

ment of arid lands. It found the nuclear complex (or "nuplex") might find application in parts of Australia, India, Mexico, the Middle East, Peru and the U.S. Reactors could provide 10^9 gallons of fresh water a day, enough to irrigate 300 000 acres of crops. Industrial plants might produce fertilizers, aluminum, phosphorus, caustic-chlorine, magnesium and ammonia.

The study was conducted for the Atomic Energy Commission by Edward A. Mason of MIT. Already the AEC is following up with a study of the potential for nuplexes in the Middle East. This one will suggest specific sites.

IPPS Membership Rises 8%; Deficit Totals \$11 000

The Institute of Physics and the Physical Society reported at its annual meeting a membership increase of 8% and an operating deficit of \$11 000 for 1967.

Membership growth to 13 178 was caused chiefly by new graduate and associate members, which make up nearly two-thirds of total membership. Associate members now total 4250 and graduates 4000. The growth raised the institute's income; yet expenditures rose to \$680 000 resulting in the net deficit for the year.

The meeting elected Malcolm R. Gavin, of the University of North Wales, as president; Robert Press as honorary secretary; P. T. Menzies as honorary treasurer; and Bryan R. Coles as vice-president. Peter B. Hirsch, Alfred J. Kennedy and J. E. Roberts were elected new members of the council.

Wiesner, Hornig Revive Talk Of Federal Science Department

The question of creating a single federal science agency to formulate overall policy has been revived as the budget squeeze causes scientists to re-examine administration and planning methods. Support for the idea, or at least for a new examination of it, was voiced recently by Jerome B. Wiesner, MIT provost and former White House science adviser, and by Donald F. Hornig, the present White House adviser.

Wiesner proposed using the National Science Foundation as the core of a new research and development agency that would expand into urban

and environmental areas. According to Wiesner, such an agency would provide the answer to what he called a "seriously lopsided research program." US leadership may be passing to Europe and Japan in such fields as high-energy physics, some areas of solid-state physics, astronomy, some areas of metallurgy and specialized instrumentation fields such as high-resolution electron microscopy, he said.

There has been no time since World War II, Wiesner continued, "when sci-

entists have been more discouraged." He spoke at the dedication of a new technical information center by the Celanese Research Co. in Summit, N.J.

Hornig told the American Chemical Society in Atlantic City that it is time to examine the idea of a federal science department by means of studies, public discussion and congressional debates. While he did not take a stand Hornig said that if such a department is created, it should be built around the NSF.

European Physical Society Plans For 10 000 Members

The European Physical Society is a going concern after three years of discussion and planning and surprises right up to the moment it came into existence in a University of Geneva lecture hall. Eighteen national physical societies and academies joined on inauguration day with at least three more expected to follow in the near future.

More than 60 physicists from all over Europe, many who had taken a hand in forming the society, joined as individuals the same day. This number is expected to exceed 1000 by the society's first scientific congress next April and to approach 10 000 in the next several years.

On 24 Sept., two days before the inaugural ceremonies in Geneva, the steering committee did not know whether the Russian physicists planned to join. The next day, however, Lev D. Artisimovich indicated the Soviets would be charter members.

More groups, including some from

additional countries, are expected to enroll. An East German group is expected to join, as are organizations in Poland and Turkey.

EPS encompasses more territory than Europe proper. The constitution provides that the society shall "contribute to and promote the advancement of physics in Europe and in neighboring countries." One of the charter members is the Israeli Physical Society. Other charter national members are Austria, Belgium, Czechoslovakia, Finland, France, West Germany, Hungary, Ireland, Italy, Netherlands, Rumania, Spain, Sweden, Switzerland, United Kingdom, USSR and Yugoslavia.

Lorette Etienne-Amberg, a PhD-physicist who had been scientific secretary of the steering committee, is executive secretary of the new society. On a New York visit in October, she explained classes of membership in an interview with the editors of PHYSICS TODAY.

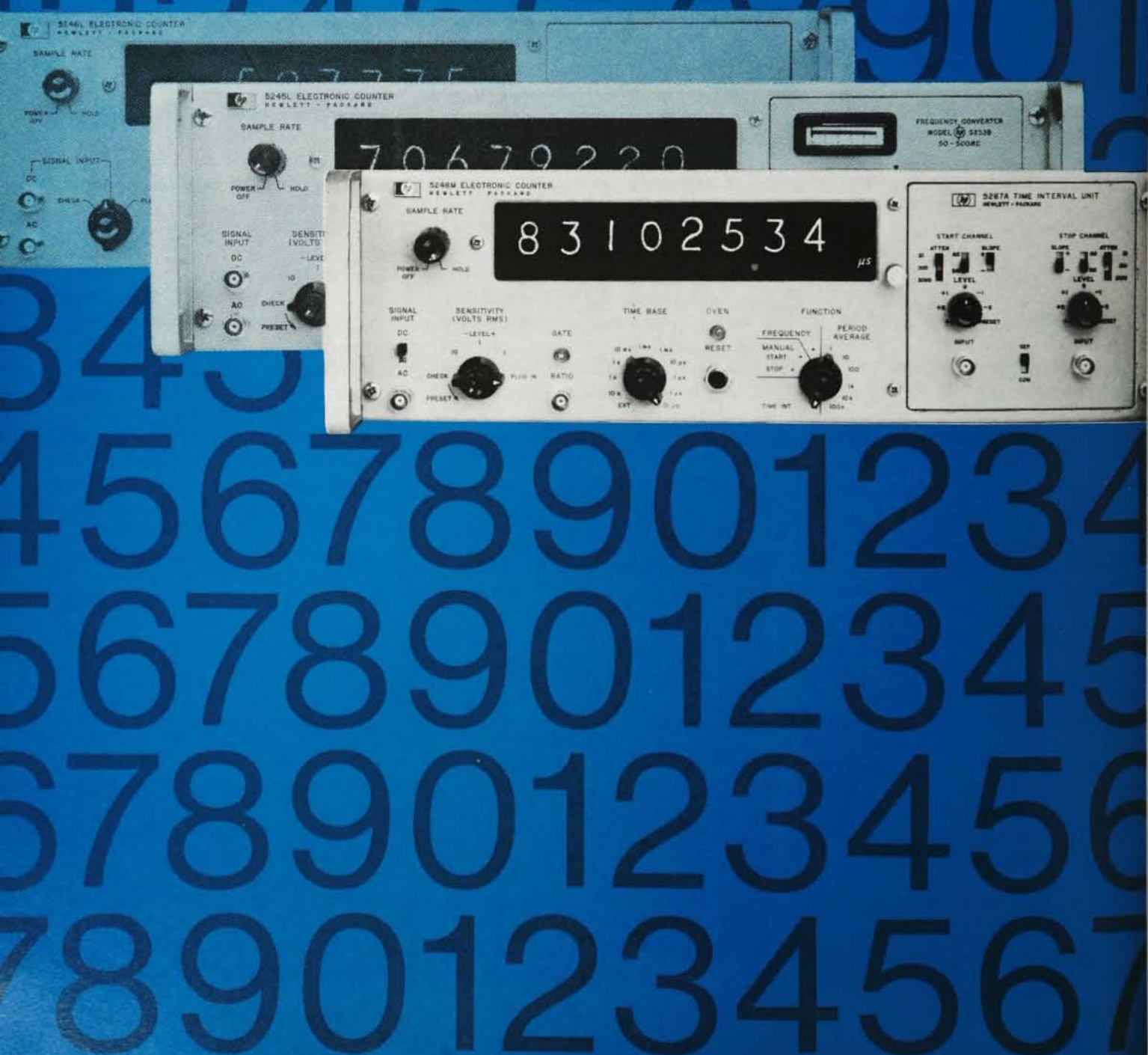
National societies and academies and laboratories and research institutions may join as units. For example, the European Plasma Physics group has joined as a unit. They pay dues on a sliding scale that starts at about \$1 per person per year and drops off for larger societies. These members elect one representative to the EPS Council for the first 500 members, one for the second 500 members, one for the next 1000 members and one for the next 3000 members. A member society with more than 5000 members will have five representatives on the council.

Individuals, whether or not they are members of a member society, may join EPS directly. They are entitled to vote, to elect their own separate representatives to the council and to receive the same services from EPS as do member societies. It is this figure



DR ETIENNE-AMBERG

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THE 5245M COUNTER. The respected "uncle," this counter is nearly identical to the 5245L, except it has the most stable and spectrally pure time-base oscillator ever built into an off-the-shelf counter. Aging rate is 5×10^{-10} /day and short term stability is 5×10^{-11} rms (1 second averaging). With rapid warm-up, this crystal oscillator is an excellent secondary frequency standard, whose S/N ratio is typically >87 dB. Price: \$3100.

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THE 5246L COUNTER. A stripped-down economy version of the 5245L, this "cousin" has a 6-digit readout and a time-base aging rate of <2 parts in 10^7 /month. Options available are 8-digit read-

out, BCD output, and 5245L time base. It also uses all the 5245L plug-ins. Price: \$1800.

THE 5247M COUNTER. This "cousin" is for rapid but accurate "hands-off" measurement of an extremely wide range of signals. It measures frequency only, directly to 135 MHz (to 18 GHz with a plug-in frequency extender), and accepts any input voltage between 100 mV and 10 V without trigger level adjustment. It's similar to the 5245M in ultra-stable, rapid warm-up characteristics. Price: \$3150.

THE 5244L COUNTER. This member of the family is the "basic frame" counter. It doesn't accept plug-ins, but sports the frequency, ratio and period measurement versatility of the 5245L. Frequency range is to 50 MHz, with standard 7-digit readout and BCD output. Time-base aging rate is <2 parts in 10^7 /month. Price: \$1900.

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5261A	Video Amplifier, 1 mV RMS, 10 Hz to 50 MHz, \$325.
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that is expected to reach 10 000 some day.

The first council will be installed next April in Florence. The council in turn will name the executive committee. Until then the society is directed by an interim executive committee elected 26 Sept. Gilberto Bernadini of Pisa is president; other officers include Erik Rudberg of Stockholm, vice-president; Laurence Jansen of Geneva, secretary; and Louis Cohen of London, treasurer.

IPPS Forms Plasma-Physics Group; Pease Is Chairman

A plasma-physics group, expected to meet three or four times a year, has been formed by the Institute for Physics and the Physical Society in London. The new organization hopes to promote study of the plasma state and to provide a meeting ground for plasma physicists in industry, universities and government.

Rendel S. Pease, director of the Culham Laboratory of the United Kingdom Atomic Energy Authority, was named chairman pending an election early next year. P. A. Davenport is honorary secretary. An inaugural meeting was scheduled for 6 Dec.

NYU Nuclear Center Includes 250-kW Reactor, Accelerator

New York University's School of Engineering and Science will build a nuclear activation center to house a TRIGA 250-thermal-kW research reactor and a 1-MeV Van de Graaff accelerator. The reactor will be used for nuclear activation analysis in criminal, medical and pollution research. The accelerator will be used for fast-neutron and charged-particle activation-analysis research.

Construction was to begin 1 Jan. with completion scheduled for the late fall of 1970. The New York State Office of Atomic and Space Development is providing \$200 000 of the approximate \$1-million cost; the US Atomic Energy Commission will provide the reactor fuel without charge. The university's nuclear engineering department will operate the center under the chairmanship of John R. Lamarsh. The department's AGN-201M critical reactor will continue to be used for teaching.



ATOMS FOR PEACE WINNERS Sigvard Eklund, Henry DeWolf Smyth and Abdus Salam meet with newsmen before receiving their awards 14 Oct. in New York.

Atoms-for-Peace Winners Back UN Nonproliferation Treaty

All three winners of the 1968 Atoms for Peace Award made it very clear during acceptance ceremonies in New York that they would like to see the US ratify the nuclear nonproliferation treaty immediately. They also hinted strongly that the International Atomic Energy Agency, with which they are all connected, could use more money.

Gold medallions and \$30 000 honorariums were presented 14 Oct. to Henry DeWolf Smyth, US ambassador to the IAEA; Sigvard Eklund, IAEA director general; and Abdus Salam, director of the agency's International Centre for Theoretical Physics in Trieste (*PHYSICS TODAY*, November, page 119). Robert E. Marshak of the University of Rochester made the presentations; United Nations Secretary General U Thant praised the three and the work of the IAEA.

Speaking to newsmen before the awards ceremony at Rockefeller University, Smyth said:

"I hope that the people of this country and other countries will understand the brutal facts of nuclear war. I hope that in this country neither current reactions to international events nor our domestic troubles nor the excitements of a presidential campaign will keep our citizens from supporting the nonproliferation treaty as a step toward the kind of world we all want."

Smyth argued that the invasion of Czechoslovakia should not deter US ratification. He said: "The fact is that an effective nonproliferation treaty would be good for everyone: the American, the British, the Russians, the nonnuclear countries, everyone. This is after all not a treaty between the United States and the Soviet Union. It is a treaty among 80 nations of the world—with the common purpose of avoiding nuclear war."

Eklund and Salam endorsed Smyth's position. Eklund pointed out that the IAEA now supervises safeguards for 69 reactors in 30 countries and is experienced enough to police the nonproliferation treaty. The Swedish scientist went on to describe the agency's work under its charter to "promote peace, health and prosperity throughout the world."

The IAEA can fill only one third of the requests it receives for technical assistance to underdeveloped countries, Eklund said, because it does not have enough money. About \$3.5 million is available for this, he said, "not at all enough."

Salam also raised the question of money. The IAEA has only \$150 000—what he called a "miserable sum"—to guarantee dual appointments for scientists from underdeveloped countries. Under the dual appointments, such a person is guaranteed three