

numbers," at the 1985 AAPT summer meeting held in June at Northern Arizona University in Flagstaff.

National Academy of Sciences names 60 new members

The National Academy of Sciences elected 60 new members in April in recognition of their distinguished and continuing achievements in original research, thereby bringing the total number of American members to 1453. Among these are the following, whose work is in physics or related fields: W. David Arnett, professor of astrophysics, University of Chicago; Robert J. Aumann, professor of mathematics, Hebrew University of Jerusalem; Richard Bersohn, professor of chemistry, Columbia University; B. Clark Burchfiel, professor of geology, MIT; Alfred Yi Cho, head of the electronics and photonics materials research department of Bell Labs; Stephen A. Cook, professor of computer science, University of Toronto; Mildred S. Dresselhaus, professor at the Center for Materials Science and Engineering and in the electrical engineering department, MIT; Eugene B. Dynkin, professor of mathematics, Cornell University; Sandra M. Faber, professor of astronomy, Lick Observatory, University of California, Santa Cruz; Ronald L. Graham, director of the Mathematics and Statistics Research Center, Bell Labs; Victor W. Guillemin, professor of mathematics, MIT; Icko Iben, professor of astronomy and physics, University of Illinois, Urbana-Champaign; Erich P. Ippen, professor of electrical engineering, MIT; Jiri Jonas, professor of physics, University of Illinois, Urbana-Champaign; Walter D. Knight, professor of physics, University of California, Berkeley; Serge Lang, professor of mathematics, Yale University; James S. Langer, deputy director of the Institute of Theoretical Physics, University of California, Santa Barbara; Paul C. Lauterbur, professor in the college of medicine and in the chemistry department, University of Illinois, Urbana-Champaign; Joseph Pedolsky, senior scientist and professor of oceanography, Woods Hole Oceanographic Institution; Paul L. Richards, professor of physics, University of California, Berkeley; Fred Sherman, professor and chairman of the biology department and professor of radiation biology and biophysics, University of Rochester School of Medicine and Dentistry; Robert Steinberg, professor of mathematics, University of California, Los Angeles; Kenneth L. Thompson, technical staff member, Bell Labs; and Bruno Zumino, professor of physics, University of California, Berkeley.

Among the 15 foreign members also

Precision PMT HIGH VOLTAGE Power Supply Modules

NOW AVAILABLE TO 7.5kV

- 0.001% regulation
- Remote programming and monitoring
- Short circuit and arc protected

Model	Output	Ripple pk-pk
PMT-05A	0 to 500V @ 8mA	5mV
PMT-10A	0 to 1000V @ 4mA	4mV
PMT-20A	0 to 2000V @ 2mA	2mV
PMT-50A	0 to 5000V @ 0.5mA	10mV
PMT-75A	0 to 7500V @ .25mA	100mV

The PMT models are high performance, compact modular power supplies, applicable for OEM and laboratory applications. Positive and negative output polarity units are available that can be operated from a variety of dc input voltages. Send for our catalog describing the most complete line of precision high voltage supplies to 75kV.



BERTAN

ASSOCIATES, Inc.

121 New South Road, Hicksville, NY 11801 • (516) 433-3110 • TWX 510-221-2144

Circle No. 40 for Immediate Application

Circle No. 41 for Literature Only

Microtex Scientific Imaging Lets Your Computer See The Light

An integrated scientific imaging workstation from Microtex can solve your image acquisition problems, and provide results in minutes instead of days.

Whether your application is high speed, low light, UV or IR, a Microtex system can capture, analyze and display almost any image an experiment can create.

For expert applications engineering and further information, contact:

MICROTEX
DIGITAL IMAGING

80 Trowbridge Street
Cambridge, MA 02138
617-491-2874 Telex 948-014



Circle number 42 on Reader Service Card

Ruggero Maria Santilli

**IL GRANDE GRIDO:
ETHICAL PROBE ON
EINSTEIN'S FOLLOWERS
IN THE U.S.A.; AN
INSIDER'S VIEW**

366 pages U.S. \$19.50
ISBN 0-911767-00-7
© 1984

"Santilli's case is compelling and deserves to be heard—that it has been suppressed so far is undeniable."

John N. Ross
The Harvard Crimson
Wednesday, March 20, 1985

SCIENTIFIC ETHICS

a newsletter edited by
I. KAUFFMAN

Six issues per year
U. S. \$ 29.50 per year

Prices include surface shipping
All shipments with prepayment only

ALPHA PUBLISHING
897 Washington St., Box 82
NEWTONVILLE, MA 02160
Tel. (617) 864 9859

Circle number 43 on Reader Service Card

**SOVIET
JOURNAL OF
QUANTUM
ELECTRONICS**

A translation of *Kvantovaya Elektronika* (Moscow)

Experimental and theoretical work on quantum electronics and its applications in science and technology: lasers, interaction of coherent radiation with matter, holography, non-linear optics, and related topics.

Monthly. Approx. 1750
pages annually
\$750 U.S. & Possessions
\$768 Foreign
\$780 Optional Airfreight Europe
\$802 Optional Airfreight Asia

Orders and inquiries should be sent to:

**AMERICAN INSTITUTE
OF PHYSICS**
MARKETING SERVICES
335 East 45 Street
New York, NY 10017

elected are Claude J. Allegre, director of the Institut de Physique du Globe, University of Paris, Strasbourg, France; and Pavel A. Cherenkov, laboratory head and professor, Lebedev Physics Institute, USSR Academy of Sciences, Moscow. Altogether 233 foreign members have been elected to the Academy.

obituaries

John George Trump

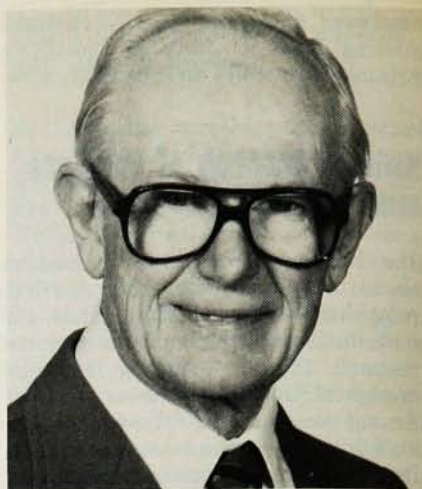
John G. Trump, professor emeritus of the Massachusetts Institute of Technology, died on 21 February 1985. He was born in New York in 1907 and received his DSc in electrical engineering from MIT in 1933. He then worked at MIT as a research associate until 1936, when he was made an assistant professor of electrical engineering. In 1952 he became a full professor.

Trump served as director of MIT's High-Voltage Research Laboratory from 1946–80. The unifying basis of his professional life was to maintain the highest reliable dc voltage per centimeter, both in vacuum and in gas pressure, for accelerator applications that he clearly foresaw both in medicine and in industry.

His first goal was a 2-million-volt pressurized x-ray generator that could be flexibly mounted in a hospital treatment room. With this he pioneered at MIT, in close cooperation with the Lahey Clinic physicians, the now widely used rotation therapy for cancer tumors with selective protection of adjacent healthy tissue. He designed many of the setups himself and gave daily supervision of patient treatments with the physicians. He developed modified accelerators for treating skin cancers with electrons. Concurrently, Trump taught special courses for hospital physicists in the Northeast.

Trump's war service originated as technical aide to Karl Compton at MIT. He was on the Steering Committee of the Radiation Laboratory at MIT, and from 1944–45, director of the British Branch Radiation Lab at Great Malvern, following the American forces into Europe to assist in the best utilization of the centimeter radar and radio countermeasures they were using.

In 1946, Trump, Robert Van de Graaff and I founded the High Voltage Engineering Corporation to manufacture the compact Van de Graaff accelerators he was continuing to develop at MIT. He became the company's chairman and technical director and was intimately involved with Van de Graaff and many of their former students in



TRUMP

the positive-ion and tandem Van de Graaff accelerators designed and manufactured by HVE.

In 1962 he caused Electronized Chemicals Corporation to be reactivated as a subsidiary of HVE to make available in industry high-energy electrons, which he called "the beneficent particles of nature." Trump designed ECC's new facilities and remained active as its chairman until it merged with HVE. In 1974 he began at MIT a six-year study, under a National Science Foundation contract, of the economic feasibility of disinfecting liquid municipal sludge with energized electrons. He led a consortium of institutions and agencies in this endeavor and was actively pursuing this during the last year of his life.

An architecturally imposing reminder of Trump's work can be seen at Boston's Museum of Science in the Theater of Electricity, where he was largely responsible for the handsome electrostatic shielding of the 2-million-volt air-insulated generator, which was originally made by Van de Graaff himself in 1935. Trump was a life trustee of the museum. He took a great interest in the very short pulses of electricity generated by the Ion Physics Corporation, another subsidiary of HVE, and this later developed into pulse precipitation of stack gases, which may become of real importance in the problem of acid rain.

In 1984 he was chosen by the President's Committee on the National Medal of Science, and this medal was posthumously presented, in honor of his work, at the White House in March 1985.

Trump's remarkable personality mix contributed to all of this achievement and success. He was remarkably even-tempered, with kindness and consideration to all, never threatening or arrogant in manner, even when under high stress. He was outwardly and in appearance the mildest of men, with a convincing persuasiveness, carefully