

IEEE Headquarters (212) 644-7867

IEEE

MAR 22 1982

TECHNICAL ACTIVITIES

**FIRST IEEE SATELLITE BROADCAST
ATTRACTS 600 PARTICIPANTS**

On January 12, 1982 the IEEE ventured into the brave new world of teleconferencing by broadcasting a short course on project management via satellite.

Some 600 participants viewed the program live at 38 reception sites throughout the United States.

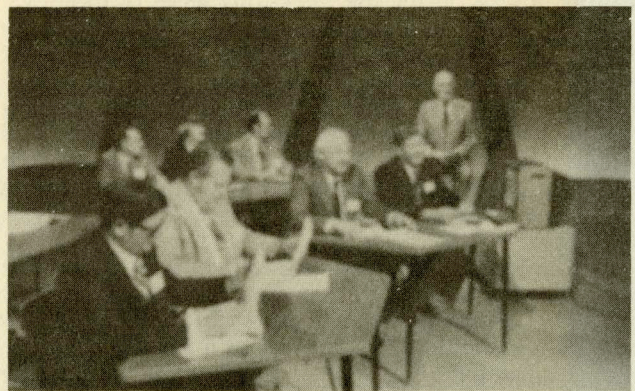
The telecast originated at SCETV (South Carolina Educational Television) in Columbia. The signals were transmitted via Satcom III® and Westar I and picked up at earth stations at universities, cable television stations, and public broadcasting stations.

Merrill W. Buckley, Jr., a member of the IEEE Board of Directors and Administrator for Planning and Management at RCA Corporation, served as the course instructor.

As the world's largest professional technical association, the IEEE has utilized the technology developed by electrical and electronics engineers for the benefit of members, bringing lower-cost, quality instruction to a wide audience.

Joseph Biedenbach, Chairman of the IEEE Educational Activities Board Committee for New Resources, was responsible for the forward thinking that made this broadcast possible. Dr. Biedenbach's project received the endorsement of Edward Ernst, IEEE Vice President for Educational Activities and the wholehearted support of volunteer leaders and staff.

Due to the success of this first program, a second course is being considered for broadcast next October. For further information, please contact the Educational Registrar, Educational Services at New York Headquarters, 212-644-7860 or Robert Wlezien, Manager Short Courses, IEEE Continuing Education, 201-981-0060 x326.



From the studios of SCETV in Columbia, SC, Course Instructor Buckley addresses his student audiences.

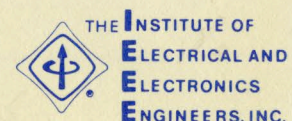
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NEW MANAGEMENT POST CREATED

• Eric Herz, IEEE General Manager and Executive Director, announced that Elwood K. (Woody) Gannett has been appointed Deputy General Manager of the Institute. Mr. Gannett will continue to serve as Staff Director for Publishing Services temporarily until a successor is named.

A management newsletter on IEEE operations...to encourage communications among the Board of Directors, Major Boards, Institute Committees, and Society Ad Coms and Section Officers



His IEEE career began in 1946 as Assistant to the Executive Secretary of the Institute of Radio Engineers, a predecessor society of the IEEE.

- After 34 years of exceptional service to the Institute, Emily Sirjane, Staff Director of Corporate Services, retired on December 31, 1981. To carry on the functions of the department, Betty Stillman has been appointed Manager of Corporate Services with responsibility for the Corporate Services staff. She will report to Mr. Gannett.
- Mr. Herz has also announced the appointment of Donald E. Suppers as Staff Director for Field Services. He fills the position formerly held by Patricia Lech, now the wife of Region 6 Director Frederick Suffield.

Mr. Suppers most recently served as dean of academic affairs and professor of mathematics at Mercer County Community College in New Jersey.

USAB NEWS

TECHNOLOGY POLICY CONFERENCE HIGHLIGHTED BY DISTINGUISHED SPEAKERS

The fifth IEEE Conference on U.S. Technology Policy was held at the Mayflower Hotel in Washington D.C. on February 24-25. Several distinguished speakers from government and industry addressed the Conference theme "Charting the National Course."

Included on the Conference speakers' roster was Senator John Glenn, Senator Alan Cranston and Presidential Science Advisor George A. Keyworth. National Science Foundation Director John B. Slaughter, as well as Don Fuqua, Chairman of the House Science and Technology Committee, also addressed the major Institute Boards during the week-long series of meetings.

The purpose of the Conference was to bring together those in the engineering professions with government policy-makers to focus on national issues in which technology plays an important role. By its integration with the series of major IEEE board meetings being held in Washington during *National Engineers' Week*, the leadership of the IEEE planned to take advantage of the Conference setting to become more involved with government.

The Conference provided an excellent opportunity for IEEE volunteer leaders to question experts and to hear their views on selected policy issues of interest to individual engineers and to the Institute as a whole.

If you would like more information about the conference, please contact Alicia McPherson, IEEE Washington Office at 202-785-0017.

RAB NEWS

WELCOME NEW CHAPTERS

- The upgrading of the Upper East Tennessee Subsection to the Tri Cities Section was approved by the Regional Activities Board on August 21, 1981.

The territorial limits of the new Section are defined as follows: Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi & Washington Counties of Tennessee; Lee, Scott and Wise Counties of Virginia, and Harlan County of the State of Kentucky. (Upper East Tennessee Subsection limits).

- The Communications and the Vehicular Technology Chapters of the Orlando Section were changed from single to Joint Chapter status on September 8, 1981.

- The Control Systems Chapter of the Tokyo Section was established on September 18, 1981.

- The Computer Chapter of the Tri-Cities Section was established on September 21, 1981.

- The Computer Chapter of the Illinois Valley Section was established on September 21, 1981.

- The Computer Chapter of the Ottawa Section was established on September 21, 1981.

- The Acoustics, Speech and Signal Processing Chapter of the Atlanta Section was established on October 7, 1981.

- The Sonics and Ultrasonics Chapter of the Long Island Section was established on October 23, 1981.

- The Sonics and Ultrasonics Chapter of the Los Angeles Council was established on October 23, 1981.

- The Computer Chapter of the Nashville Section was established on November 19, 1981.

- The Portugal Section was established on December 4, 1981. The territorial limits of this Section are defined as follows: the national boundaries of Portugal, including the Mainland, Madeira, Azores and Macau (under Portuguese administration).

- The Computer Chapter of the Toronto Section was established on December 7, 1981.

- The Computer Chapter of the Hong Kong Section was established on December 11, 1981.

- The Computer Chapter of the Cedar Rapids Section was established on December 11, 1981.

PUB NEWS

HOT OFF THE IEEE PRESS

The IEEE PRESS announces the publication of the following new titles:

Digital MOS Integrated Circuits, a Book of Selected Reprints. This volume is sponsored by the IEEE Solid-State Circuits Council and edited by Mohamed I. Elmasry of the University of Waterloo in Canada.

This new publication, which contains 72 papers and complements the 1980 IEEE PRESS book *Analog MOS Integrated Circuits*, was compiled to answer a need created by the advances in IC technology. (\$19.45 for paperbound member-edition).



Administrative Services Unit

IEEE LABEL, PRINTING AND MAILING SERVICES

(Effective January 1, 1982)

MAILING LISTS. Mailing lists of IEEE members can be furnished by: Regions, Sections, Sub-Sections and Chapters of Societies. Some of the major selectable items on member records are Society Membership, Membership Grade, Technical Interest Profile, Dues Status. Items can be selected singularly or in combination, and for survey purposes a sampling can be provided using nth figure.

USE OF MAILING LISTS. Each request for a membership list, in any form, shall be accompanied by a statement as to the purpose for which the list will be used.

LEAD TIME. Please allow 4-5 business days for label production and 2-3 business days for affixing and/or mailing.

AUTOMATIC PREPARATION OF MONTHLY LISTS. IEEE organizational units having regular monthly meetings or monthly publications are encouraged to enter a standing order to receive automatic shipments of addressed labels on a specified day of each month. (Uniform mailing date required for monthly shipment).

MATERIAL ADDRESSED	COST PER NAME*
Labels:	
3- $\frac{1}{2}$ " ungummed Cheshire flat striplists, 4 names across	.030
3- $\frac{1}{2}$ " perforated gummed flat striplists, 4 names across	.030
3- $\frac{1}{2}$ " Avery label (self-adhesive), 4 names across	.032
Rosters:	
Company Affiliation List 4 names across	.032
Paper Only:	COST PER THOUSAND*
8- $\frac{1}{2}$ " x 11" Plaza Offset: used for routine printing	\$ 7.00
8- $\frac{1}{2}$ " x 11" Mead Cockle: used for letterhead	15.00
Postcard:	
Single, government stamped	At Cost
Double, reply, government stamped	At Cost
Single, unstamped	6.50
Double, unstamped	13.00
	Order Code
Envelopes:	
G-18 IEEE return envelope (8- $\frac{3}{4}$ " x 4") postage paid (Permit #1332)	25.00
G-20 First Class #10 with IEEE logo and N.Y. return address	19.00
SEC-23 First Class #10 with IEEE logo (no address)	19.00
GS-23 Government stamped #10 with IEEE logo (no address)	216.00
K-2 10- $\frac{1}{2}$ " x 7- $\frac{1}{2}$ " gummed flap and clasp with IEEE logo and N.Y. return address	55.00
K-3 9" x 12" gummed flap and clasp with IEEE logo and N.Y. return address	65.00
K-7 9- $\frac{1}{2}$ " x 12- $\frac{1}{2}$ " gummed flap and clasp with IEEE logo and N.Y. return address	70.00
K-10 10" x 13" gummed flap and clasp with IEEE logo and N.Y. return address	76.00

*Plus postage charges for shipment of addressed material for handling and mailing locally.

The following additional charges apply on requests involving IEEE printing and mailing services:

Printing only: Labor-including collating, stapling and folding \$19.00/hour
Paper-20# bond 8-1/2" x 11" 17.00/thousand
Paper-Fine finish for letterhead 21.00/thousand

Mailing: The following charges apply for Avery labels (manually affixed) and Cheshire labels (in excess of 1,000 names using automatic equipment):

	Manual	Automatic
Affixing labels	\$12.00/hour	\$12.00/thousand
Inserting and mailing	12.00/hour	12.00/thousand
Sorting, tying, sacking	12.00/hour	

Sorting: To comply with Post Office regulations, all second and third class nonprofit mail must be sorted manually into five zip code groups and is subject to the hourly rate: \$12.00/hour.

Inserting: The inserting machine will accept envelopes ranging in size from 3-1/4" to 6" x 9". The paper must be 20# stock or better. Maximum inserts are six (6). Each single enclosure is to be at least 3" x 5" but no larger than 6" x 9". Other inserting jobs handled manually at the \$12.00 per hour rate.

HOW TO ORDER

For geographical units, i.e. Councils, Sections, Subsection, Chapters and Branches
CONTACT: Field Services Department (201) 981-0060 Ext. 283 or Ext. 285

For technical units, i.e. Groups, Societies, Councils and Committees CONTACT:
G/S/C Activities (212) 644-7856

For general orders CONTACT: IEEE Service Center (201) 981-0060 Ext. 241
IEEE Service Center, Piscataway, N.J. Office Hours: 8:00 A.M. - 4:00 P.M.



Contact: Bill Hunter
(201) 981-0060
Ext. 132

Membership Development

1981 MEMBERSHIP EXCEEDS GOAL

1981 was a very good year for membership development. Institute memberships grew to 221,747, a 3.7% increase of 7,935 members which exceeded the 2.9% goal set by MDC. This was the first time that there has been significant membership growth in a dues increase year. Region 1 increased by the most members, 1,479, Region 6 had the largest Regional membership 43,133 and Region 8 grew at the greatest percent of growth, 11.5%.

Society memberships likewise grew to nearly a quarter million to end the year with 249,979, a 6.0% increase. The Computer Society grew at the fastest percent of growth 18.5% and finished the year with 62,146 members. Volunteers are congratulated for their efforts during 1981 which produced such positive results.

RETENTION OF RECENT GRADUATES

Each year nearly 50% of the graduating Student members are lost as active members because renewal bills do not reach them. Sections are urged to work closely with Student Branches to increase recent graduate retention by encouraging graduates to keep IEEE informed of their post graduate addresses. If graduates are uncertain of future residence or business addresses they should be encouraged to supply their home addresses so that renewals can be forwarded to them. Membership growth can be substantially increased if more recent graduates can be retained as active members.

RENEW ARREARS MEMBERS

The end of February is the time when members who have not renewed for 1982 go into arrears. Section Chairman will be receiving pink sheets which indicate members in your section who have not yet renewed for 1982. Form an arrears retention committee to contact by letter and phone members in arrears to renew their memberships now. Many of these members may have misplaced renewal bills or simply forgotten to mail them. Your reminder and encouragement may be all that is needed to keep them active as members. Section Membership Development guides available from MD contain sample letters and helpful suggestions on how to conduct your arrears campaigns. A Society Membership Development guide is being prepared for printing and will soon be available to help Societies promote memberships.

NEW MD OFFICERS

Regions, Sections and Societies are encouraged to appoint MD Officers and to form Membership Development Committees for 1982. Send in the names and addresses of your 1982 MD Officers to Field Services so that they can begin to receive support and promotion materials to assist them in their MD work.

1982 MDC CHAIRMAN APPOINTED

Mr. Roy Yee, a former Region 6 MDC Representative has been appointed to head the Membership Development Committee. During Mr. Yee's previous term of office on MDC, Region 6 lead the Institute in total membership for the first time. Mr. Yee succeeds Calvin Stoutz who will continue on the Committee as recent past chairman. During 1981 the MDC has developed the "Values of Membership" slide/tape presentations, the Senior Member brochure and has significantly increased membership in a dues increase year for the first time. Congratulations go to Roy on his appointment as MDC chairman and thanks to Cal for his fine contributions to the work of MDC during the past two years.

MDC TO MEET MARCH 20th

The Membership Development Committee will meet at Piscataway, NJ., Saturday March 20, 1982 from 9:00 AM to 5:00 PM. A Planning and Evaluation Committee meeting will be held Friday Evening, March 19, 1982 from 6:00 PM to 10:00 PM. Some items to be discussed will be membership goals for 1982, a benefits brochure and a Society Membership Development slide/tape presentation to promote Society Memberships. Interested IEEE Members are welcome to attend. For further information contact Bill Hunter at (201) 981-0060 Ext. 301

"VALUES" KIT PRODUCED FOR REGIONS 7-10

A special "Values of Membership" slide/tape presentation has been produced for use in Regions 7-10. Fifty of these kits have been produced and may be loaned from MD for 60 days free loaner use or purchased for \$25.00 (US) for permanent use. The kits come with coded promotional materials and membership applications for distribution at your showings and additional materials are provided free of charge from MD. "Values of Membership" kits for U. S. and Region 7-10 may be ordered by using the form below.

NAME _____ Member Number _____

REGION _____ SECTION _____ SOCIETY _____

I wish to loan the "Values" kit for up to 60 days free of charge

I wish to purchase the "Values" kit for \$25.00 (U.S.) Payment enclosed

DATE NEEDED BY _____ PHONE# _____ SHIP TO: _____

NAME _____ Member Number _____

ADDRESS _____

CITY/TOWN _____ STATE/PROVINCE _____

COUNTRY _____ ZIP/POSTAL CODE _____

1982 RAB MEMBERSHIP DEVELOPMENT COMMITTEE

Chairman* Roy J. Yee Kems Inc. 2234 Hoonee Pl. Honolulu, HI 96819 (808) 845-6402	Vice Chairman/Region 1 Rep.* Duane Matthiesen Mail Stop H040 Mitre Corp. Post Office 208 Bedford, MA 01730 (617) 271-2309 (O)	Region 2 Representative Melvin Hotz 3710 Gardenvue Rd. Baltimore, MD 21208 (301) 765-2368 (O) (301) 484-0778 (H)
Region 3 Representative* Ensign Johnson Vanderbilt Univ., Dept. of EE Box 1722, Station B Nashville, TN 37215 (615) 322-2771 (O) (615) 292-2961 (H)	Region 4 Representative Dr. Abraham Franck 6514 Fifth Ave., S. Minneapolis, MN 55423 (612) 376-1023 (O) (612) 869-3811 (H)	Region 5 Representative TO BE APPOINTED
Region 6 Representative R. I. Thieme Pacific Northwest Bell Room 2802 1600 Bell Plaza Seattle, WA 98191 (206) 345-3860 (O)	Region 7 Representative TO BE APPOINTED	Region 8 Representative Dr. Peter Peiser ENEL-DSR Via G. B. Martini 3 I-00198 Rome, Italy (06) 85092426 (O) (06) 4751839 (H) Telex 610518 or 610528 ENELDG-I
Region 9 Representative TO BE APPOINTED	Region 10 Representative T. V. Balan Cement House 121 M. Karve Rd. Bombay, 400020, India	
Division I Representative Colonel Allen D. Dayton 10221 Raider Ln. Fairfax, VA 22030 (202) 69200281 (O)	Division II Representative* Martin Plotkin Brookhaven National Labs. Upton, NY 11973 (516) 282-4717 (O)	Division III Representative William Hibbard 120 Piping Rock Rd. Silver Spring, MD 20904 (301) 344-7889 (O)
Division IV Representative Glen R. Thoren Raytheon Co. Missile Systems Div. Hartwell Road Bedford, MA 01730 (617) 274-7100 Ext 1410 (O)	Division V Representative Russell Theisen Martin Marietta 2667 Fitzhugh Rd. Winter Park, FL 32792 (305) 352-3877 (O) (305) 671-4139 (H)	Division VI Representative Thomas H. Grim 3392 Avalon Rd. Shaker Heights, OH 44120 (216) 822-2378 (O) (216) 561-9110 (H)
Division VII Representative James E. Oneil Westinghouse Elec. Corp. 777 Penn Center Blvd. Pittsburgh, PA 15235	Past Chairman Calvin O. Stoutz 21 Stoney Clover Ln. Pittsford, NY 14534 (716) 722-0808 (O) (716) 381-2177 (H)	Chairman 1982 RAB SAC Dr. Charles K. Alexander Dept. Chairman, Dept. of EE Tennessee Technological Univ. Box 5004 Cookeville, TN 38501 (615) 528-3397
IEEE Staff Secretary* Roseann Schulz IEEE Service Center 445 Hoes Ln. Piscataway, NJ 08854 (201) 981-0060 Ext. 300 (O)	Coordinator, Membership Dev* William C. Hunter IEEE Service Center 445 Hoes Ln. Piscataway, NJ 08854 (201) 981-0060 Ext. 301 (O)	

* Planning & Evaluation Committee

Rev. 1/29/82

IEEE MEMBERSHIP SUMMARY

DECEMBER

Region	MEMBERSHIPS		GROWTH	% GROWTH	YEAR END GOAL		% OF GOAL	RANK
	1981	1980			#	%		
1	43,059	41,580	1,479	3.6%	1,150	2.8%	128.6%	4
2	29,785	29,151	634	2.1%	550	1.9%	115.3%	6
3	22,710	21,643	1,067	4.9%	650	3.0%	164.1%	2
4	21,948	21,678	270	1.2%	490	2.3%	55.1%	10
5	21,578	20,607	971	4.7%	620	3.0%	156.6%	3
6	43,133	41,683	1,450	3.5%	1,380	3.3%	105.1%	7
1-6	<u>182,213</u>	<u>176,342</u>	<u>5,871</u>	<u>3.3%</u>	<u>4,840</u>	<u>2.7%</u>	<u>121.3%</u>	
7	11,964	11,922	42	0.4%	72	0.6%	58.3%	9
8	11,717	10,506	1,211	11.5%	496	4.7%	244.1%	1
9	5,174	5,038	136	2.7%	210	4.1%	64.7%	8
10	10,679	10,004	675	6.7%	570	5.7%	118.4%	5
8-10	<u>27,570</u>	<u>25,548</u>	<u>2,022</u>	<u>7.3%</u>	<u>1,276</u>	<u>5.0%</u>	<u>158.5%</u>	
Total 1-10	221,747	213,812	7,935	3.7%	6,188	2.9%	128.2%	
Division SOCIETY MEMBERSHIPS BY DIVISION								
I	35,071	34,134	937	2.8%				3
II	30,220	30,940	-720	-2.3%				7
III	35,305	34,994	311	0.9%				5
IV	33,467	32,908	559	1.7%				4
V	62,146	52,427	9,719	18.5%	8,073	15.4%	120.4%	1
VI	32,190	28,825	3,365	11.7%				2
VII	<u>21,580</u>	<u>21,611</u>	- 31	-0.1%				6
S Total	249,979	235,839	14,140	6.0%				
Students	37,238	34,782	2,456	7.1%				
Senior Members	21,812	21,742	70	0.3%				

B-102

SOCIETY DIVISION MEMBERSHIPS
DECEMBER

Division	MEMBERSHIPS HELD		GROWTH	% GROWTH	Year End Goal # / %	% of # Goal	RANK GROWTH	
	1981	1980						
I ASSP 01	9,049	8,627	422	4.9%			6	
CAS 04	11,448	11,414	34	0.3%			15	
IT 12	4,893	5,195	-302	-5.8%			30	
CS 23	9,681	8,898	783	8.8%			2	
I Subtotal	35,071	34,134	937	2.8%				
II NPS 05	3,257	3,266	- 9	-0.3%			17	
VT 06	2,654	2,820	-166	-5.9%			31	
IM 09	5,423	5,559	-136	-2.5%			24	
IECI 13	5,866	6,125	-259	-4.2%			27	
EI 32	1,713	1,733	- 20	-1.2%			22	
IA 34	11,307	11,437	-130	-1.1%			21	
II Subtotal	30,220	30,940	-720	-2.3%				
III BCCE 02	7,907	7,937	- 30	-0.4%			14	
AES 10	7,279	7,651	-372	-4.9%			28	
COM 19	16,133	15,641	492	3.2%			8	
EMC 27	2,188	2,076	112	5.4%			5	
GRS 29	1,798	1,689	109	6.5%			4	
III Subtotal	35,305	34,994	311	0.9%				
IV AP 03	5,459	5,097	362	7.1%			3	
ED 15	9,572	9,648	- 76	-0.8%			18	
MTT 17	6,635	6,429	206	3.1%			9	
SU 20	2,251	2,319	- 68	-2.9%			25	
CHMT 21	3,103	3,132	- 29	-0.9%			19	
MAG 33	2,816	2,747	69	2.5%			11	
QEA 36	3,631	3,536	95	2.7%			10	
IV Subtotal	33,467	32,908	559	1.7%				
V COMP 16	62,146	52,427	9,719	18.5%	8,073	15.4%	120.4%	1
VI R 07	3,304	3,196	108	3.4%			7	
EM 14	8,192	8,498	-306	-3.6%			26	
EMB 18	7,532	7,606	- 74	-1.0%			20	
E 25	2,323	2,377	- 54	-2.3%			23	
PC 26	2,288	2,270	18	0.8%			13	
SIT 30	3,937	-----	-----	-----			12	
SMC 28	4,614	4,878	-264	-5.4%			29	
VI Subtotal	32,190	28,825	3,365	11.7%				
VII PE 31	21,580	21,611	- 31	-0.1%			16	
Total S	249,979	235,839	14,140	6.0%				

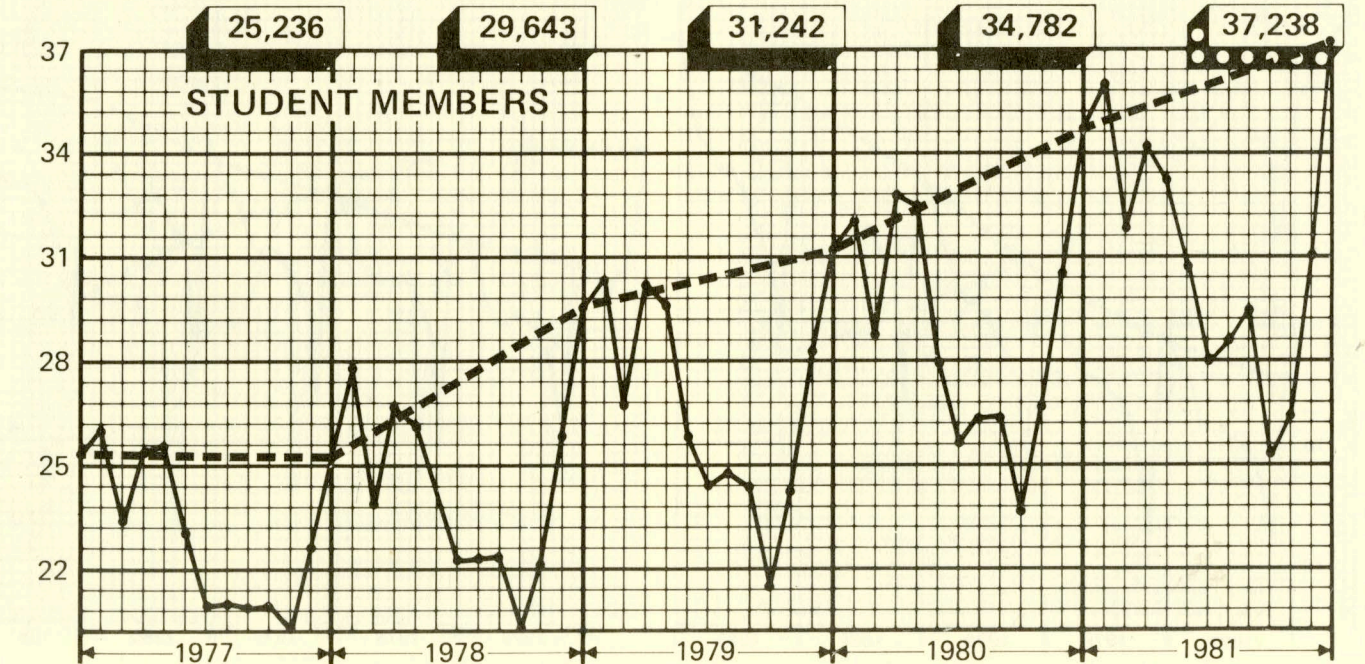
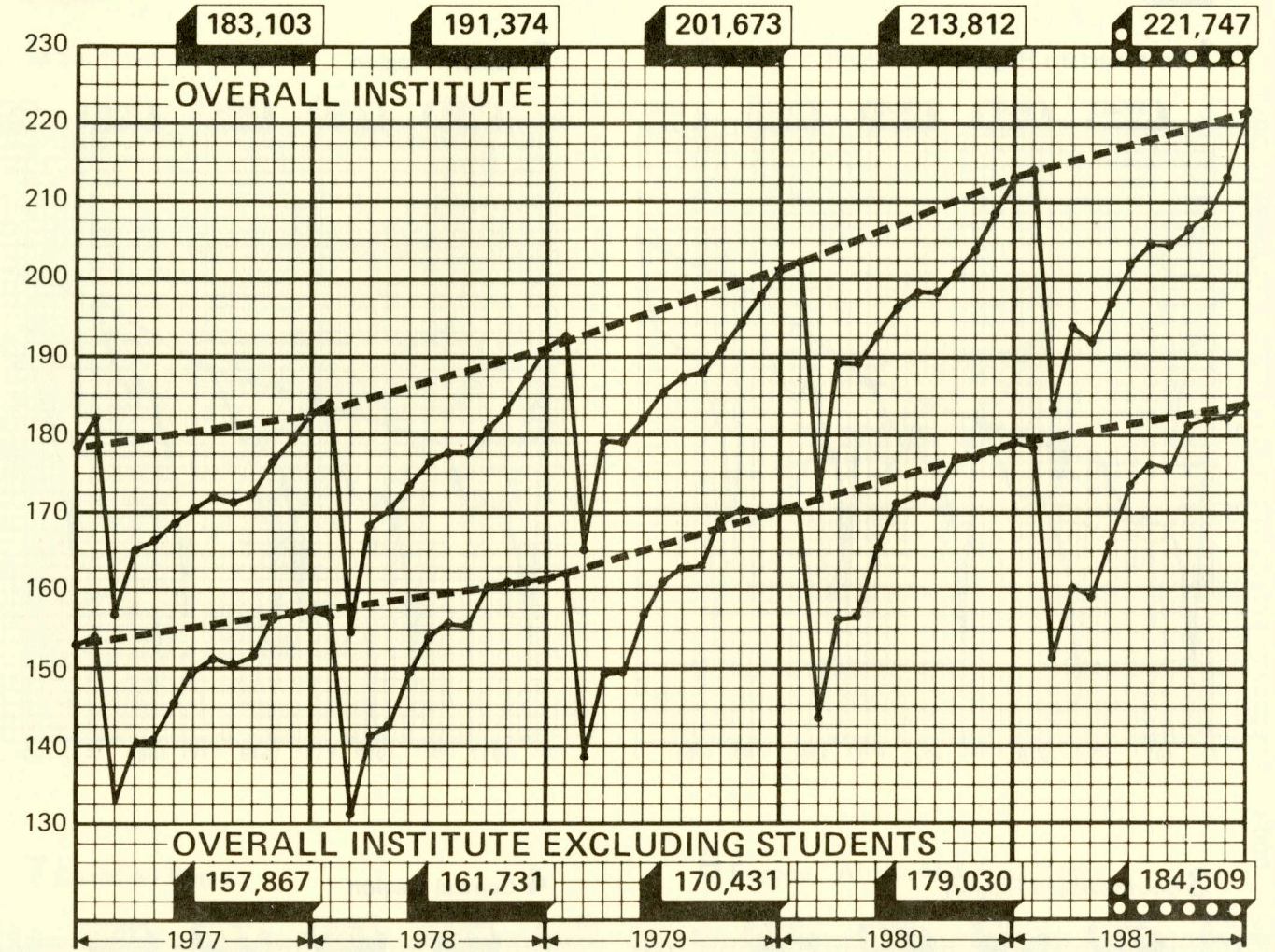


This month

Year end

MEMBERSHIP PROGRESS

DEC 1981

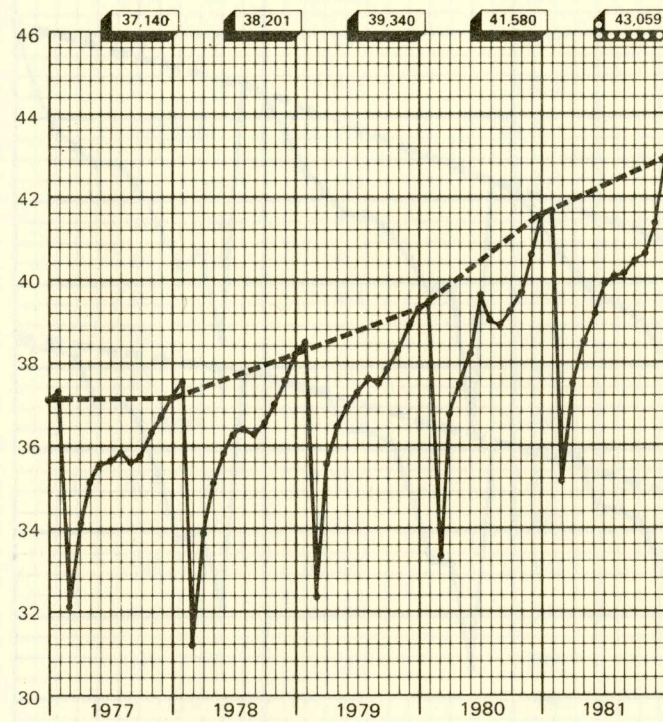


MEMBERSHIP PROGRESS

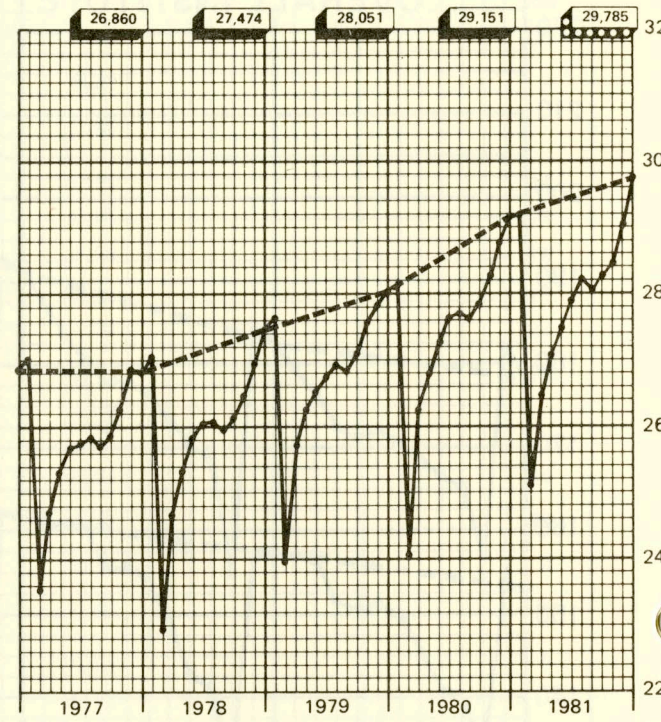
DEC 1981

This month
Year end

1 Northeastern Region



2 Eastern Region

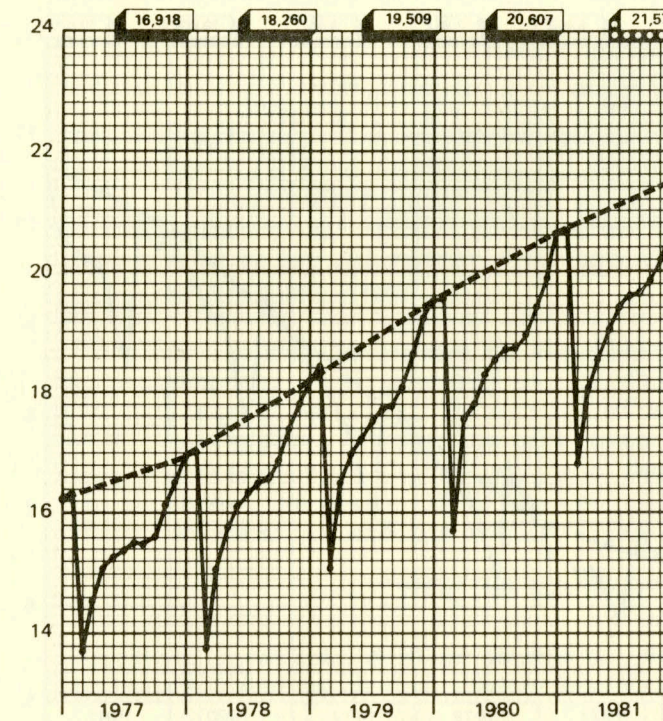


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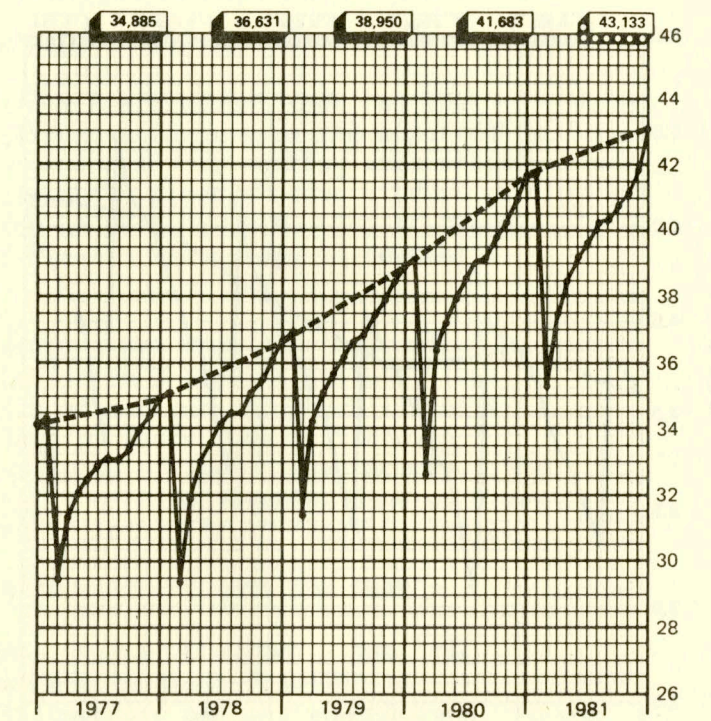
DEC 1981

This month
Year end

5 Southwestern Region

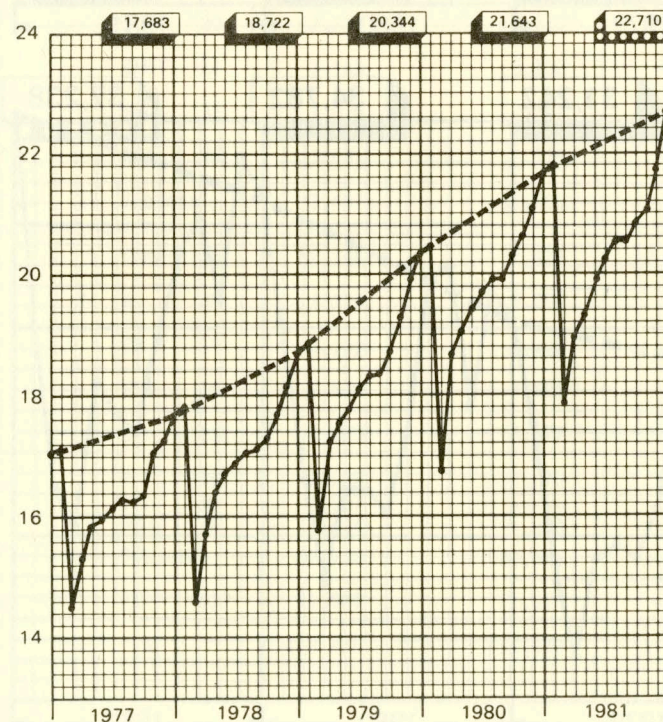


6 Western Region

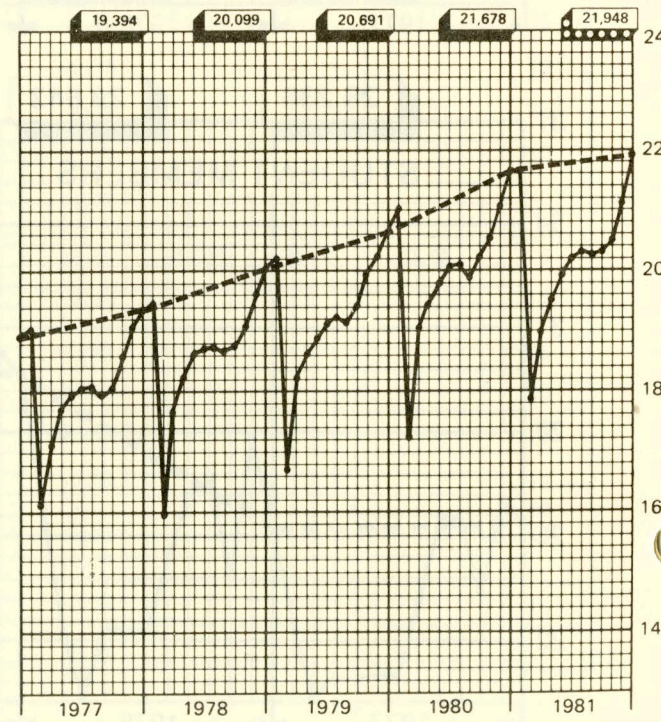


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3 Southeastern Region

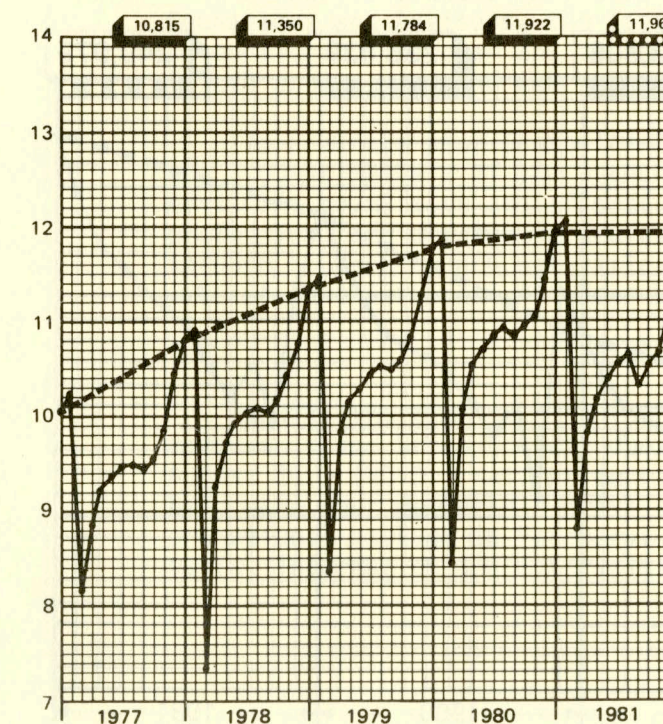


4 Central Region

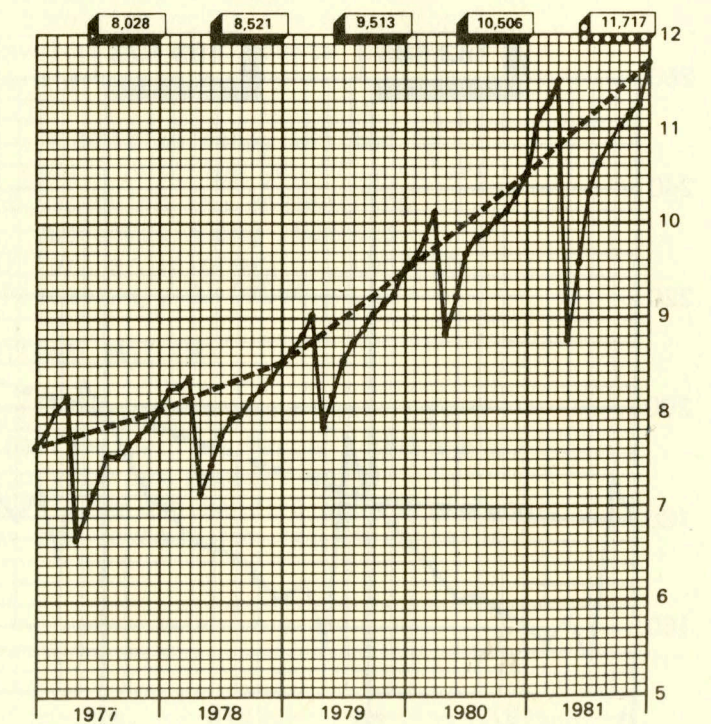


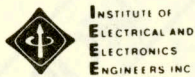
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7 Canadian Region



8 Europe, Africa, Mid. East Region





THE REGIONS

INSTITUTE OF
ELECTRICAL AND
ELECTRONICS
ENGINEERS INC

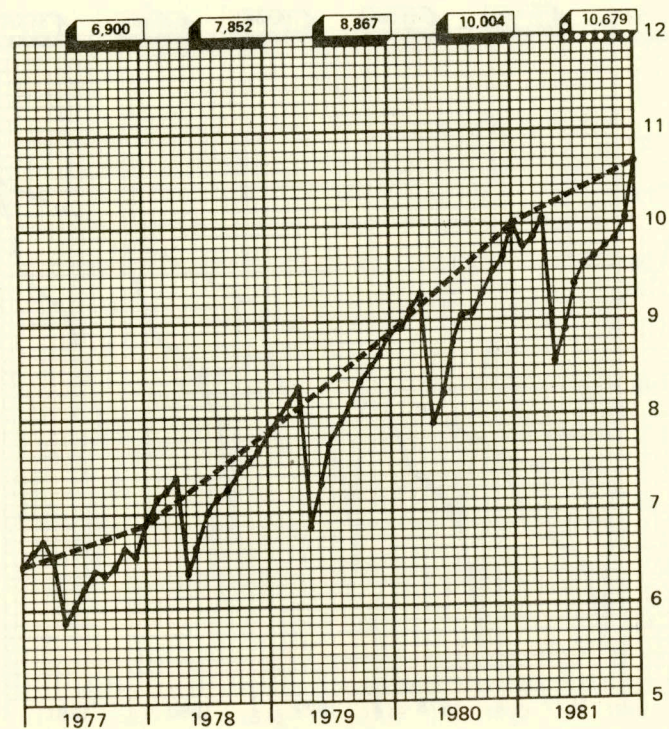
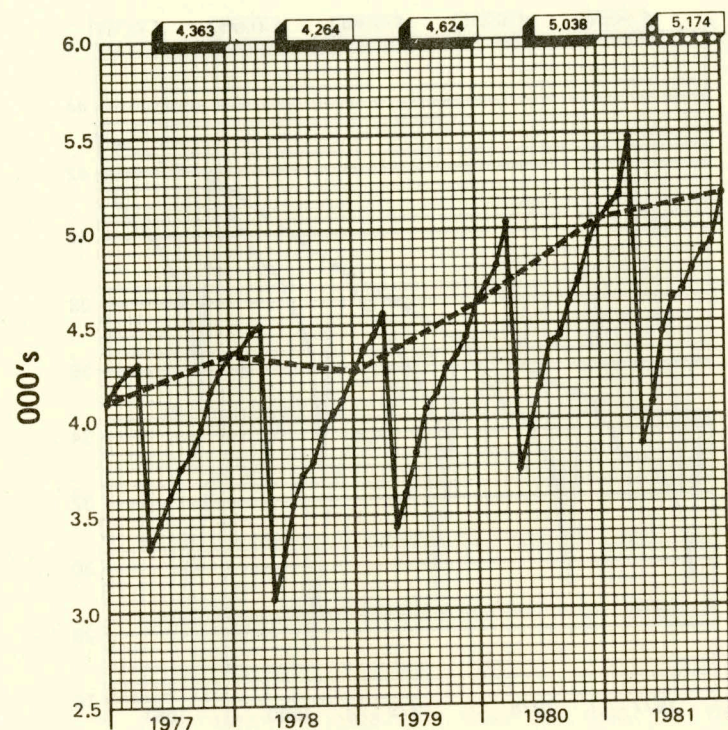
MEMBERSHIP PROGRESS

DEC 1981

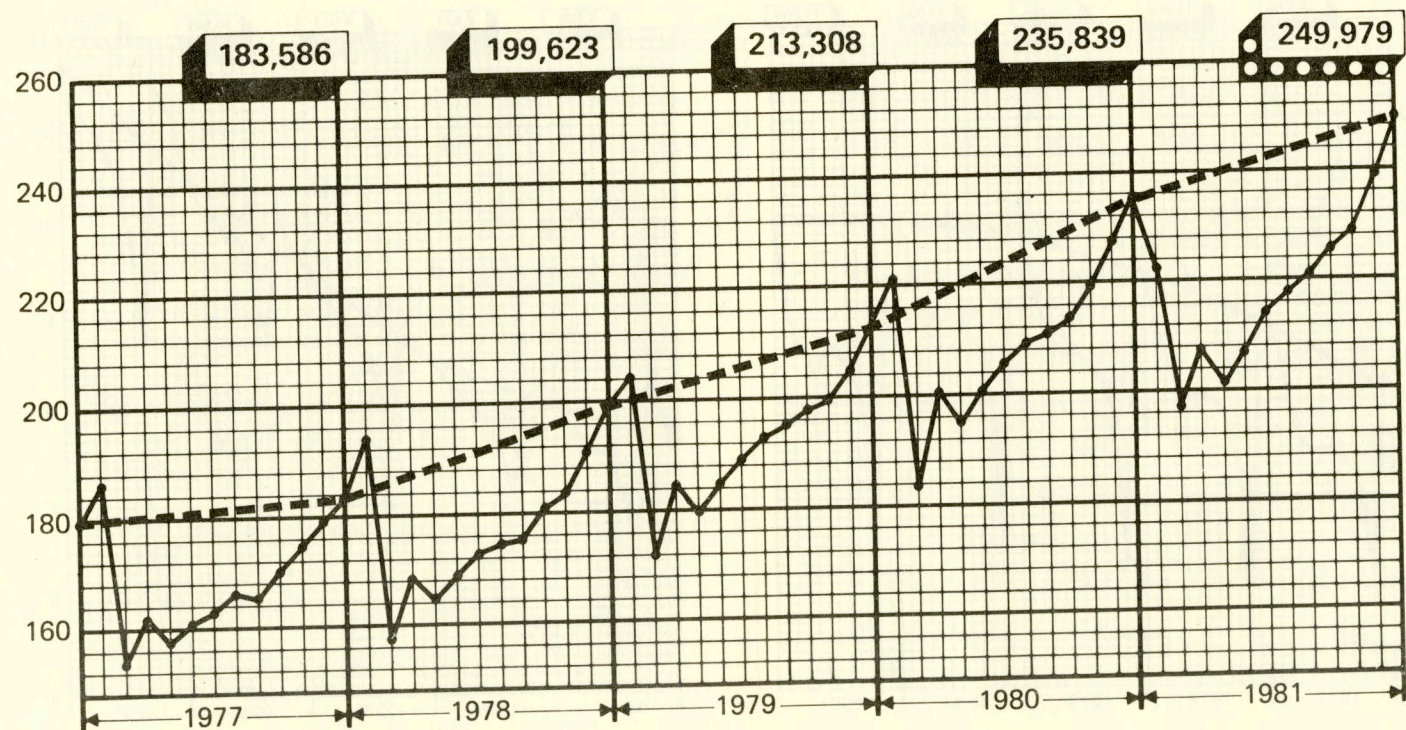
This month
Year end

9 Latin American Region

10 Rest of the World



THE SOCIETIES - TOTAL MEMBERSHIPS HELD



Contact: Mary K. Campbell
(201) 981-0060 Ext. 165

Student Activities News

STUDENT BRANCHES AWARDED BENDIX GRANTS

Judging for the 1981-82 Vincent Bendix Award Competition has been completed. The objective of the competition is to provide the opportunity for IEEE Student Members to develop professionally by working with others on an engineering project, while simultaneously strengthening Student Branch programs. Projects are funded for up to \$500 each. Topics range from technical research on the state-of-the-art technology to community service programs.

Congratulations to the following Student Branches for their winning proposals: University of Pittsburgh, Christian Brother's College, Iowa State University, University of Wisconsin at Madison, Southern Illinois University, University of Houston (College of Technology), Eindhoven University of Technology, and Indian Institute of Technology, Bombay. The three runners up in order were: University of Pennsylvania, Banarus Hindu University, and the Regional Engineering College, Tiruchirapalli, India.

OUTSTANDING BRANCH COUNSELOR/ADVISOR RECOGNITION AWARD

Just a reminder to Branch and Branch Chapter Chairmen: the 1982 Outstanding Branch Counselor/Advisor Award nomination deadline is February 27, 1982. The Regional Activities Board and the Technical Activities Board sponsor this worthwhile program with cash awards for up to ten Outstanding Branch Counselors/Advisors each year to help recognize their important contribution to the IEEE Student program.

Winners are those individuals who exemplify, through their work as Counselors and Advisors, the Institute's commitment to the educational, personal, professional and technical development of students in electrical engineering and the related arts and sciences.

To nominate your Counselor/Advisor, submit an essay written by the Student Members of the Branch. It should describe your Counselor/Advisor's commitment and efforts toward improving the engineering profession, and developing professional awareness among students through Student Branch activities. For further information, contact IEEE Student Services, 445 Hoes Lane, Piscataway, NJ 08854.

SPRING PROMOTIONAL MAILING

Now is the time to plan your spring promotional campaign. IEEE membership and Group/Society dues are half price from March 1 through August 31. (NOTE: Half price rates apply to new members only). To help make your membership drive successful, we are sending your Branch's promotional package in February. Be on the lookout for it; it contains useful information and materials!

COMPUTER SOCIETY SCHOLARSHIPS AVAILABLE

Four \$3000 scholarships are available for the 1982-83 academic year to eligible undergraduate or graduate Computer Society student members who participate in Student Branch Computer Chapter activities. These scholarships are one of the several ways the Computer Society supports the growth and development of Student Branch Computer Chapters.

Students active in their Computer Society Branch Chapter showing promise in their academic and professional efforts are recognized and rewarded. Graduate students, juniors, and seniors in electrical engineering, computer engineering, computer science, or a well-defined computer related field of engineering who are active members of the Computer Society and Branch Chapter at their Institution are eligible.

Application deadline is March 15, 1982. The primary factors considered are: involvement in chapter activities, academic achievement, other extracurricular activities in school, and a letter of evaluation by the Branch Chapter Advisor. Further details and application forms may be obtained by calling or writing to: Chairman, Student Activities Committee, IEEE Computer Society, P.O. Box 639, Silver Springs, MD 20901, (301) 589-3386.

STUDENT BRANCH SUBSCRIPTION DISCOUNTS AVAILABLE

IEEE Student Branches are eligible to order an annual subscription to a full set of Society Transactions, Journals, and Magazines, including the Proceedings of IEEE and Spectrum for only \$200.

To qualify, the Branch Counselor and Chairman must send a written request stating that the publications will be displayed and easily accessible to Student members in a Branch library, lounge, or other facility to serve this purpose. The Branch subscription may not be substituted for any subscriptions purchased by the college or university library. For further information, contact IEEE Student Services, 445 Hoes Lane, Piscataway, NJ 08854.

AND NOW FOR REGIONS 6 & 9 STUDENT PAPER CONTEST RESULTS

The Region 6 and Region 9 Student Paper Contest results are: REGION 6, first place, James K. Elwell; second place, Paul Trethewey; third place, Wade L. Heimbigner. REGION 9, first place, Arturo Luis Cruces; second place, David Alfredo Fuller Padilla; third place, Enrique L. Sernik K.

Congratulations to all 1981 Regional Student Paper Contest winners!



Fellow Committee

IEEE FELLOWS ELECTED JANUARY 1, 1982

The geographical listing is by Section and Subsection. Society membership is indicated following Fellow citation. (Please see Society Code Designations below.)

Akron

James J. Hogan For contributions to terrain-sensing correlation guidance. **AES**

Albuquerque

Charles W. Gwyn For contributions to the fundamental analysis of radiation effects in semiconductor devices and circuits and for innovative developments of computer aids for integrated circuit design. **CAS, COMP, NPS**

Atlanta

James J. Gallagher For original and sustained contributions to molecular spectroscopy and frequency control and for the advancement of millimeter-wave technology. **QEA**

J. David Irwin For contributions to industrial electronics, control instrumentation, and engineering education. **CHMT, COMP, Ed, IE**

Charles T. Rucker For contributions to the development of techniques for power combining of microwave semiconductor devices. **MTT**

Rome Subsection

John C. Dutton For significant technical leadership in international standards activities relating to transformers, voltages, and safety. **IA, PE**

Benelux

Patrick M. Dewilde For contributions to network theory, especially the synthesis of scattering matrices. **CAS, COMP, IT**

Paul G.A. Jespers For leadership in microelectronics research, development, and education. **ASSP, CAS**

Simon Middelhoek For contributions to the theory of magnetic thin films and to magnetic and semiconductor technologies and for leadership in engineering education. **ED, Mag**

Binghamton

Cyril J. Tunis For contributions to pattern recognition and read-only memories. **COMP**

Boston

Sheldon Baron For leadership in and contributions to the application of control theory to manual control and the modeling of human operator response. **CAS, COMP, SMC**

C. Leonard Bennett For contributions to time domain analysis of electromagnetic radiators. **AES, AP**

Donald B. Brick For contributions to the theory and application of pattern recognition and for technical leadership in command, control, and communications systems. **SMC**

Kenneth J. Button For pioneering work on microwave ferrites and ferrite devices. **MTT**

Harold S. Goldberg For contributions to the design and introduction of new instrumentation, especially medical instrumentation. **EM, EMB, IM, SIT**

SOCIETY CODE DESIGNATIONS

AES	Aerospace and Electronic Systems	IA	Industry Applications
ASSP	Acoustics, Speech, and Signal Processing	IE	Industrial Electronics
AP	Antennas and Propagation	IM	Instrumentation and Measurement
BCCE	Broadcast, Cable, and Consumer Electronics	IT	Information Theory
CAS	Circuits and Systems	Mag	Magnetics
CHMT	Components, Hybrids, and Manufacturing Technology	MTT	Microwave Theory and Techniques
COMM	Communications	NPS	Nuclear and Plasma Sciences
COMP	Computer	PC	Professional Communications
CS	Control Systems	PE	Power Engineering
ED	Electron Devices	QEA	Quantum Electronics and Applications
Ed	Education	R	Reliability
EI	Electrical Insulation	SIT	Social Implications of Technology
EM	Engineering Management	SMC	Systems, Man and Cybernetics
EMB	Engineering in Medicine and Biology	SU	Sonics and Ultrasonics
EMC	Electromagnetic Compatibility	VT	Vehicular Technology
GRS	Geoscience and Remote Sensing		

Herbert L. Groginsky For contributions to radar signal processing for detection, spectral estimation, and Doppler weather processing. AES, IT

Lawrence G. Rubin For contributions to cryogenic temperature and high-strength magnetic field measurement technology. IM, Mag, SIT

Riccardo Vanzetti For the introduction of new concepts and products in infrared electronics and industrial instrumentation. IE

Richard C. Williamson For contributing reflective grating devices to the field of surface-acoustic-wave filters. MTT, SU

Merrimack Valley Subsection
Yen-Long Kuo For contributions to the application of analysis and computer-aided design to communication circuits and systems. CAS, SIT

Cedar Rapids
Karl E. Lonngren For contributions to the understanding of nonlinear effects in plasmas and related areas. NPS

Central Illinois
Donald L. Bitzer For contributions to computer-assisted instruction systems and to the introduction of devices such as plasma display panels used in these systems.

Michael B. Pursley For contributions to information theory and spread-spectrum communications. COMM, IT, VT

Central Indiana
Peter J. Denning For contributions to the understanding of virtual memory systems and to the development of the working set concept. COMP

Francis J. Fry For pioneering contribution to the applications of ultrasonics in biology and medicine. EMB, SU

Central Iowa
Anthony N. Michel For contributions in the qualitative analysis of large-scale dynamical systems. CAS, CS

Central Texas
Tatsuo Itoh For contributions to dielectric and printed waveguide technology for millimeter-wave integrated circuits. MTT

Chicago
George L. Landgren For contributions in the analysis of generator dynamic stability, interconnection capability, and transmission reliability. PE

James E. Van Ness For contributions to research and education in computer analysis of power systems. COMP, CS, PE

Cleveland
Al Gross For pioneering work in VHF and UHF mobile radios. PE, R, VT

Dallas
William C. Holton For technical leadership in semiconductor research and development. COMP, ED

Morton E. Jones For technical leadership and for pioneering contributions to compound semiconductor material and processing technology.

Dayton
Gary A. Thiele For contributions to computational methods in electromagnetic theory. AP, Ed, EMC, MTT, VT

Denver
Jackson F. Fuller For contributions to utility and industrial power systems and creative approaches to power engineering education. PE

Mark Tsu-han Ma For contributions to the analysis and synthesis of antenna arrays. AP

Black Hills Subsection
Richard J. Gowen For contributions to aerospace biomedical engineering technology and to education. EMB

Eastern North Carolina
James P. Gray For creative contributions to computer network architecture. COMP, SIT

East Tennessee
Charles W. Williams For contributions to the development and application of nuclear instrumentation. NPS

France
Claude H. Gary For contributions to the understanding of corona and field effects in high-voltage power transmission. PE

Ferdy P.M. Mayer For contributions to the theory of ferromagnetics and to the development of materials for the suppression of electromagnetic interference. AES, AP, ASSP, BCCE, CAS, CHMT, COMM, COMP, CS, ED, EI, EM, EMB, EMC, GRS, IA, IE, IT, Mag, MTT, PE, SU, VT

Michel E. Poloujadoff For contributions to the theory of electrical machinery, especially single-phase and linear induction motors, and for leadership in advancing engineering education. IA, PE

Germany (West)
Manfred Boerner For contributions to and technical leadership in optical communication technology and for developments of mechanical frequency filters.

Peter Noll For contributions to adaptive quantization and coding of speech signals. ASSP, CAS, COMM, IT

Hamilton
Simon Haykin For contributions to signal processing, communication theory, and electrical engineering education. AES, AP, ASSP, CAS, COMM, CS, IT

Houston
Thomas W. Parks For fundamental contributions to signal processing and digital filter design. ASSP, CAS, IT

Israel
Dov Frohman-Bentchkowsky For the development and understanding of programmable nonvolatile MOS memories.

Abraham Lempel For contributions to the theory of data complexity, the practice of data compression, and the algebraic analysis and synthesis of digital sequences. IT

Ithaca
Terrence L. Fine For contributions to the foundations of probabilistic reasoning and its implications for modeling and decision making. IT

Kitchener-Waterloo
Jiri Vlach For contributions to computer-aided analysis and design of electrical networks. CAS

Lehigh Valley
James W. Gewartowski For contributions to microwave solid-state circuits. ED, MTT

Long Island
Richard La Rosa For contributions to the development of electroacoustic signal processing devices. SU

Paul Richman For contributions to the theoretical analysis, development, and manufacture of large-scale integrated circuits. ED

Metropolitan Los Angeles
Solomon W. Golomb For pioneering contributions to the development of digital communications and information theory, embodying unique and novel applications of techniques from discrete mathematics. IT

Mid-Hudson
William A. Blackwell For contributions to electrical engineering education. CAS, Ed

Mohawk Valley
Anthony Coppola For contributions to improving the reliability and maintainability of electronic systems and components. EM, R

John W. Sammon, Jr. For technical leadership and direction in applying computer technology to pattern recognition.

Montreal
Andreas Antoniou For contributions to active and digital filters, and to electrical engineering education. ASSP, CAS

J. Jacques Archambault For contributions in EHV transmission and in establishment and promulgation of standards for EHV equipment and systems. PE

Farouk A.M. Rizk For contributions to the science of high-voltage technology and for technical leadership in the advancement of the electrical power industry. PE

Ashok K. Vijh For contributions to the theory of electrochemical reactions involved in electrical and electronic products. EI

New Jersey Coast
Larry A. Coldren For contributions to surface acoustic wave resonator filters, long delay lines, and monolithic acoustoelectric signal processing devices. QEA, SU

Vladimir G. Gelnovatch For contributions to the field of microwave circuit design and optimization. MTT

Morton I. Schwartz For leadership and personal contributions to the practical realization of optical fiber technology. COMM, QEA

Bruce A. Wooley For contributions to the design of integrated circuits for communication systems. CAS, ED

New York
Samuel Hopfer For contributions to microwave components and instruments, especially to wide-band power measuring devices. MTT

William Chien-Yeh Lee For contributions to the analysis, modeling, and conceptual and practical design of mobile telephone systems. COMM, VT

S. Perry Schlesinger For contributions to the study of electromagnetic wave-plasma interactions and relativistic beam high-power millimeter-wave sources. AP, MTT

Westchester Subsection
George S. Almasi For contributions to the development of magnetic bubble device technology. COMP, Mag

Northern Virginia
William F. Gabriel For leadership in and contributions to the theory of adaptive antenna arrays and superresolution processing techniques. AES, AP, ASSP

Raymond L. Pickholtz For contributions to the design of digital communications systems and to engineering education. CAS, COMM, COMP, CS, IT

North Italy
Elio Occhini For contributions to cable technology for EHV and UHV electric energy transmission.

North Jersey
Bishnu S. Atal For contributions to the theory of linear prediction and its applications to speech processing. ASSP

Ronald E. Crochiere For contributions to the field of digital signal processing and its application to digital encoding of speech. ASSP, COMM, IT

Nuggehally S. Jayant For contributions to adaptive quantization and digital speech communication. ASSP, COMM, IT

Wei Shing Ku For technical leadership in the application of advanced planning concepts to the development of high-voltage networks. PE

Martin A. Pollack For contributions to new molecular laser systems and for advances in mixed crystal semiconductor materials for optoelectronic applications. ED, QEA

Norway

Olav S. Johansen For leadership and contributions to international research and standardization of high-voltage equipment and systems. EI, PE

Oakland-East Bay

Robert W. Brodersen For contributions to the development of integrated circuits for signal processing. ASSP, CAS, ED

Carlo H. Séquin For developments in charge-coupled image sensors and signal processing devices. COMP, ED

Orange County

Fred A. Blum For leadership in and contributions to the development of high-speed electronic and optoelectronic devices using III-V compounds. ED

Nathan Sclar For contributions to infrared detector array technology. ED

Stanley A. White For contributions to digital signal processing techniques and applications. ASSP, CAS

Ottawa

Matthew Kuhn For technical leadership and contributions to solid-state device technology and its application in telecommunications systems. ED

Philadelphia

Walter O. Stadlin For contributions to digital computer techniques for automated control of interconnected power distribution networks. PE

Phoenix

Vincenzo Converti For contributions to the design, planning, and operational functions of integrated power systems by the creation and use of new concepts in computer applications. COMP, PE

Trafford M. Morong For leadership in transforming the staff and facilities of a 25 Hz rural power system into a modern public utility. PE

Pittsburgh

William C. Guyker, Jr. For contributions to the engineering and design of 500 kV transmission systems. PE

Ronald T. Harrold For development of diagnostic measurement techniques for locating discharges in high-voltage apparatus. EI, PE

Portland

Donald J. Marihart For contributions to the application of modern communication techniques to the control and protection of power systems. COMM, PE

Eugene Subsection

Ronald R. Mohler For contributions to automatic control theory of bilinear systems. CS, SMC

Providence

Donald W. Tufts For contributions to digital communications and signal processing. AES, AP, ASSP, COMM, COMP, CS, IT

Rio de Janeiro

Nils Hyltén-Cavallius For leadership in ultra-high-voltage laboratory design and realization.

San Fernando Valley

Don Parker For technical direction of the development of high-power solid-state sources. ED, MTT

Santa Barbara

Allen Gersho For contributions to the theory of signal processing in communications. ASSP, CAS, COMM, IT

Augustine H. Gray, Jr. For contributions to the theory of linear prediction and its applications to speech processing. ASSP, CAS, EM, GRS, IT

Santa Clara Valley

Gary L. Baldwin For developments of integrated circuits providing high performance and precision in digital communications. ED

Marcian E. Hoff, Jr. For the conception and development of the microprocessor. COMP, ED

John C. Mallinson For contributions to the theory of magnetic recording. Mag

James J. Spilker, Jr. For contributions to the development of digital satellite communications and navigation systems. AES, COMM, IT

Santa Monica Bay

Richard L. Abrams For contributions to optical communications and nonlinear optics and for technical leadership in the development of CO₂ waveguide lasers. QEA

Allen B. Rosenstein For contributions to theory, design, and manufacture of power converters and for leadership and research in engineering education. EM, Mag

Schenectady

Pier A. Abetti For the development of electromagnetic models of transformers, the use of digital computers for the design of power transformers, and leadership in extra-high-voltage power transmission.

John R. Dunki-Jacobs For contributions to the design and implementation of industrial power systems.

James D. Palmer For contributions to applying systems engineering and systems sciences techniques to the study of large-scale socioeconomic systems. CS, NPS, SMC

Ray P. Stratford For contributions to the understanding and control of nonsinusoidal currents in electric power systems. IA, PE

South Bay Harbor

Mani L. Bhaumik For contributions to the research and development of high-energy lasers and new laser systems. QEA

Southeastern Michigan

Alexander J. Glass For contributions to quantum electronics and to the design of glass lasers for fusion research. EMB, QEA

Sweden

H. Bertil Thorén For advancing the understanding of the design and operation of equipment for ultrahigh-voltage power transmission systems. COMP, EI, IA, PE, R

Tokyo

Hiroshi Hirayama For contributions to active network theory and leadership in graduate education. BCCE, CAS, COMM, R

Kazuo Iwama For leadership in applying electronic technology to consumer products.

Yoshihiro Matsumoto For leadership in the application of computers in industrial control systems. COMP

Koh-ichi Miyaji For contributions to the development of microwave tubes and solid-state image converters. BCCE, ED

Kiyoshi Nagai For contributions to the development of phased array antennas. AP

Atsuyoshi Ouchi For leadership in the application of semiconductor devices and in the development of VLSI technology. EMB

Noriaki Sato For contributions to adjustable speed drive motor systems and static power converter technology. IA, Mag, PE

Yasuro Tamura For contributions to the control, operation, and planning of power systems and for leadership in power system engineering education. COMP, CS, PE, SMC

Toshio Utsunomiya For leadership in the field of biomedical engineering and education. EMB

Mitsuyoshi Yamamoto For contributions to advanced electrical devices for energy generation and transmission. ED, EI, IA, Mag, PE

Toronto

Shashi B. Dewan For research and education in power electronics. EI, IA, IE, Mag, VT

Tucson

William J. Kerwin For contributions to the theory and practical realization of active RC circuits. BCCE, CAS, VT

United Kingdom and Republic of Ireland
Alistair G.J. MacFarlane For contributions to control engineering and to the development of frequency domain techniques for linear multivariable feedback systems. CS, SMC

Edwin D.R. Shearman For contributions to backscatter radio propagation studies.

Erich P. Wohlfarth For contributions to the theories of fine-particle ferromagnetism and the properties of electrons in metals. Mag

Washington

Horst W.A. Gerlach For design and development of microwave tubes and solid-state sources for missile fuze systems. ED, MTT, SU

Abraham H. Haddad For contributions to stochastic systems analysis and electrical engineering education. CS, IT

George G. Harman For development of process control and screening procedures for microelectronic welding and bonding. CHMT, ED

Sherman Karp For contributions to the advancement of optical communication theory and the development of the Blue-Green optical satellite communication system for submarine communications. COMM, IT

Ralph E. Taylor For contributions to electromagnetic interference predictions. COMM, EMC

Andrew M. Werth For leadership in the design and development of digital satellite communications systems. COMM

West Virginia

Bernard W. Whittington For leadership in electrical standards formulation and implementation. EI

The Communication and Broadcast Satellite Systems Committee of the IEEE Aerospace and Electronic Systems Society is the sponsor of the newly published *Compendium of Communication and Broadcast Satellites: 1958 to 1980*. This unique reference volume contains data on satellites, including date launched and designed lifetime, a block diagram of the the communication payload, a frequency plan showing the bands utilized, and a listing of major transmission parameters. This material was carefully assembled by a group of 25 experts from the United States, Canada, Western Europe, and Japan. Hardcover only (\$26.20 for IEEE members).

Low-Noise Microwave Transistors and Amplifiers, a Book of Selected Reprints, edited by H. Fukui of Bell Laboratories, is sponsored by the IEEE Microwave Theory and Techniques Society.

This volume is a collection of sixty of the best papers on the applications of low-noise amplification at microwave frequencies, including satellite and terrestrial communications, radioastronomy, and radar. (\$16.95 for the paperbound member-edition).

For more information, or to order these volumes, please contact the IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854.

TRANSACTION NOW AVAILABLE

The IEEE TRANSACTION ON COMPUTER-AIDED DESIGN OF INTEGRATED CIRCUITS AND SYSTEMS, published by the Circuits and Systems Society is now available to members of other IEEE Societies. Printed or fiche: \$6.00. Printed plus fiche: \$11.00. S Code: 054 ID: 139.

SCIENCE COMMUNICATION INSTITUTE ESTABLISHED AT BOSTON UNIVERSITY.

In response to the expanding market for science information, Boston University has established the Science Communication Institute—the first program of its kind in the nation. Designed for those who need to bring scientific information to non-scientific audiences, the Institute will be offered from June 14 to June 25.

The Institute will offer two weeks of workshops, lectures, discussion panels, and visiting scholars including Dennis Meecham, the editor of *HIGH TECHNOLOGY*; John Mansfield, the executive director of NOVA-WGBH; Richard Know, science writer for the *BOSTON GLOBE*; and Howard Boyer, publisher for Scientific American Books.

For more information, contact the Director of Continuing Education, School of Public Communication, Boston University, 640 Commonwealth Avenue, Boston; or call 617-353-3447.

IEEE AWARD PRESENTATIONS

• The 1981 Harry Diamond Memorial Award was presented to George Abraham on December 8, 1981, at the International Electron Devices Meeting in Washington D.C. Mr. Abraham was cited "For development of multi-stable semiconductor devices and integrated circuits and their application to military systems." The Harry Diamond Memorial Award was founded in 1949 for outstanding technical contributions in the field of government service in any country, as evidenced by publication in professional society journals.

• The 1981 David Sarnoff Award was presented to Cyril Hilsum, also at the International Electron Devices Meeting. Professor Hilsum was cited "For contributions in the fields of III-V compound semiconductors, solid state microwave components and display devices." The David Sarnoff Award was established in 1959 through agreement between the RCA Corporation and the Institute.

• The 1982 Harry Diamond Memorial Award was presented to Jules Aarons at the USNC/URSI National Radio Science Meeting in Boulder, Colorado on January 14, 1982. Dr. Aarons was cited "For contributions to the understanding of trans-ionospheric wave propagation and its application to satellite communications and navigation".

• The 1982 Cleo Brunetti Award was presented on February 10, 1982 to Robert H. Dennard at the International Solid-State Circuits Conference in San Francisco, California. Dr. Dennard has been cited "For the invention of the one-transistor dynamic random access memory cell and for contributions to scaling of MOS devices". The Cleo Brunetti Award was established in 1975 for outstanding contributions in the field of miniaturization in the electronics arts.

• The 1982 Jack A. Morton Award was presented to Dov Frohman-Bentchkowsky also at the International Solid-State Circuits Conference. Dr. Frohman-Bentchkowsky was cited for "For contributions to non-volatile semiconductor memories". The award was founded in 1974 for outstanding contributions in the field of solid-state devices to an individual or group.

NOMINATIONS SOLICITED FOR APPOINTMENT TO IEEE COMMITTEES AND BOARDS

The Nominations and Appointments Committee solicits the active participation of individual members and all IEEE organizational units in the submission of nominations of candidates to be considered for appointment to 1983 IEEE Standing Committees and Boards:

- Admission and Advancement Committee
- Awards Board
- Credentials Committee
- Educational Activities Board
- Fellow Committee
- History Committee
- IEEE Employee Committee
- Individual Benefits and Services Committee
- Investment Committee
- Life Member Fund Committee
- Long Range Planning Committee
- Nominations and Appointments Committee
- Public Relations Committee
- Publications Board
- Tellers Committee
- United States Activities Board

The general qualifications for committee and board service are the same as those for any other position of leadership responsibility and trust: competence, experience, willingness to take on the task, availability of time to participate, enthusiasm, vigor, and cooperation with others in achieving the committee/board objectives.

April 1, 1982 is the deadline date for submission of nominations to the Staff Secretary, Nominations and Appointments Committee, IEEE Headquarters, 345 East 47th Street, New York, NY 10017. Nomination forms and Guidelines for the preparation of the nominations are available upon request to the Staff Secretary.

CONSOLIDATED INVESTMENT OPTIONS

The recent performance of the cash management investment options available to IEEE's organizational units is reported below. All units are urged to examine their available cash for optimum returns.

Investment Option 1 — Short-Term Bank Deposits*:

September	13.60%
October	12.53%
November	9.28%
December-February	9.50% Estimated

Investment Option 2 — Long-term Bank Deposits (over 6 months)†:

September	16.58%
October	14.59%
November	11.57%
December-February	11.75% Estimated

Investment Option 3 — Bond Plan†

September	13.00%
October	13.17%
November	12.63%
December-February	12.00% Estimated

* Percentages refer to amounts actually earned by all depositors in that month.

† Percentages are estimated average return over total period of the investment on funds deposited during the respective months.

For additional information, contact Michael J. Sosa at 201-981-0060, Ext. 123, or Thomas W. Bartlett at 212-644-7748.

Electrical Engineering is a management newsletter on IEEE operations intended to encourage communication among all organizational entities and the staff. Electrical Engineering is published bimonthly by The Public Relations Department of The Institute of Electrical and Electronics Engineers, 345 East 47 Street, New York, N.Y. 10017—Telephone 212-644-7866.

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