APS and AAPT hold January Meeting in San Francisco

Sessions will concern nuclear physics, synchrotron radiation and VLSI, as well as the arms race, funding, and education in China and the USSR

The American Physical Society and the American Association of Physics Teachers will hold their annual joint meeting in San Francisco from Monday to Thursday, 25 to 28 January. A number of short courses and special events will be given during the two days before the meeting. All symposia and most other events will take place at the San Francisco Hilton, located downtown at Ellis and Mason Streets.

Registration will take place on Sunday evening from 6:00 to 9:00 and on each of the following four days from 8:30 to 5:00.

The meeting will consist of about thirty symposia of invited papers on technical subjects, teaching and public affairs. There will also be 27 sessions at which contributed papers will be heard and a single poster session. A great number of workshops, "hands-on" sessions and special lectures and films will be presented. A calendar of all symposia and special events appears on the following pages.

The thirtieth annual AIP Physics Show will be held Monday and Tuesday (10 to 5) and Wednesday (10 to 3) in the Hilton Plaza, on the hotel's lobby level. It will feature manufacturers' exhibits of new equipment and a "publishers' row" of new books. See the exhibitors program on the following pages.

The Manpower Placement Division of AIP will conduct a placement center in the California Room of the ballroom floor of the hotel during the conference. It will arrange interviews between prospective employees and employers.

There will also be a newsroom staffed by the AIP Public Information Division. It will be held in the Teakwood Suite for the duration of the meeting. The service will arrange news conferences and interviews between scientists and science writers and will distribute news releases.

On Tuesday afternoon, 2:00 o'clock, the APS and AAPT will hold a joint ceremonial session. On behalf of AIP and APS, who jointly administer the award, retiring APS president Arthur Schawlow will present the 1982 Dannie Heineman Prize for Mathematical Physics to John C. Ward, professor of physics at Macquarie University, New South Wales, Australia, for "his contributions to mathematical physics, especially in renormalization theory and gauge theories of elementary interactions." Ward, who was born in London, attended Oxford, where he earned degrees in engineering science in 1945 and mathematics in 1946 and a DPhil in theoretical physics in 1949. He taught at the University of Maryland, the University of Miami, Carnegie Institute of Technology, and Johns Hopkins University before his appointment to his present position in 1966.

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His most important contributions to physics have included work in field theory renormalization, in which he developed a method for carrying out the renormalization of S-matrix elements. This method had the advantage of being free from the problem of overlapping divergence. In addition he discovered "Ward identities," which express the gauge invariance of a field theory. In statistical mechanics, Ward helped to extend the elementary Bethe– Peierls combinatorial approach to the two-dimensional Ising model. In joint work with A. Salam, Ward advocated and investigated a gauge theory approach toward the unification of weak and electromagnetic interactions. Ward and Salam were the first to suggest that an elementary field must exist with mass about 80 times that of the proton. Ward describes his long-term obsessions as the real connection between unified theories, spin and general relativity, and the decay of physics teaching in schools and universities.

Schawlow will also present the Leroy Apker Award, to Mark B. Ritter, a graduate student at Yale University for "his accomplishments as an undergraduate student at Montana State University, including his research on the optical and magnetic properties of solids." The award, which includes

Invited Papers and Special Events

Friday, 22 January

morning and afternoon

AAPT Workshop: Advanced Interfacing (City Col. S. F.)

Saturday, 23 January

morning and afternoon

AAPT Workshop: Advanced Interfacing (City Col. S. F.)

AAPT Workshop: Authoring Computer-Based Learning Dialogs, Part I (City Col. S. F.)

AAPT Short Course: Aspects of Medical Physics, Part I (UCSF Medical Center)

AAPT Workshop: Structured Programming Concepts, Part I (City Col. S. F.)

AAPT Workshop: Introduction to Microcomputers as Laboratory Instruments (City Col. S. F.)

AAPT Workshop: Introductory PASCAL (City Col. S. F.)

Sunday, 24 January

morning and afternoon

AAPT Short Course: The Arms Race

AAPT Workshop: Authoring Computer-Based Learning Dialogs, Part II (City Col. S. F.)

AAPT Short Course: Aspects of Medical Physics, Part II (UCSF Medical Cen.)

AAPT Workshop: Structured Programming Concepts, Part II

AAPT Workshop: Introduction to Microcomputers as Laboratory Instruments (City Col. S. F.)

AAPT Workshop: Introductory PASCAL (City Col. S. F.)

afternoon

AAPT Open House for High-School Teachers

evening

AAPT Open House for Two-Year College Teachers

AAPT Open House for Women in Physics and Minorities in Physics Education

AAPT Section Officers' Exchange Session

Monday, 25 January

morning

GLORIA B. LUBKIN

AAPT Symposium: Physics Education in the USSR and People's Republic of China

Symposium of (APS) Division of Particles and Fields: Burke, Reay, Moffeit, Wilczek.

Joint Symposium of the Committee of the Status of Women in Physics and AAPT: Challenges of Usual/Unusual Career Paths for Physicists: Spencer, Monard, Fetter, Hoyt.

Joint Symposium: New Developments in Astronomy: Black, Cohen, Bowyer, Kaufmann

AAPT Commercial Workshop: Educational Applications of Model Rockets (Estes Ind.)

AAPT Commercial Workshop: Good Samaritan Workshop (TEL-Atomic)

Joint Minisession: Funding: Krebs

Film Show

afternoon

LAWRENCE BERKELEY LABORATORY

Symposium Cosponsored by the Division of History of Physics to Celebrate the 50th Anniversaries of the Lawrence Berkeley Laboratory and the W. K. Kellogg Radiation Laboratory: Alvarez, Holbrow, Fowler, Kamen

Joint Symposium APS/AAPT: Synchrotron Radiation: Now and Future: Rowe, Stern, Hodgson, Eisenberger, Himpsel

Joint Symposium of APS Education Committee and AAPT Committee on Physics in Higher Education: Innovations in Physics Education: Slifkin, Fuller, Sybert, Eisberg

AAPT Professional Concerns Rap Session

AAPT Workshop: Proposal Writing

APS Business Meeting

AAPT Physics Olympics and Contributed Poster Paper on Physics Olympics

AAPT Hands-On Session: The Use of Personal Computers in Learning Physics

Film Show

APS/AAPT No-Host Cocktail Party

evening

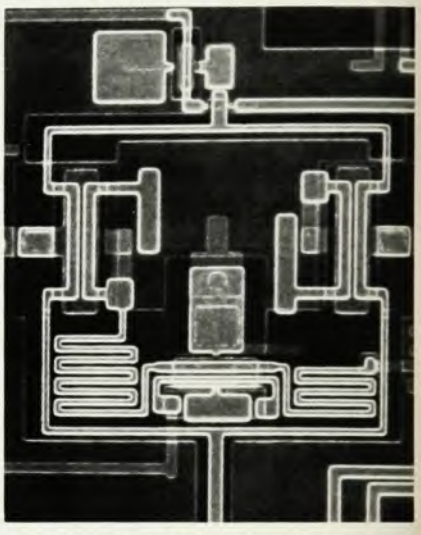
AAPT Workshop: Numerical Procedures in Introductory Physics, Part I

AAPT Workshop: Share-A-Program

Special Lecture: Asteroids and Dinosaurs: Alvarez

Tuesday, 26 January

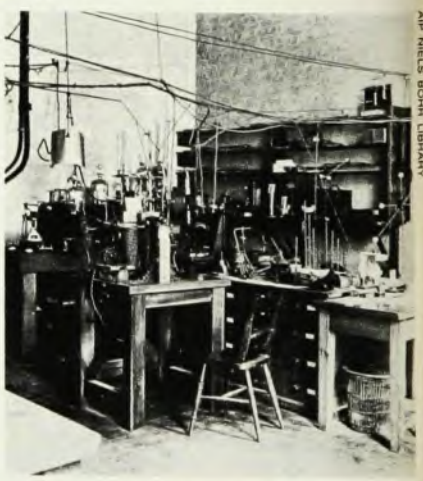
morning



Symposium of the (APS) Committee on Applications of Physics: Physics of VLSI: Surfaces and Interfaces: Mayer, Rubloff, Spence, Feldman, Swanson

Symposium of the (APS) Division of Particles and Fields: High-Energy Physics Planning for the Future: Drell, Trilling, Wallenmeyer, Berley

AAPT Symposium on Research in Physics Education: Kelly, Reif, Minstrell, diSessa, Arons



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Joint Symposium of the Division of History of Physics and AAPT: The Neutron Discovery and the Atomic Nucleus: Badash, Segrè, Goldhaber, Bromberg, Wigner

AAPT Workshop: Introduction to Personal Computers in the Physics Classroom

AAPT Commercial Workshop: Physics Lab Manual with Correlated Computer Aids (Metrologic Instruments)

AAPT Commercial Workshop: Good Samaritan Workshop (TEL-Atomic)

Film Show

afternoon

Joint APS/AAPT Ceremonial Session: Schawlow, Rabi, McNally

AAPT Workshop: Numerical Procedures in Introductory Physics, Part II

evening

Joint Symposium of the (APS) Forum on Physics and Society and AAPT: Nuclear Energy, Nuclear Weapons Proliferation, and the Arms Race: Holdren, Spinrad, Rochlin, Stone

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Open House: The Exploratorium

Wednesday, 27 January

morning

Symposium of the (APS) Division of Nuclear Physics: Interactions of Nuclear Atomic and Solid-State Physics: Cohen, Anderson, Niv, Anholt

Symposium on the (APS) Committee on Applications of Physics: Displays: Lambe, Penz, Chang, Anderson

Joint Symposium APS/AAPT: Alternative Funding For Physics: Pake, Byer, Lee

AAPT Symposium: Word Processing in Physics: Kirkpatrick, Naegele, Kurtz, Signell, Peckham, Adams

Poster Session: Various Topics, Post-Deadline Papers.

AAPT Workshop: Introduction to Personal Computers in the Physics Classroom

AAPT Workshop: Amusement Park Physics

AAPT Commercial Workshop: Good Samaritan Workshop (TEL-Atomic)

AAPT Awards Session: Kelly

Film Show

afternoon

Symposium of the (APS) Division of Nuclear Physics: Nuclear Physics and Problems in Fundamental Interactions and Astrophysics: Henley, Haeberli, Berman, Rosen

Symposium of the (APS) Division of Cosmic Physics: The Saturn System: Cuzzi, Shoemaker, Ingersoll, Scarf

Joint Symposium of the (APS) Division of Particles and Fields and AAPT: Recent Advances in Particle Physics: Steinberger, Ward, Ting

AAPT Symposium: What Else Should Physics Teachers Know About Energy?: Fowler, Nader

Joint Symposium on Initiatives and Issues: Getting Science to the Public: Perlman, Oppenheimer, Friedman, Regan, Stahl

AAPT Workshop: Problems Concerning Minority Students

AAPT Rap Session: Committees on Minorities and Women in Physics

AAPT Rap Session with AAPT Officers

evening

Joint Symposium of the (APS) Forum of Physics and Society and AAPT: The Potential for an Efficient Energy Future–The SERI Solar Conservation Study: Kelly, Rosenfeld, Ross, Gray

AAPT Informal Meeting: Training teaching assistants to teach

Thursday, 28 January

morning

Symposium of the (APS) Division of Electron and Atomic Physics: Relativistic and Quantum Electrodynamic Effects in Atoms: Crasemann, Greiner, Sucher, Marrus, Murnick

Symposium of the (APS) Cosmic Physics Division: Nelson, Cohen, Whitcomb, Arons

Joint Symposium APS/AAPT: Recent Advances in Plasma Physics: Kunkel, Alexeff, Frieman

AAPT Symposium: New Approaches to Public Understanding of Science: Bork, Hakansson, Lewin

AAPT: Videodiscs—Intelligent Physics Teaching for the Future: Zollman, Fuller, Kadesch, Long

AAPT Poster Session

afternoon

INSTITUTE FOR ASTRONOMY, MAUNA KEA OBSERVATORY

Symposium of the (APS) Division of Electron and Atomic Physics: Atomic and Molecular Physics Problems posed by the Exploration of the Outer Planets: Feldman, Strobel, Shemansky, Birnbaum

Joint Symposium of the (APS) Forum on Physics and Society and AAPT: Disarmament, Cold War, or Nuclear War?: York, Breslauer, Schwartz, Drell

Joint Symposium APS/AAPT: Earthquakes and Vulcanism: Levine, Kanamori, Peterson

evening

The Forgotten Fundamentals of the Energy Crisis: A. A. Bartlett (Fireman's Fund Bldg.)

$2000, is the only national prize recognizing undergraduate physics achievements. Ritter will also give an invited paper during the meeting.

After Schawlow delivers his address as retiring president, his successor, Maurice Goldhaber, will turn the session over to AAPT president William Kelly. The AAPT past president, Robert C. Fuller, will present the Oersted Medal to I. I. Rabi, professor emeritus in the department of physics at Columbia University. Rabi will deliver a lecture on "The White Man's Physics." Rabi, born in Rymanow, then Austria, was educated at Cornell (BChem 1919) and Columbia (PhD in physics 1927). Starting to work at Columbia in 1929, he rose from assistant professor to professor from 1930 to 1950. He was the chairman of the department from 1945 to 1949. He also worked at the MIT Radiation Laboratory and at Los Alamos, among many other laboratories, and held appointments at many universities. He has been a consultant or member of such policy comittees as the Presidential Advisory Committee, the AEC, NATO, the Arms Control and Disarmament Agency and UNESCO. His work has involved nuclear physics, quantum mechanics, molecular beams and magnetism. He received the Nobel Prize, for his resonance method of measuring nuclear magnetic moments, in 1944.

Fuller will present Melba N. Phillips with the first Melba Phillips Award for Exceptional Service to Physics Education through the AAPT. Phillips was educated at Oakland City College (AB, 1926), Battle Creek College (MS, 1928) and University of California at Berkeley (PhD, 1933). After teaching at Berkeley, Connecticut College, Brooklyn College and the University of Minnesota, she was assistant professor at Brooklyn College 1944–52. She was associate director, Academic Year Institute, Washington University, from 1957 to 1962, when she started a ten-year tenure as professor at the University of Chicago. In organizational service to physics, she was a member of the AIP Governing Board (1965–68, 1975–77) and was acting executive officer (1975–77) and president (1966–67) of the American Association of Physics Teachers.

She wrote, with W. K. H. Panofsky, *Classical Electricity and Magnetism* and, with F. T. Bonner, *Principles of Physical Science*. Her research interests have been in theory of complex spectra, theory of light nuclei and history of physics education.

Finally, Karen McNally will deliver the forty-first AAPT Richtmeyer Lecture on "Earthquake Prediction: A Problem in Physical Scaling." McNally, who is a researcher in the seismological laboratory of Caltech and a member of the division of Earth Sciences, University of California at Santa Cruz, was educated at Berkeley: AB 1971, MA 1973, PhD in geophysics 1976. She was a fellow 1976–78 and then a senior research fellow in geophysics at Caltech before assuming her current positions. Her research has concerned regional tectonics, earthquake statistics, fracture mechanics, earthquake source mechanism crust and upper mantle structure. —DG