

# Scanning the Institute

## Two IEEE staff members receive special honors

Special honors have been conferred by the IEEE upon Richard M. Emberson, former General Manager and Executive Director of the Institute, and Emily L. Sirjane, Staff Director of Corporate Services.

Resolutions honoring the two were adopted by the Board of Directors at its February meeting.

Dr. Emberson was cited for "unusual leadership, service, and dedication" with IEEE and extensive "comprehension and knowledge of the fields of electrical arts and sciences." He also was elected Director Emeritus, which gives him a non-voting seat for life on the Board of Directors.

Ms. Sirjane's honor recognizes her 31 years of "leadership, wisdom, dedication, and support" of IEEE. For this distinguished service, the Board of Directors conferred upon her the title of Life Fellow Emeritus.

Both staff members will retire this year.

## Fifth Marconi Fellowship awarded to IEEE Fellow

The fifth Marconi International Fellowship has been awarded to John F. Pierce (F) of the California Institute of Technology. The fellowship was established in 1974 by Gioia Marconi Braga, daughter of Guglielmo Marconi, on the 100th anniversary of his birth.

The award commemorates the inventor's contributions to scientific discovery, engineering, and technology. Dr. Pierce will receive a grant of \$25 000, made annually to enable the recipient to undertake or complete a project or study that has as its objective the well-being of mankind.

The presentation will be made to Dr. Pierce in Rome on Marconi's birthday, April 25.

Past recipients of the award are James R. Killian Jr., honorary chairman of the Massachusetts Institute of Technology; Hiroshi Inose (M) of the University of Tokyo; Arthur L. Schawlow (F) of Stanford University; and Colin Cherry of Imperial College, England.

## IEEE Board of Directors announces 1980 candidates

Burkhard Schneider (SM), assistant vice president of planning and research of the Detroit Edison Co., has been chosen as the Board of Directors' candidate for IEEE President in 1980.

Mr. Schneider is a long-time volunteer IEEE officer, with four years of experience on the Board of Directors as Secretary/Treasurer and Region 4 Director.

The Board's candidate for Executive Vice President is C. Lester Hogan (F), vice chairman of the board of Fairchild Camera & Instrument Corp. Dr. Hogan is this year's IEEE Vice President for Technical Activities and has previously served as Executive Vice President.

Interviews with the IEEE Presidential candidates can be found in the March, April, and May issues of *THE INSTITUTE*.

## New salary survey prepared by USAB

IEEE's U.S. Activities Board is in the process of preparing its 1979 salary and fringe benefits survey.

A random sample of 28 000 higher-grade U.S. members will be receiving the questionnaire, which was scheduled for mailing by the end of February. The 1979 questionnaire includes questions on member participation in service discount programs such as unsecured personal loans, retirement investment programs, and discounts on technical books and manuals not published by IEEE.

Members receiving the questionnaire are urged to participate in the survey, which will provide valuable information to the membership. The survey is used by individuals, as well as management and personnel officers in determining salary trends and fringe benefit information.

## Directors approve concept of President-Elect

The new office of President-elect has been approved by the IEEE Board of Directors. Acting at its recent meeting in Atlanta, the Board thus resolved an issue

first raised more than two years ago.

The Board voted to approve, in principle, the concept that a candidate be elected annually as President-Elect. He would take office the following Jan. 1 and serve for one year, then take over as President the following year, and finally retire from the Board after a single year as Past President. Currently the President remains on the Board for two years following his or her term—first as Junior Past President and then as Senior Past President.

The Executive Committee has been assigned to develop a plan for setting up the office of President-Elect.

## Special issue to focus on machine intelligence

Papers are invited for a special issue of *IEEE Transactions on Machine Intelligence and Pattern Analysis*, to be published in 1980. Topics include computer-aided analysis of radiographs, chromosomes, blood cells, Papanicolaou smears, computed tomograms, ophthalmoscopic images of retinas, electrocardiograms, electroencephalograms, evoked potentials, neural impulses, echocardiograms, ultrasonic images, and nuclear images. The special issue will also include material on interactive diagnosis and artificial intelligence.

Papers should be submitted by July 1 to Dr. Jack Sklansky, School of Engineering, University of California, Irvine, Calif. 92717, 714-833-6726.

## Papers solicited for issue on technical public speaking

Papers are invited for a special issue of the *IEEE Transactions on Professional Communications* to be published in March 1980. The topic is public speaking for engineers and scientists. The emphasis should be on effective oral communication of technical information to either a technically trained or lay audience.

Papers should be submitted by May 1. Notice of intention to submit papers is requested by July 6. Contact R. J. Joenk, Editor, IBM Corp., P.O. Box 1900, Boulder, Colo. 80302, 303-447-5384.

# Coming in Spectrum

**Superconducting Josephson devices.** Processors and memory hierarchies with ultrahigh performance and possibly extremely high reliability can be assembled from LSI Josephson tunneling circuit chips. These computers are compact and operate at extremely low power levels. Josephson switching circuits can be made to switch in 10 ps or less. Low power dissipation permits cooling of chips directly by immersion in liquid helium. Possible applications include simulations of complex models in

ecology, economy, physics, and engineering; pattern recognition of speech, video, radar information; and time-shared data retrieval.

**Future microprocessors.** One million devices on a single silicon chip by 1985? RAMs of 1024 kbits with prices as low as 0.002 cent per bit? Both developments will be possible in the next decade with a new generation of very-large-scale integrated circuits. Microprocessors and related components will be built on these ICs with new circuit-design tech-

niques and advanced fabrication processes. Among the likely products are single-chip microcomputers with as much as 256 kbits of electrically erasable memory. Contrast this progress with present silicon chip densities of less than 100 000 devices and prices at least an order of magnitude higher than 0.002 cent per chip.

**Radiation hazards.** The highly controversial subject of radiation hazards is the topic of an informed debate in print with discussion of the major issues.