A look at the Chicago meeting

An energy conference and several out-of-the-ordinary sessions of more general interest will be featured at the joint annual meeting of APS and AAPT in February.

James Golden

A special Topical Conference on Energy will be the outstanding feature of the 1974 joint annual meeting of the American Physical Society and the American Association of Physics Teachers. Entitled "Physics Opportunities in Energy Problems," the Conference will present a variety of problem areas where physics might be of benefit in easing the current energy crisis.

This year the annual meeting will be held in Chicago (4–7 February). The Palmer House is the headquarters hotel, with the La Salle serving as auxiliary. Apart from one session to be held at the Museum of Science and Industry, all meeting activities will take place at the Palmer House.

Technical sessions have been planned by all APS divisions, with the exception of High Polymers, and two of them, the Divisions of Cosmic Physics and Nuclear Physics, will offer general-interest symposia.

A variety of events have been arranged by the AAPT, including symposia on teaching methods and innovations, workshops on computers in teaching, and idea swaps, in addition to a number of general-interest sessions jointly sponsored with APS committees and the Forum on Physics and Society.

Both organizations will hold business meetings during the four-day gathering—the APS on Monday afternoon at 5:00, and the AAPT at 11 a.m. on Thursday, when Sherwood K. Haynes will be installed as the new president of the Association. The Division of Particles and Fields also has scheduled a business meeting for 4:30 Wednesday afternoon.

The APS Council will convene at 9:30 on Sunday morning, a day before the meeting itself starts, and continue in session throughout the day. This, as well as other Council meetings, is open to any APS member who wishes to observe the proceedings.

This year, members of APS will note more than the usual emphasis on applied and industrial physics, largely due to the presence of the Topical Conference on Energy in the schedule. And according to Milan D. Fiske (General Electric Co), the chairman of the energy conference, quite a variety of disciplines will be represented, for the same reason.

The annual meeting is organized by APS executive secretary W. W. Havens Jr and Janet Guernsey, the AAPT program chairman. One-hundred and eleven papers have been contributed to AAPT-sponsored sessions—an increase over the 91 papers given in 1973. After steadily increasing each year up to 1967, the number of APS contributed papers finally appears to be leveling off, according to Havens, although some fluctuation naturally results as the annual meeting moves from city to city. There will be 514 contributed papers this year, down from the 737 given last year in New York. In 1970 at the last meeting in Chicago 528 contributed papers were presented.

Traditional features

Two traditional features of the annual meeting include a Joint Ceremonial Session on Tuesday afternoon and a Wednesday evening Banquet.

▶ Incoming APS president W. K. H. Panofsky (Stanford Linear Accelerator Center) will preside over the first part of the Ceremonial session, which will include an address by retiring president Joseph Mayer (Univ. of Calif., San Diego). AAPT president E. Leonard Jossem (Ohio State Univ.) will officiate during the second half of the program.

CHICAGO CONVENTION AND TOURISM BUREAU

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Subrahmanyan Chandrasekhar, Melba Phillips and Steven Weinberg (left to right) will be honored at the Chicago meeting. Chandrasekhar will be given the AIP–APS Heineman Prize for his applications of rigorous techniques of mathematical physics to problems in astrophysics. Phillips, professor emeritus of physics at the University of Chicago and currently a visiting professor at the State University of New York, Stony Brook, will receive the AAPT Oersted Medal. Weinberg, a professor of physics at Harvard University, will present the AAPT Richtmyer Memorial Lecture for 1974.

Kenneth Ford (Univ. of Mass., Boston) will present AAPT's Oersted Medal to Melba Phillips (State Univ. of N.Y., Stony Brook). After hearing Phillips's response, the audience will listen to the 33rd Richtmyer Memorial Lecture, delivered by Steven Weinberg (Harvard). Weinberg will speak on "Progress Toward a Unified Theory of Elementary Particles."

▶ Cocktails will be available (for sale) beginning at 6 p.m., and the Banquet proper will start at 7:30. The APS–AIP Heineman Prize for Mathematical Physics will be awarded to Subrahmanyan Chandrasekhar (Laboratory for Astrophysics and Space Research, Univ. of Chicago). After dinner, Thomas O. Paine, previously the director of the National Aeronautics and Space Administration and now with the General Electric Co, will give a talk on "The Interaction of Science and Society."

Topical Conference on Energy

A general-interest session, "The Energy Problem in Perspective," will lead off the energy conference on Monday morning, providing background information for the six technical sessions scheduled during the remainder of the week. Only this initial session is jointly sponsored, the technical programs having been organized by APS, with assistance from the divisions.

The Topical Conference will bring together some of the nation's most knowledgeable speakers on resource development, mobile powerplants, energy transmission and storage, and power generation by means of fission, fusion and other methods. A total of 29 people from industry, government, acade-

Invited papers

Monday a. m.

AAPT, APS — **Energy conference:** The energy problem in perspective
J. C. Fisher, J. Gibbons, C. Starr, Cong. M. McCormack, P. Donovan

AAPT, SPS — **Cooperation for convenience**
C. G. Shugart, L. J. Humphries, M. Cheiky, M. S. Schmalz, T. Bennie, P. A. Dixon, H. Shwe, A. A. Strassenburg

AAPT — **Computers and computer programs**
A. Bork

APS — **Nuclear physics:** Review of nuclear theory
B. D. Day, J. B. McGrory, C. B. Dover, E. R. Marshalek

Solid state: Topics on solid-state physics
J. Matisoo, P. Pincus, C. V. Shank

Cosmic physics: Solar flares and cosmic rays
E. L. Chupp, D. Anglin, W. R. Webber, D. N. Schramm

Electron and atomic physics: A process involving stored charged particles
H. G. Dehmelt, F. L. Walls, E. N. Fortson, J. I. Brauman

Molecules and chemical physics
C. C. Wang

Monday p. m.

AAPT, APS — **General interest:** Academic employment of women in physics
B. Sandler

AAPT — **Student development of instructional materials**
P. B. Kahn, F. Myers, F. Brunschwig, W. G. Aldridge, J. Como

SPS — **Nuclear energy:** Social challenge
D. R. Inglis

APS — **Energy conference:** Resource development
F. K. Levin, H. Perry, D. Archer, T. E. Fischer

Nuclear physics: Collective states and nuclear shapes
D. P. Balamuth, M. B. Lewis, F. Rickey, D. Cline

Solid state: Synthetic microstructures
E. D. Wolf, M. H. Kryder, W. W. Webb, C. G. Thornton

Cosmic physics: New physics in galaxies
P. Goldreich, R. J. Ruffini, J. P. Ostriker, W. L. Sargent

Electron and atomic physics: The cosmic abundance of deuterium
R. V. Wagoner, A. A. Penzias, F. L. Roesler, D. G. York

Tuesday a. m.

AAPT — **Engineered success in high school physics**
D. Huegel

Two-year college programs: The open laboratory revisited
P. Feldker

Physics for biology and pre-medical students
R. A. Hobbie

APS — **Energy conference:** Mobile powerplants
P. S. Myers, J. B. Heywood, J. Harwood, J. Harding

Cosmic physics: General interest
S. Chandrasekhar, I. Strong, R. Silberberg, E. N. Parker

Biological physics: Dynamical processes in biology
E. Margoliash, K. Pye, A. T. Winfree, M. H. Cohen

New APS activities
Cong. C. Mosher, B. Casper, B. S. Cooper, N. R. Werthamer, P. Eisenberger, A. Saperstein, H. J. Raveche

mia and various national laboratories have been invited to give papers—subsequently to be published as part of the AIP Conference Proceedings series.

To aid physicists unfamiliar with subject matter that may be introduced at the technical sessions, each speaker has been asked to place his talk within a broad context. The thrust of the papers should be fairly direct, with the speakers delineating technical problems where physics might be successfully applied, and, where possible, describing specific physical problems.

An integral part of any physics conference is, of course, the program of technical sessions. Although the APS divisions helped organize the energy sessions, they will offer an extensive program of their own technical symposia (see table below).

General-interest sessions

These sessions are, by definition, accessible to a much broader spectrum of physicists than are the technical programs. This year's offerings include

▸ A general-interest session on the history of physics in the 20th century. On Wednesday morning Martin J. Klein (Yale), one of the nation's foremost science historians, will deliver a talk entitled "Carnot's Principle, the Second Law, and the Development of Physical Thought." David M. Dennison (Univ. of Mich.) will offer his personal recollections of the ferment in physics in the mid-1920's that led to the discovery of quantum mechanics. And Robert G. Sachs (Argonne National Laboratory and Univ. of Chicago) will complete the program with his paper "The Post-war Transition: Development of the National Laboratories."

▸ "Science Museums, Science and Society." Chicago's Museum of Science and Industry will be the site of this Tuesday evening symposium—the only event scheduled at this time. The APS Forum and the Committee on Science Education for the General Public of the AAPT have arranged for transportation to and from the Museum, a buffet dinner and a series of talks by three figures in the science-museum field. Victor J. Danilov (director of the Museum) will speak on the need for greater involvement of scientists with science museums. D. N. Omand (Ontario Science Center) will cover another aspect of the field; the title of his talk is "The Modern Science Museum—Communicator Between Science and Society." And W. Shwayder (Detroit Science Center) will report on the Detroit Science Center.

▸ "Physics and Public Relations." Also planned by the Forum and the Committee on Science Education for the General Public, this Wednesday afternoon session will give Walter Massey (Brown Univ.), Fernand Brunschwig (Empire State College), Alfred Rosenthal (National Science Foundation) and Victor J. Danilov an opportunity to explain their success in gaining the interests of nonscientists in matters that concern the scientific community.

▸ "New APS activities." At this Tuesday morning gathering Society members will be able to hear Benjamin S. Cooper (Iowa State Univ.) and N. Richard Werthamer (Bell Telephone Labs) tell about their experiences as the first APS Congressional fellows. Werthamer, who works with the office of Congressman Charles Mosher, has persauded Mosher to explain the need for such programs as this one in Con-

Tuesday p. m.

AAPT, APS — **Joint ceremonial session**
J. Mayer, M. Phillips, K. Ford, S. Weinberg

SPS — **Symmetry in art and science**
M. Hamermesh

AAPT, APS — **Science Museums, Science and Society** (7:30)
V. J. Danilov, D. N. Omand, W. Shwayder

Wednesday a. m.

AAPT, APS — **History of physics**
M. J. Klein, D. M. Dennison, R. G. Sachs

AAPT — **Classroom laser safety:** Demonstration and laboratory apparatus
R. G. Tinker

APS — **Energy conference:** Energy transmission and storage
A. N. Greenwood, T. W. Dakin, E. Cairns, D. Gregory

Nuclear physics: Recent developments in nuclear physics
P. D. Barnes, R. E. Segel, W. Benenson, W. R. Coker, F. P. Calaprice

Particles and fields: Neutrino interactions
A. DeRujula, D. Cundy, R. Imlay, F. Sciulli

Electron and atomic physics: Low-energy atomic and molecular interactions
G. Scoles, L. Wharton, V. W. Hughes

Wednesday p. m.

AAPT, APS — **Physics and public relations**
W. Massey, F. Brunschwig, A. Rosenthal, V. J. Danilov

AAPT — **The Illinois State Physics Project and physics teacher preparation**
D. W. Wylie, R. C. Wadell, E. Zurcker, G. Ross, S. G. Sanders, F. W. Zurheide

SPS — **A computer model of labor-market processes**
L. P. Kadanoff

APS — **Energy Conference:** Fission power generation
M. Dyos, G. H. Vineyard, R. C. Lukala, H. Kouts

Chemical physics: Intermolecular forces
R. J. LeRoy, J. A. Barker, A. C. Wahl, Y. T. Lee

Particles and fields: Theoretical symposium
S. Mandelstam, R. Jackiw, H. D. Politzer

Plasma physics: I
E. Frieman, T. Tamano, R. V. Pyle

Particles and fields: Business meeting (4:30)

AAPT, APS — **Joint Banquet** (7:30)
T. O. Paine

Thursday a. m.

AAPT — **Individualized science instruction**
C. E. Swartz

APS — **Energy conference:** Fusion power generation
K. Brueckner, G. Yonas, H. Furth, F. L. Ribe

Nuclear physics: General interest
E. Wigner, V. F. Weisskopf, W. A. Fowler, L. Grodzins

Chemical physics: Photoelectron spectroscopy I
T. A. Carlson, D. A. Shirley, M. E. Schwartz

Particles and fields: Strong interactions
M. Jacob, A. C. Mellissinos, J. Whitmore, H. Frisch

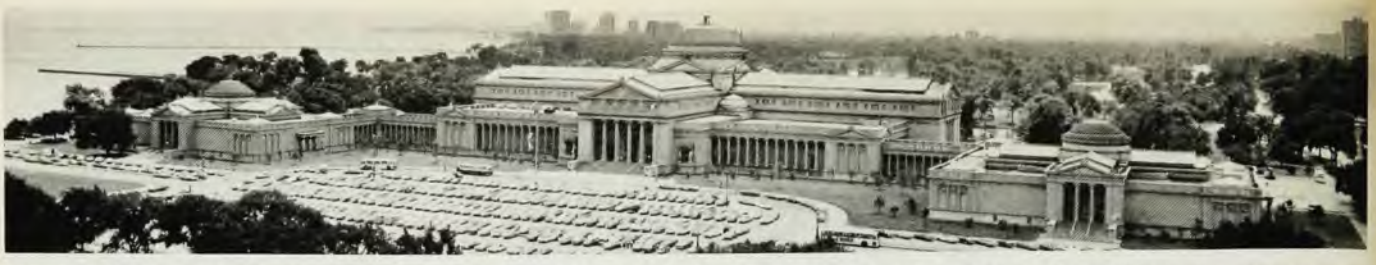
Thursday p. m.

APS — **Energy conference:** Alternative methods of power generation
A. Kantrowitz, L. Herwig, M. Smith, C. Zener

Plasma physics: II
G. Van Hoven, K. Thomas, R. Davidson

Chemical physics: Photoelectron spectroscopy II
C. A. McDowell, J. W. Rabalais, J. W. D. Connolly

Particles and fields: Electromagnetic phenomena
W. Colglazier, K. Berkelman, B. Richter, K. W. Chen



Chicago's Museum of Science and Industry is the site of a Tuesday evening session, "Science Museums, Science and Society." The Museum, designed specifically for visitor participation, will remain open both before and after the session.

gress. There will also be reports and discussion on the Member Advisory Committees and their recent activities.

▸ "Women in Academe: It Hurts to be a Woman in Labor." Bernice Sandler (Assn. of American Colleges) has been invited by the APS Committee on Women in Physics and the AAPT to speak on the academic employment problems of women.

The Division of Cosmic Physics will sponsor a Tuesday morning session in honor of Heineman Prize winner Chandrasekhar, who will deliver a paper on relativistic astrophysics. The Division of Nuclear Physics has also planned a general-interest session for Thursday morning.

AAPT program features

A substantial portion of the meeting program will be taken up by separately sponsored events. Some of the AAPT program follows:

▸ "Computers and Computer Programs," a session planned by AAPT for Monday morning, will deal with the applications of computers to physics teaching, with emphasis on student-computer dialogues. The morning session will be followed by an afternoon workshop examining available computer-teaching materials, an open panel discussion, and a period of audience participation. After dinner, the workshop activities will resume. During the remainder of the week the workshop equipment will remain on display for visitors to view and operate.

▸ A symposium entitled "Student Development of Instructional Materials" will take place on Monday afternoon. Kenneth W. Ford will take this occasion to present AAPT's Distinguished Service Awards to Irving E. Dayton (Montana State Univ.), Halson V. Eagleson (Howard Univ.), Ronald Geballe (Univ. of Wash.), John M. Hunter (Virginia State College), Robert N. Little (Univ. of Texas), Buel C. Robinson (George Washington High School, Denver), David Scott (Roosevelt High School, Seattle) and Charles Weiner (AIP).

▸ On Tuesday afternoon AAPT will host a session on physics for biology and pre-medical students.

▸ The Annual Film Show of physics-related educational films will be open from 10 to 12 Monday through Wednesday, and from 3 to 5 on Monday and Wednesday.

Some other AAPT sessions will include, on Monday, "Instrumentation and Laboratory Design," "Undergraduate Physics and Special Courses," and a members' rap session with AAPT officers; on Tuesday, "Engineered Success in High School Physics" (including presentation of the Innovative High School Teacher Awards), and "Two-Year College Programs"; on Wednesday, a demonstration of laboratory apparatus and a session on the Illinois State Physics Project and physics teacher preparation; on Thursday, an informal idea exchange and a gathering to discuss physics for nonscientists.

In conjunction with the AAPT, the Society of Physics Students has planned a symposium for Monday morning entitled "Cooperation for Convenience," at which the activities of SPS as they relate to the goals of AAPT will be given attention.

SPS will also host three invited-speaker sessions. On Monday afternoon David R. Inglis (Univ. of Mass., Amherst) will speak on "Nuclear Energy: Social Challenge." Morton Hamermesh (Univ. of Minn.) will give a Tuesday afternoon talk on "Symmetry in Art and Science." And for Wednesday afternoon Leo P. Kadanoff (Brown) has prepared a paper with the intriguing title "A Computer Model of Labor Market Processes, or How to Construct Plausible Lies."

AIP services

Throughout the course of the meeting, AIP Press Relations, managed by Audrey Likely, will set up regular press conferences and arrange for meetings between individual science writers and physicists, in addition to providing other pressroom services.

The 22nd annual Physics Show, organized by Ed Greeley of the AIP Advertising Division, will feature a wide variety of research equipment, such as accelerators, cryogenic dewars, multichannel analyzers, and photodetection assemblies, as well as teaching aids, books and journals. The show will be open from 10 a.m. to 5 p.m. Monday through Wednesday.

Margot Breslaw of AIP's Manpower Division will run a placement register, located in the third-floor exhibit hall of the Palmer House. Here interviews between job-seeking physicists and prospective employers will be arranged. The placement register will be open from 9 a.m. to 5 p.m. Monday through Wednesday and from 9 to 12 on Thursday. Raymond W. Sears, the APS placement consultant, will also be available by appointment for personal consultations.

The schedule for the 1974 joint annual meeting reflects the activities of the APS and AAPT as they move to accommodate the rapid and sometimes sudden changes taking place in our society. A firm emphasis on the use of technology to meet present and future needs—whether in the form of improved energy technology or use of computers for more effective education of the physicists of tomorrow—is clearly evident. It is possible that this year's meeting, as a forum for communication and creative interplay, will initiate substantial contributions. □

FISKE

PAINE

HAYNES

PANOFSKY