

# IEEE Student Newsletter

Volume 4, No. 1  
October 1975

## Fortescue Fellowship Available

Funds have been made available for a Charles LeGeyt Fortescue Fellowship for 1976-1977. The one-year, \$5,500 award will be made to a full-time post-graduate student in the field of electrical engineering. Preference will be given to applicants about to begin their first year of graduate work.

The recipient will be selected by an IEEE committee, on the basis of Graduate Record Examination scores, transcripts covering college courses, and the information contained in the application and in the letters of recommendation provided in support of the candidate. The proposed graduate work must be in an engineering school of recognized standing located in the United States or Canada. To be eligible, the student must have received the bachelor's degree from an engineering college of recognized standing by the time his work under the fellowship would begin. There are restrictions on any other fellowships which can be held.

Candidates for the Fortescue Fellowship should file applications on the forms provided by IEEE so that they reach the Fellowship Committee by January 15, 1976. Applicants are required to take the Graduate Record Examination and should arrange for the scores to be sent to the Fellowship Committee by January 15. Awards will be made as soon thereafter as possible. Copies of the application forms are available at many colleges or may be obtained from Ms. Una B. Lennon, Staff Secretary of the Awards Board, IEEE Headquarters, 345 East 47th Street, New York, New York, 10017.

The Charles LeGeyt Fortescue Fellowship, administered by IEEE, was established in 1939 as a memorial to Charles Fortescue in recognition of his valuable contribution to the electric power industry. To this end, the Westinghouse Electric Corporation, with which Dr. Fortescue was associated throughout his professional career, set up a trust fund to provide graduate fellowships in electrical engineering.

Dean P. Kolba, a recent graduate of Valparaiso University, Valparaiso, Ind., was named winner of the 1975-1976 Charles LeGeyt Fortescue Fellowship. The award, consisting of a certificate and cash, is made each year.

Mr. Kolba was born January 9, 1953, in Plainfield, Ill. While at Valparaiso University, from which he received the B.S. degree in electrical engineering last May, he was active as an officer of the Indiana Delta Chapter of Tau Beta Pi and as a member of the IEEE Student Branch and the Calumet Section.

This fall, he entered Rice University in Houston, Tex., where he is studying communications systems in the Graduate Department of Electrical Engineering.



## U of Utah Patches in Papers

The University of Utah Student Branch, under the guidance of Student Activities Chairman Dr. Forrest Staffanson, arranged a never-before-tried method of conducting a Student Paper Technical session at the Region 6 Conference held last May. Region 6 spans 10 Western states, and includes Alaska and Hawaii. Considering the high cost of travel to attend the three day conference in Salt Lake City, Staffanson and Student Officers Jerry Schriever and Robert Conder devised a means of letting the authors relax at home, listen to their papers being presented and then answer questions from the audience in Salt Lake City.

Student-authors, unable to attend the session, had their papers presented by Student proxies--members of the University of Utah Student Branch. The presentation was patched by Conference telephone to the college switchboard. A direct line from the switchboard to WA7SL6, the University HAM Radio Station, was one link to the outside world. Several Branches were tuned into the broadcast although atmospheric conditions created some communication problems. Two other lines were available on the switchboard for other Branches to call in and hear either the whole presentation or just their Student member's paper being presented. Near the end of each presentation, a prearranged telephone call was placed to the Student author to first answer questions from the "live" audience. The remote audiences, through the telephone hookups or ham rig, next had the opportunity to ask questions.

Dr. Staffanson and crew have already set about to improve on this year's innovative success. Conversation overheard as the equipment was being unplugged, included speculation on video, satellites, and educational TV...who knows what innovations lurk in the minds of men?

## Planning: Key to Bendix Award Success

If you start planning right now, your Branch might be a recipient of up to \$500.00 funding in support of an innovative Student Branch project. Experience has shown that the groups that "brain storm" ideas, using the team design approach, consistently win Bendix awards. Awards are based on six page proposals. Whether of a technical nature, the project proposed must be: imaginative; likely to strengthen a student's professional development and sense of identity; and contribute to the development of the Student Branch's program while involving as many members as possible.

Four legible copies of the proposal must be sent to the Manager, Member Services, IEEE, 345 East 47th Street, New York, New York, 10017, postmarked no later than November 15, 1975. See your Branch Counselor or write to the above address for contest rules and entry information.

## Regional Conferences— Upcoming

Several Region-wide Student Conferences to be held in early 1976 are in the planning and development stages right now. It's important that each Conference uniquely serve you. That's why the Student Conference Chairmen seek your suggestions, recommendations and assistance now. To find out more about each of the following Regional Conferences, contact the following students:

Region...1 Michael E. Hackey  
11 Vernstrom Road  
Narragansett, Rhode Island 02882  
(401) 783-4597

Region...2 Daniel C. Seidl  
6000 North Allen Street  
State College, Pennsylvania 16801  
(814) 237-0890

Region...3 Elizabeth Walke  
330 Homestead Lane  
Aiken, South Carolina 29801

Region...5 Stephen J. Malyszko  
6-0 University Village East  
Fort Collins, Colorado 80521  
(303) 493-2645

Counselors and Student Branch Chairmen should note that many Branches organize car pools and some will jointly charter a bus to enable as many Students as possible to attend each Conference. Fund raising to help subsidize this type of activity should be an integral part of your planning for this academic year.

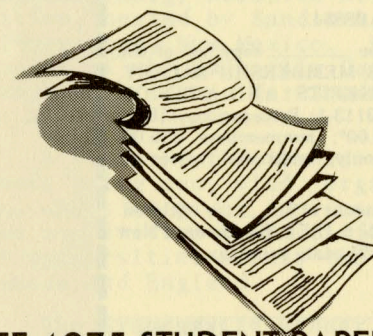
Application to mail at Second class postage rates is pending at New York, New York and at additional mailing offices.

## "1974 INDEX TO IEEE PUBLICATIONS"

Annually, IEEE alone, publishes over 10 percent of the world's literature in the electrical/electronics field. How do you zero in on just that topic you're looking for--those two or three papers important to your senior project or thesis? "1974 INDEX TO IEEE PUBLICATIONS," that's how.

The Index covers all technical papers, short communications, conference abstracts, book reviews, etc., which were published in 37 IEEE periodicals in 1974. Some 480 pages long, the Index cross references entries by author and subject headings and includes special appendixes on 1974 IEEE Conferences and Conference Publications. A complete listing of all IEEE periodicals, and special issues is included as well.

The Index is available to members at \$17.50 (product JH 31401). Of course this, and all previous IEEE Indexes, should be in your library but if you'd like your own copy mail your order and payment to IEEE Service Center, 445 Hoes Lane, Piscataway, New Jersey, 08854.



## "IEEE 1975 STUDENT PAPERS SOON TO BE AVAILABLE"

A collection of the top three papers from each of IEEE's 10 Regional Student Papers Contests will soon be in print. One copy of "IEEE 1975 STUDENT PAPERS" will be sent to Student Branches and their college or university library on campus at no cost.

Significantly, this is the first time that the winning papers are receiving such world-wide distribution. Not only does the publication give authors the recognition they desire, it serves to widely distribute the papers judged best in the Institute. Any Student member writing or considering writing a technical paper, should review and study the many excellent examples provided by this new publication. Copies of "IEEE 1975 STUDENT PAPERS" (product number TT 0101-6) are available for sale to individual members at \$12.00 each. Send all orders, with payment, to IEEE Service Center, 445 Hoes Lane, Piscataway, New Jersey, 08854. New Jersey residents add 5 percent sales tax.

## Human Race Began August 29

An Institute-wide student membership contest--The Human Race--began on August 29. Five awards are being given in each of two categories: (a) largest absolute membership growth and (b) largest relative membership growth in Branch membership between August 29 and December 31, 1975.

The first three winning Branches in each category will receive \$200, \$100 and \$50 each in support of Branch activities plus a complete set of IEEE Press Books. Fourth and fifth place winners will receive a complete set of Press Books. For more details on the contest write to Manager of Member Services at IEEE Headquarters, 345 East 47th Street, New York, New York, 10017.

To foster a bit of competitive spirit, the ten largest Student Branches, based on December 31, 1974 membership were as follows:

### The Ten Biggies

University of Illinois, Urbana	345
Polytechnic Institute of New York	300
Massachusetts Institute of Technology	283
Stanford University	256
University of California at Berkeley	243
University of Colorado at Boulder	239
University of Missouri at Rolla	219
City College of the City University of New York	215
University of Texas at Austin	211
Purdue University	209

## Extra Copies of Newsletter Available

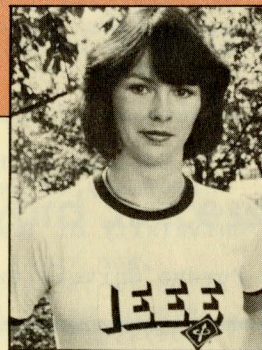
While they last, additional copies of the Newsletter are available to Student Branches for promotional purposes. The Newsletters, or any other Branch supplies, can be requested from Bob Asdal, IEEE Manager of Member Services, 345 East 47th Street, New York, New York, 10017.



## Manpower Reports Available

"THE E/E AT MID-CAREER" recently published by the IEEE Manpower Planning and Member Employment Committee, looks critically at one of the important questions facing engineers. A must for engineers of all ages, the report suggests provocative solutions for "How to Develop a Professional Early Warning System," "How to Establish Job Control and Bring About Desirable Change," and "How to Enhance One's Market Exposure." The full report contains 73 illustrations to assist the reader in evaluating career progress. It is available as a full report (298 pps. \$15.00 member price) or in condensed student review version (40 pps. \$1.85 single copies; \$1.00 each ten or more copies). Order your copy or copies for your entire Branch today.

"1975 U.S. SALARY AND FRINGE BENEFITS SURVEY," published by the IEEE Survey Committee of the United States Activities Board, is the most comprehensive source of engineering employment information available in the U.S. electrical/electronics industry. Analysis of responses to questions on professionalism, pensions, and fringe benefits can also be found in the 60 page report. The survey contains a "profile" of the average IEEE member, and discloses those qualifications that, statistically, lead to superior income. What better time to read up on your professional future than now?



# IEEE T-SHIRTS

What's being a member without an official IEEE T-shirt? How could you attend next Thursday night's meeting, roll a 300 with your Branch Bowling team or even study in the library without an IEEE T-shirt?

White with blue trim and logo, 100% combed cotton, T-shirts are available in a full range of sizes. Quantities of one to five are \$3.00 each; six or more \$2.25 each. Order yours--and one for your friend today.

**ORDER FORM**

Mail completed form to:  
IEEE Service Center  
445 Hoes Lane, Piscataway, N.J. 08854

Please send \_\_\_\_\_ copy(ies) of THE E/E AT MID-CAREER (EH01107). Price per copy: IEEE members \$15.00; nonmembers \$25.00.

Please send \_\_\_\_\_ copy(ies) of THE E/E AT MID-CAREER/A STUDENT REVIEW (EH01123). Price per copy: IEEE members \$1.85; nonmembers \$2.50. In bulk orders of 10 or more copies: IEEE members and nonmembers \$1.00 per copy.

Payment in the amount of \$\_\_\_\_\_ is enclosed. Make check payable to IEEE. Residents of New Jersey please add 5% state sales tax.

Name (print) \_\_\_\_\_ IEEE No. \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_ SN/L \_\_\_\_\_

**ORDER FORM**

Mail completed form to:  
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445 Hoes Lane,  
Piscataway, N.J. 08854

Please send me \_\_\_\_\_ copy(ies) of the IEEE 1975 U.S. MEMBERSHIP SALARY, FRINGE BENEFITS AND OPINION SURVEY (EH0113-1). Price per copy: IEEE members \$20.00\*; nonmembers \$35.00. (\*First copy only; additional copies at \$35.00.)

Payment in the amount of \$\_\_\_\_\_ is enclosed. Make check payable to IEEE. Residents of New Jersey please add 5% state sales tax.

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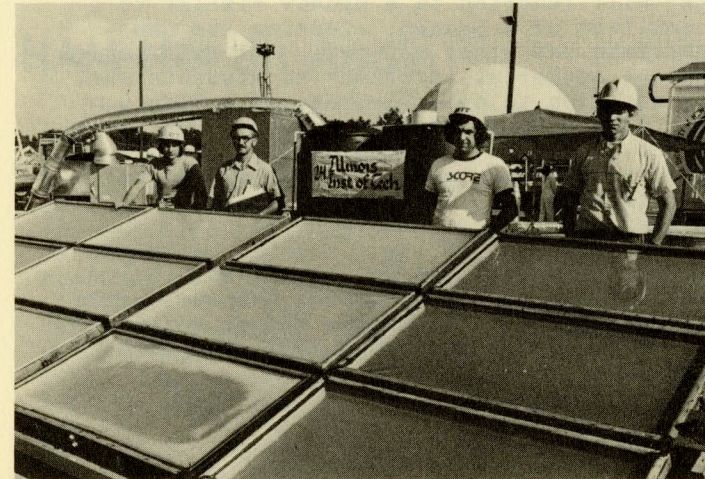
**SHIP TO:**

Name (Type or Print) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State/Country \_\_\_\_\_ Zip \_\_\_\_\_



ILLINOIS INSTITUTE OF TECHNOLOGY  
ERA TEAM

(Left to Right) Jim Glass, Faculty Advisor, Dr. Zalman Lavan, Iraj Aalam, Bill Worek.

Illinois Institute of Technology (IIT) swept the Grand Prize in SCORE's intercollegiate Energy Resource Alternatives Competition, hosted by Sandia Laboratories, in Albuquerque, New Mexico. SCORE, an outgrowth of the Clean Air Car race several years ago, stands for Student Competitions On Relevant Engineering.

A variety of alternative energy projects using sun, wind, organic waste, coal and waves as power sources were entered in the competition by 38 different teams from 31 universities across the United States, Canada and England.

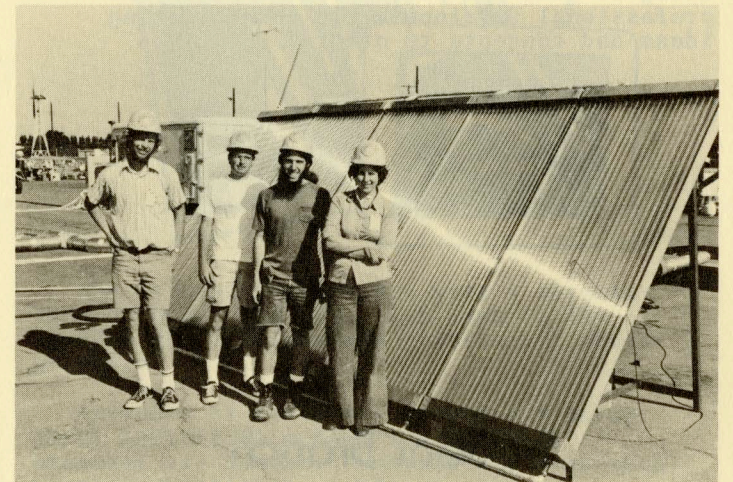
The Grand Prize winner, IIT, built a flat plate solar collector system to supply home heating and domestic hot water. Each collector was economically constructed from aluminum plate ceiling panels and covered with a selective coating. Two transparent layers, spaced an inch apart on top of each collector, trap the solar energy. The inside layer was made of a low-cost plastic film and the outer layer was constructed of double strength plate glass to reduce the chances of wind damage.

Second place Grand Prize was awarded to University of California at Berkeley's solar flat plate collectors which used clear plastic tubing instead of plate glass collectors making the units both inexpensive and easy to repair. Paraffin wax heat storage allowed the system to supply home heating needs. Wichita State University's flat plate collectors took third place, reliably delivering space heat and hot water during their entire testing period. They weathered gale force winds and driving rain during the competition. Concordia University's solar hot water heating system which had

Illinois  
Institute Of  
Technology  
Wins ERA  
Competition

the capability to adapt to various geographic locations was awarded fourth place.

Teams were also given System awards based on projects that could collect, store and deliver energy on demand, and component awards based on innovative design and project performance. Prizes were also awarded to projects on the basis of output performance efficiency.



UNIVERSITY OF CALIFORNIA--BERKELEY ERA TEAM  
(Left to Right) Steve Campbell, Donald Parker  
Tony Wexler, Faculty Advisor Connie Miller.

To find out more about upcoming SCORE activities or more details on this year's ERA competition, write to SCORE, MIT Room 5-336, Cambridge, Massachusetts, 02139. Telephone: (617) 253-6833.



## Energy Needs . . . NEEDS EXPLAINING

One of the major factors determining the strength, security and health of each nation in the world is the availability and use of its energy resources. Energy is especially important in maintaining and improving the way of life. Americans for Energy Independence (AEI) was recently established as a non-profit educational corporation to inform the public of the need to develop indigenous energy resources.

Educating the public on the critical need for sufficient energy resources is a difficult task. To accomplish its goals, AEI is seeking dedicated and well-informed individuals to help in its public education programs. Because of the technical nature of the subject, engineering students would be of great assistance in explaining technical programs. Engineering students who desire to help, should write to Americans for Energy Independence, Inc., 1500 Wilson Boulevard, Suite 1405, Arlington, Virginia, 22209. Include a brief statement of how you would like to assist in the public education effort.

Participating students will be contacted by a local AEI Chapter and periodically receive an Energy Newsletter. AEI offers an opportunity to help solve one of society's pressing problems while contributing to your own personal, technical and professional development in communicating ideas and concepts to others.

## Student Branch Chapters Ok'd

The IEEE Board of Directors approved on September 18 a new Bylaw whose provisions allow Branches to form technical subunits --or Student Branch Chapters. Inspired by the IEEE Computer Society, one of 31 technically specialized Groups and Societies within the Institute, the new organization structure will provide a means for greater interaction by the Groups and Societies with students having common technical interests.

According to the new Bylaw 408, a Chapter will function in a manner similar to a committee of a Branch; electing its own chairman and other officers. It will serve unique technical interests of students who, in addition to being members of a Branch, are also members of a particular IEEE Group or Society. As the program develops, it will provide new and expanded ways of better serving the interests and needs of a number of Student members.

For a copy of the new Bylaw 408, including details on how to form a Chapter, write to Bob Asdal, IEEE Manager Member Services, 345 East 47th Street, New York, New York, 10017.

## Your Views Sought

IEEE's Student program is guided by a 25 member Student Activities Committee (SAC) which meets twice a year. Committee members seek to receive as many ideas and have as much input from individual members and Branches as possible prior to the next meeting which is scheduled in early November.

You and your Student Branch are represented by a Regional Student Activities Committee Chairman, and additionally in Regions 1-7, by a Student representative on the Student Activities Committee. Let them hear from you about: "What are we doing right?" "What are we doing wrong and how can we improve it?" "What new programs should we consider?" For the name of your Regional Student Activities Chairman and Student Policy and Planning Committee member ask your Counselor or write to Bob Asdal, Manager of Member Services, IEEE Headquarters, 345 East 47th Street, New York, New York, 10017. Names have been provided to your Counselors in the Regional Student Organization leaflet.

## HAM Net on Again

The IEEE Student HAM Net resumed operation on the 20 and 80 meter bands on September 8, 1975. The Net operates every Monday from September 1975 through May 1976 as follows: 20 meters: 14,325 $\pm$  5 KHz for one hour starting at 3:00 p.m. CT (U.S.); or 80 meters: 3,985 $\pm$  5 KHz for one hour starting at 9:00 p.m. CT (U.S.). Greenwich (Z) times will shift one hour to accommodate U.S. daylight time which is in effect until October 25th and returns February 29th. During the daylight time period the Z times shift from 2100 Z hours Monday (20m) and 0300 Z hours Tuesday (80m) respectively to 2000 Z hours Monday (20m) and 0200 Z hours Tuesday (80m).

During the 1974-1975 academic year many stations were contacted by the IEEE Net in all parts of the U.S., Canada and Mexico and as far off as Okinawa. Few IEEE Branches and individual members, however, were in contact with each other often enough. Let's get together this year--every Monday on the IEEE Student Ham Net. Don't miss this opportunity to establish timely world-wide communications with other IEEE members.

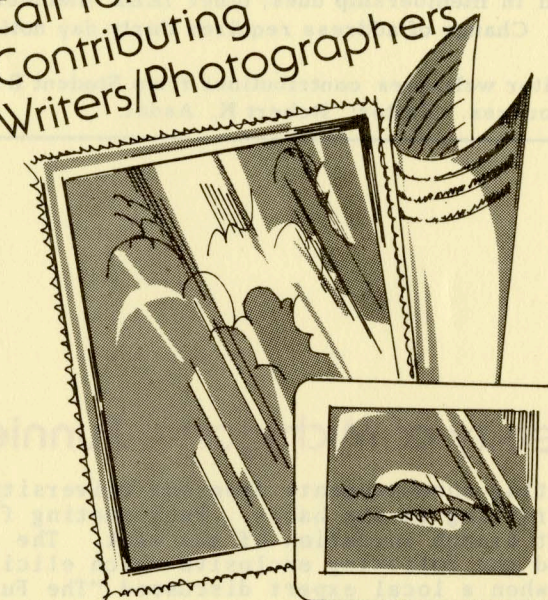
For a perceptive look "Inside Amateur Radio" check out the October issue of SPECTRUM. HAM radio, the article says, is one of the few remaining frontiers of independent experimentation--an island for the individual in a sea of modern age industrial team effort. Some of the little known aspects of international camaraderie, public service initiatives, and continuing education benefits associated with Ham Radio are also described.

## SPECTRUM Highlights

We smugly asked Editor Don Christiansen what makes the October issue of SPECTRUM so special and "Tools and Toys" came the enthusiastic reply! A potpourri of articles on the "Tools" of the profession--those general design techniques and methods of information gathering that make design tasks feasible--and "Toys" or avocational activities which give added meaning to an engineer's life can be found in this month's issue.

The October SPECTRUM is one you'll read, re-read, and tuck away to refer to for some time to come. You'll find articles on "Hardware System Modeling," "Using Computers to Design Computers," "A Guide to Information Sources," "Engineering Micrographics," "The Leisure Bookshelf," and "New Product Applications" for both immediate and future use. Dig in and enjoy ... you'll find SPECTRUM interesting, informative, and invaluable reading.

Call for  
Contributing  
Writers/Photographers



The Student Newsletter, with a circulation of nearly 25,000, is always on the lookout for contributing writers and photographers.

Articles of broad-based interest on or about individual member's or Student Branches are sought. Contributions on technical, educational, professional programs or activities; special announcements or humorous sketches, are always welcome.

The Newsletter accepts black and white glossy photographs. Photographers are also reminded of the need by IEEE Headquarters for good 35 mm color slides showing members involved in Branch activities.

Send any contributions to Bob Asdal, Manager of Member Services, at IEEE Headquarters, 345 East 47th Street, New York, New York, 10017.





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

## University of Michigan—Funnies Turn 'Em On

Meeting announcements from our University of Michigan Student Branch reportedly have students rolling in the halls. Each meeting flyer discloses--somewhat tongue in cheek--the Student Branch invention of the week. The flyer on "A Novel Solution to the Energy Crisis" carried the following exclusive which elicited more than one chuckle as well as an overflow crowd when a local expert discussed "The Future in Electric Utility System Planning."

