

IEEE Student Newsletter

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Volume 2, No. 4
April 1974

IEEE: -Its Evolution and Its Emblem

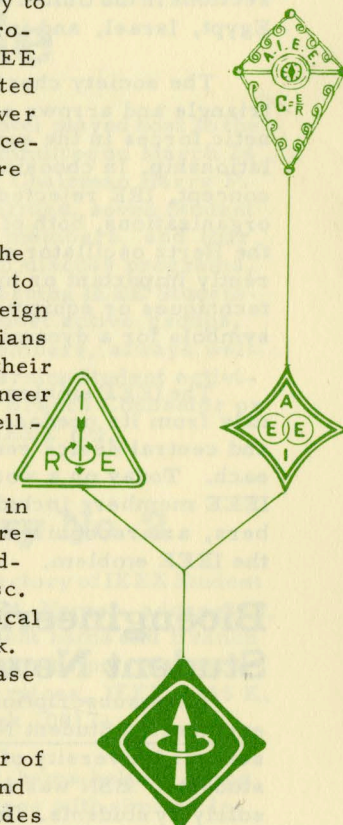
A relatively young organization, IEEE was formed in 1963 by the merger of the Institute of Radio Engineers (IRE) and the American Institute of Electrical Engineers (AIEE). At their beginnings, the two societies were quite different. IRE was primarily an electronics-oriented society while the AIEE was primarily power-oriented. Over the years, however, AIEE interests grew with expanding technological developments from solely power-oriented society to one with interests in industrial controls, solid-state circuitry, instrumentation, and microwave technology among others. With IRE membership approaching the 100,000 mark and AIEE membership nearing 60,000, the ever increasing overlap of society interests naturally prompted the 1963 merger. Today, IEEE is the world's largest engineering society, representing over 165,000 members, and is dedicated to "the scientific, educational, and professional advancement and standing of its members and the profession they serve", encompassing the entire field of electrical technology.

The formation of the American Institute of Electrical Engineers was precipitated by the announcement of the International Electrical Exposition sponsored by the Franklin Institute, to be held in October 1884 in Philadelphia. Invitations had been extended to many famous foreign electrical workers and it was felt that "it would be a lasting disgrace to American electricians if no American national society was in existence to receive them with the honors due from their co-laborers in the United States". With such urgings, Dr. N. S. Keith, an electrical engineer from New York, drew together a group of 71 individuals - among them Alexander Graham Bell - who were to become charter members of the Institute.

AIEE was founded on May 13, 1884. Dr. Alexander Graham Bell, President of AIEE in 1891 - 1892, was primarily responsible for the first emblem of the Institute. The outline represents Franklin's kite. Its periphery was marked by an actual coil of gold wire and mid-points spanned by a galvanometer complete with blued steel needle and covered by an amber disc. The emblem thus sought to embody the Wheatstone bridge, the earliest observation of electrical phenomena by Thales, and the source of the word electricity as Amber is elektron in Greek. For good measure, Ohms law and the letters AIEE were imprinted in gold on the enamel base supporting this remarkable condensation of the history of electrical science.

In 1897, AIEE adopted the emblem which served essentially unchanged until the merger of 1963. Here the central theme is linked circles representing the relation of the electric and magnetic fields. The symmetrical outline still suggests a kite and a bridge, but it also provides for a balanced distribution of the four initials of the society.

The IRE, founded in 1912, was a consolidation of the Society of Wireless Telegraph Engineers and the Wireless Institute. The first and most important service instituted by the IRE was the establishment of its technical journal THE PROCEEDINGS OF THE IRE, which began publication in 1913 under the direction of Alfred Goldsmith. In it were published the papers and discussions



presented at the monthly meetings of the society. The PROCEEDINGS quickly established itself as one of the world's leading publications devoted to the radio engineering field.

Since 1913, standardization activities played a permanent and prominent role in the affairs of IRE, resulting in the formation of numerous special technical committees to originate and administer standards to assure conformity and clarity in all branches of radio/electronics field.

As the membership increased, the activities of the IRE - originally confined to the New York and Boston areas - rapidly spread to other cities where local sections were organized. The first new section, formed in Washington, D. C. in 1914, was followed by the organization of West Coast sections in Seattle and San Francisco during the next three years. These were all large coastal cities where maritime radio predominated just prior to World War I. In 1925, as the broad aspect of radio engineering began to materialize and the influence of the IRE began to be felt on an international basis, sections were formed in Philadelphia, Chicago, and Toronto. The growth of this important grass roots activity continued until at the time of the merger, the IRE membership was approaching 100,000 in over 110 sections in the United States, Canada, Argentina, Brazil, Egypt, Israel, and in Japan.

The society chose as its emblem the now familiar triangle and arrows representing electrical and magnetic forces in the conventional "right-hand rule" relationship. In choosing as its emblem this fundamental concept, IRE rejected the designs of its predecessor organizations, both of which had used as their insignia the Hertz oscillator and receiver loop. However, currently important or historically significant, specific techniques or equipment were wisely judged inadequate symbols for a dynamic organization.

The IEEE emblem then, while new, evolved rationally from its predecessors and retains in its outline and central device readily recognizable features of each. Today on a world-wide basis, over 167,000 IEEE members including over 22,000 Student members, are recognized and distinguished by wearing the IEEE emblem.

Bioengineering Student Newsletter

Free subscriptions are being offered to the Bioengineering Student Newsletter, a labor of love by several University of Michigan at Ann Arbor graduate students. BSN was founded in 1972 and is published solely by students. Dedicated to "enhancing educational and occupational opportunities" for Bioengineering students, the publication now has an international circulation.

In exchange for a free subscription, co-editor Bill Fetzner asks "we would like to have a contribution

from the student, such as a view of the field, his publishable experiences relative to bioengineering, or a description of bioengineering programs at his university." Write to Bill at 207 W. Engineering, University of Michigan, Ann Arbor, Michigan 48104.

Student Conferences

Four Conferences are scheduled for April which include Student programs. In addition to Conference technical programs and product displays, Student Paper Contests, workshops, tours, and interesting social activities are also planned. Organize a group at your school and plan to attend.

Region 3
April 29-30
Orlando, Florida. SOUTHEASTCON.
Contact: Barry Dubin, Student Convention Chairman, EE Department, Florida Technological University, Box 25000, Orlando, Florida 32816.

Region 4
April 30 -
May 1
Chicago, Illinois. American Power Conference. Contact: Al Witte, Region 4 SAC Chairman, University of Nebraska, Lincoln, Nebraska 68508.

Region 5
April 30 -
May 1
Dallas, Texas. SWIEEEO. Contact: Bob O'Hagan, Southern Methodist University, Box 581, Dallas, Texas.

Region 8
April 22-26
Amsterdam. EUROCON. Contact: EUROCON'74, c/o Kivl 23, Prinses-segracht, The Hague, Netherlands.

Career Outlook for EE Students

Career Outlook for EE Students, a report by the IEEE's Manpower Committee, is now available at \$1.85 each from IEEE HQ. Individual Students or Student Branches may order the Report in quantities of 10 or more for only \$1.00 each. Send orders to SUSU at IEEE HQ. (New York State residents add appropriate taxes.)

Education and Society

IEEE's Committee on Social Implications of Technology and the Education Group are co-sponsoring a workshop on "Engineering in the Service of Society: New Education Programs". The two-day workshop will be held on August 26, 1974, at the Carnahan House, University of Kentucky, Lexington.

This workshop will focus on programs which attempt to answer societal needs, such as environmental studies, health care delivery, transportation systems, energy conversion, etc. Students, working engineers, and potential employers, as well as educators are encouraged to participate. Papers and presentations, both pro and con, are sought.

The workshop chairman is Dean John Truxal of SUNY, Stony Brook. For further information contact the Program Chairman, Prof. John S. Jackson, College of Engineering, University of Kentucky, Lexington, Kentucky 40506 or phone 606-248-5820.

Branch News

Thanks to the outstanding work on the part of our 430 Branches and their faculty Counselors and Student Chairmen, IEEE Student membership has grown over 10 percent in the past year. Student membership neared 23,000 in February, representing 14 percent of the total Institute membership. The Institute recognizes their valuable contributions.

Counselors and Student Officers are reminded to: elect new officers early - provide overlap - transfer all records - notify HQ immediately of names and membership numbers; notify HQ of Counselor nomination for next academic year; don't wait until the last minute to plan your fall program - start now - and use the summer months to organize.

Color slides are sought by May 15 of Branch and Section activities for the IEEE Student Slide-Tape presentation. Ten dollars will be paid for each photograph used. A leaflet was distributed to all Counselors describing the project. For information on submitting entries contact: Bob Asdal at IEEE HQ.

Canada: Waving the Flag

Two Canadian Student Branches won 1973 Vincent Bendix Awards out of a total of eight granted for the entire Institute. Making the feat even more outstanding is the University of Alberta Branch, under the guidance of Counselor Keith Stromsmoe, which has won Bendix Awards for the past eight years.

Eric Robinson, Canada's or IEEE's Region 7 Student Activities Committee Chairman proudly reports that the Nova Scotia Technical Institute Branch has achieved 100 percent IEEE membership of eligible Students. Counselor Don Roy and the NSTI Student Officers take a bow!

Also, Tony Van Kessel, a Student from St. Lawrence College in Kingston, Ontario, has been elected to serve as the 1974 Chairman of the Student Policy and Planning Committee. SPPC has played a leadership role in guiding and instituting new Student programs and policy both at Institute and Regional levels.

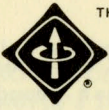
SAC in the Big Apple

New York's Statler Hilton Hotel played host to the Institute's Student Activities Committee on March 24 and 25. Under the leadership of Chairman Harry P. Weber, eight Regional SAC Chairmen, seven Student Policy and Planning Committee members, and four industrial representatives met to discuss programs, ideas, and policy matters concerning IEEE Student activities. One of the IEEE's most active groups, Student Activities Committee members, always welcome ideas and suggestions concerning Student activities. Contact them through your Branch Counselor or Manager of Student Services at IEEE HQ.

HAM Directory No. 2

The second edition of the Directory of IEEE Student Hams will be published in mid-1974. Names, addresses, and call letters of individual Student hams and Branch stations are sought for the second edition. Contact: Bob Asdal, Manager, Student Services, IEEE, 345 E. 47th Street, New York, New York 10017.

The first listing of over 250 hams helped bring together students on many campuses with similar interests and ambitions. It has also laid the groundwork for lasting on the air friendships after graduation. Several IEEE Student Ham networks are planned for the future.



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The Editor welcomes contributions from Student Branches, Student Members, IEEE Organizational units, and other sources. Editor: Robert K. Asdal.

SPECTRUM Highlights

Throughout the summer months, you will continue to receive IEEE SPECTRUM. It's a good way to keep abreast of developments in your own and related fields of interest. The April issue takes a critical look at "Needs of Young Engineers" and "Professionalism". May is lined up as a special issue on education. Articles on "Innovative Education Programs", "A Look at Engineering Students", "Changing Needs of Engineers", and "BET Degrees" are included. Two articles on career possibilities, Power and Circuit Design Engineering can also be found in the May issue.

Moving Soon?

If you are planning a move as the end of the school term nears, don't forget to change your address. Students graduating during the next few months automatically receive change of address forms from the Coding Department at IEEE Headquarters. Send change of address information to us at least 6 weeks in advance to assure uninterrupted delivery of IEEE publications.

Parting Points...

This is the last issue of the Student Newsletter for the 1973-1974 academic year. We start up again with the October 1974 issue.

Articles for and comments about the Newsletter are always welcome. Later this year we would be interested in hearing from recent graduates about job experiences as their fledging careers progress. Best of luck in the real world ... keep us in mind.