in a net revenue of \$278 660. In addition to the revenue from the publishing operation, the investment income from short-term investments was a major contribution to the 1981 net revenue.

The financial accounting standards board statement, number 43, requires that the liability for employees' vacation leave must be accrued when earned, rather than when paid. This accounting change, retroactive to 1 January 1980, reduces our 1981 net revenue to \$181 339. □