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CHICAGO SECTION • IEEE • INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS

OCTOBER, 1972

NEC/72 Features New Conference Format

NEC/72 will feature seven vertical type engineering-management seminars. Individuals with a vital interest in the field of electronics, power (utilities), packaging and production, computers, engineering design, telephone and communications, safety and engineering management will attend the new technology series of seminars developed specifically for NEC/72.

These include: "Computer Monitoring & Control of Electric Utility Systems"; "Ultra-Reliable Computers"; "Is Engineering Obsolete?"; "OSHA: A Whole New

Ball Game on Safety"; "Today's Capabilities of the Direct Distance Dialing Network"; "Engineering Information Systems"; "Package Design for Survival in Distribution".

These tutorial type, six-hour, two-day seminars are modestly priced (\$25.00 each) and scheduled to permit NEC registrants the opportunity to attend two related seminars during the three-day Conference. In addition, an outstanding 22 session, broad range electronics technical program has been prepared for individuals interested in specific electronics

subjects.

NEC management, recognizing the broad range of interest of the Conference attendees, has also arranged for the presentation of a new series of "Engineering Executive" business lectures. The one-hour business lectures will be presented daily at 2:00 p.m. Lecturers include recognized business authorities and consultants in the subjects to be presented.

The NEC/72 registrants will also have an opportunity to view the latest electronic exhibits.

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|-------------|---|
| Oct. 4 | Information Theory Group at Allerton Conference, Monticello, Ill. |
| Oct. 4 | Fox Valley/Communications Technology meeting: AUTOVON—At Bell Telephone Laboratories, Naperville, Ill. |
| Oct. 7 | IEEE Treasure Hunt |
| Oct. 9 - 11 | National Electronics Conference—Regency Hyatt House O'Hare |
| Oct. 9 | Communications Theory—NEC Technical Session No. 1, 9:30 a.m.; Regency Hyatt House O'Hare |
| Oct. 9 | Antennas and Propagation/Microwave Theory and Techniques—NEC Technical Session No. 5, 9:30 a.m.; Regency Hyatt House O'Hare |
| Oct. 10 | Chicago Section Meeting, 1:30 p.m.; Robert H. Tanner, president, IEEE; Regency Hyatt House O'Hare |
| Oct. 11 | Industry and Applications/Industrial Electronics—Nielsen's Village, 7330 W. North Ave., Villa Park; Social hour, 5:15; dinner, 6:15; meeting, 7:15. |
| Oct. 21 | Fox Valley Subsection Tour—Westinghouse Nuclear Training Center, Zion, Ill. |
| Oct. 25 | Parts, Hybrids, and Packaging—Menard's Black Steer Restaurant, 6446 W. North Ave., Chicago, Ill.; social hour, 6:00 p.m.; dinner, 6:30 p.m.; meeting, 7:30 p.m. |
| Oct. 26 | Microwave National Lecture—Menard's Black Steer Restaurant, 6446 W. North Ave., Chicago, Ill.; social hour, 6:00 p.m.; dinner, 6:30 p.m.; National Lecture, 8:00 p.m. |
| Nov. 7 | Section Meeting—Federal Air Pollution Laws and Their Effects on the Electronics Industry. John E. Redman, Speaker. |

A Message

From The Vice Chairman

Summer vacations are over and it's time to get back to work. Your Executive Committee and the various subsection and group and society chapter officers have been working all summer to prepare for the fall activities. But the success is not measured by the number of meetings held — it is a function of the participation.

I'd be the last one to advocate attending meetings just to support IEEE. (I only go to the "good" ones myself.) But you owe it to yourself to make sure that you support the meetings in your interest area. And if you have suggestions for programs, contact your chapter officers — member feedback is important. Better yet, volunteer to help in chapter activities. IEEE needs interested, qualified people. I think you'll find it personally and professionally rewarding.

So, what's the message? IEEE is not just a magazine. It is a sphere for professional growth. The technical meet-



ings of the various group and society chapters of the Chicago section represent a large part of that sphere. We had over 40 technical meetings last year and we'll do the same this year. I hope that you'll contribute to our mutual success with your participation.

So look over the list of active groups in the Chicago area — the officers are listed on page 5, and contact the chairman of the group you are most interested in. He will be glad to hear from you, and to give you all the details on the next group meeting. If you want to start or re-activate a group not presently active in the Chicago area, I and the rest of the Chicago Section officers and Executive Committee will be glad to help you. Call on us.

*Richard A. Bulley
Vice Chairman*

Fall Conference on B&TR

The Second Annual Fall Conference on Broadcast and Television Receivers will be held on December 4 and 5, 1972, at the Sheraton-O'Hare Motor Hotel in Rosemont, Illinois.

Both days will include strong technical sessions on the design of products for the consumer electronics industry.

Monday will feature a luncheon with Barton Kruezer, Executive Vice President of Consumer Products at R.C.A. as the keynote speaker, and the presentation of the Annual Consumer Electronics Award for outstanding contribution to the consumer industry.

Monday night will climax with a cocktail party sponsored by M. Gottlieb Associates, Inc. and Videocraft Manufacturing Company, open to registrants of the conference.

IAS/IECI

The joint chapter of Industry and Applications and Industrial Electronics will meet on Wednesday, October 11, 1972. A panel discussion on "How Can a Construction Engineer Upgrade the Type of Electrical Equipment furnished for a Job — or What Part Do Specifications Really Play?" is planned.

Participants will be R. A. Wolfson, Wolfson, Leavitt R. Associates, moderator; Garrett Walters, Edward Electric Company; Paul Primo, ITE-Imperial Corporation; and others.

Meeting will be held at Nielsen's Village, 7330 W. North Avenue, Villa Park. Social hour, 5:30 p.m., dinner 6:15 p.m.; meeting, 7:15 p.m. For reservations, call (312) 363-5954 and specify the meeting you will attend.

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IEEE CHICAGO SECTION WELCOMES IEEE PRESIDENT

Tuesday, October 10, will be a big day for the Chicago Section. Robert H. Tanner, president of IEEE, will speak at 1:30 p.m. at the first Chicago Section meeting on "IEEE — its Plans and Problems." He will talk about the plans to widen the scope of IEEE and reshape it to the desires of the members.

The meeting will be held at the Regency Hyatt House-O'Hare, at the time of the 28th National Electronics Conference. After the meeting, tour the NEC exhibits; there is no charge for IEEE members at the exhibits.

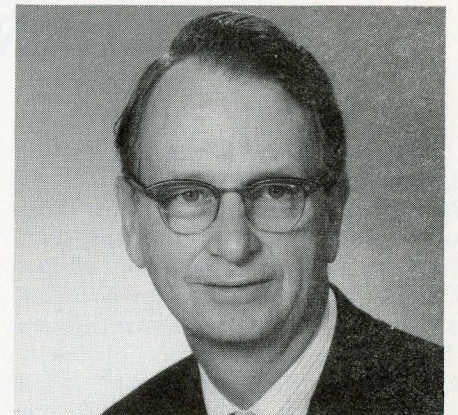
A Region 4 meeting will also be held late Tuesday afternoon. After that, the Chicago Section IEEE Executive Committee will meet at 6:30 p.m.

Robert H. Tanner was born and educated in England, graduating from the University of London with a B.Sc. in Engineering with first class honors. After a postgraduate year devoted to research in architectural acoustics, leading to an M.Sc., he joined the engineering staff of

the British Broadcasting Corporation. During World War II, he served in the British Army and rose to the rank of major. In 1946 he returned to the BBC Research Department to work on architectural acoustics.

The following year, he took his family to Canada, and joined the Northern Electric Company. He spent thirteen years in Bellevue, Ontario, becoming one of the first engineers appointed to the staff of the Research and Development Laboratories, in 1958. He has been responsible for developments in several communications fields and holds a number of patents. He is now director of information of the newly formed Bell-Northern Research organization in Ottawa.

Tanner is president, and a Fellow, of the IEEE. He is also a Fellow of the Engineering Institute of Canada and the Institution of Electrical Engineers (of Great Britain). He is also a member of the Association of Professional Engineers of



Ontario and the Acoustical Society of America.

In his spare time, Tanner advises architects on acoustical problems and has carried out the acoustical design of such important buildings as the theater for the Stratford Shakespearean Festival, the Expo Theater in Montreal, Sir George Williams University, and Manitoba Theater Center in Winnipeg.

Research Overseas Qualifies for Fellowships

The Foreign Area Fellowship Program has invited advanced doctoral candidates to submit applications for a fellowship for the 1973-1974 academic year. The program provides support to doctoral candidates from universities in the United States and Canada who plan to do the research for their dissertations overseas in any one of the fellowship areas: Africa, the Near East, the East, South and Southeast Asia, Western Europe, Latin America, and the Caribbean.

Applications are being accepted for research in the social sciences, humanities, and professions. Preference will be given to topics having contemporary relevance in scientific, cultural, economic, political, or social pursuits. The exact closing date for applications has not been set, but it is expected that they will be due by mid-November.

Since requirements vary among the areas—for example, there are no citizenship limitations for research in Asia—applicants should contact the program directly. Announcements and applications may be obtained by writing to the Foreign Area Fellowship Program, 110 E. 59th St., New York, N.Y. 10022.

New Journal for Physicists and Chemists

A new quarterly journal which presents quantitative numerical data of interest to physicists and chemists is being published by the American Chemical Society and the American Institute of Physics for the National Bureau of Standards.

The Journal of Physical and Chemical Reference Data provides critically evaluated data, fully documented as to original sources and criteria used for evaluation. It includes critical reviews of measurement techniques. One of its principal sources is the National Standard Reference Data System.

The Journal's editorial board welcomes appropriate contributions. An outline of the nature and scope of the proposed compilation, with criteria for evaluation of the data, should be sent to David R. Lide, Jr., Editor, Journal of Physical and Chemical Reference Data, National Bureau of Standards, Washington, D.C. 20234.

Metric Conversion Passes Senate Committee

The Senate Commerce Committee recently passed legislation that would convert the United States to the use of the

international system of metric measurement. The bill proposes an 11 member National Metric Conversion Board to develop a plan for conversion within 18 months. It does not establish a mandatory date for the change but does set switching to the metric system within 10 years as a national goal.

The bill grew out of a recent U.S. metric study conducted by the Secretary of Commerce. The study found that increased use of the metric system in the U.S. is inevitable and concluded that a national program to achieve a metric changeover is desirable.

Before passing the bill, the Senate committee deleted earlier provisions authorizing conversion assistance through such programs as accelerated tax write-offs. Similar legislation in the House remains pending before the Science and Aeronautics Committee.

The Congress has been debating and examining the issue of metric conversion for more than 150 years, but did not adopt a national conversion policy because up until now most of its major trading partners used the customary system of weights and measures. Today, however, more than 90 percent of the world's population is on the metric system, and the United States is the only industrialized nation that has not established a national policy committing itself to conversion.

MICROWAVE INDUSTRY - 1972

THE NATIONAL LECTURE

Theodore S. Saad, president of Sage Laboratories and editor-in-chief of the Microwave Journal, will deliver the Microwave Theory and Techniques 1972 National Lecture to the joint Chicago Chapter of Microwave Theory and Techniques and Antennas and Propagation. The meeting will be held on Thursday, October 26, 1972 at Menard's Black Steer Restaurant, 6446 W. North Avenue, Chicago, Ill. Social hour, 6:00 p.m.; dinner, ordered from the menu, 6:30 p.m.; National Lecture, 8:00 p.m. For reservations, call Professor Tom Smith, 996-3422 by October 25, 1972.

The National Lecture will review the Microwave Industry, 1972, presenting an overview of the industry, the technology, and the profession, rather than an evening of facts and figures about products and business. The overview will include a brief history of where the industry came from and how, and some observations of markets, past, present, and future. Includ-

ed will be a discussion of where the industry is going and why.

Ted Saad has been actively employed in the microwave industry since January 1942. Through January 1955, he had worked at the MIT Radiation Laboratory, Submarine Signal Company, Microwave Development Labs., and Sylvania.

To stabilize his employment, he helped found Sage Laboratories in January 1955 and has served as its president since that time. In 1955, he helped establish Horizon House Microwave Inc., Publisher of the *Microwave Journal* and *Telecommunications* and has been editor-in-chief ever since.

Saad is a Fellow of the IEEE and was a member of the National Administrative Committee of Microwave Theory and Techniques Group from 1953 through 1969. He is a member of NAS-NAE-NRC evaluation panel 272 advisory to the Electromagnetics Division of NBS.

ANTENNAS AND PROPAGATION/MICROWAVE THEORY AND TECHNIQUES

The joint Antennas and Propagation/Microwave Theory and Techniques Group will hold two meetings in October: the first on October 9 at NEC and the second on October 26.

The October 9 meeting is NEC Technical Program No. 5, which will be held at 9:30 a.m., in the Eastern Room of the Regency Hyatt House-O'Hare, River Road and Kennedy Expressway, Chicago, Ill. The session, chaired by R. Mittra, University of Illinois, will be devoted to "Topics in Modern Radar." Papers include: "Modeling of Multipath Induced Monopulse Angle Tracking Errors," by S. O. Dunlap, U.S. Army Missile Command; "Modeling of the Radar Scattering Characteristics of Aircraft," by J. W. Wright, U.S. Army Missile Command; "Geometric Optics Calculation of Radar Cross Sections," by P. L. E. Uslenghi, University of Illinois, Chicago Circle; "A Survey of Random Arrays," by Y. T. Lo, University of Illinois; and, "Air Pollution Detection and Monitoring Using Optical Radar," by H. Sievering, Governors State University.

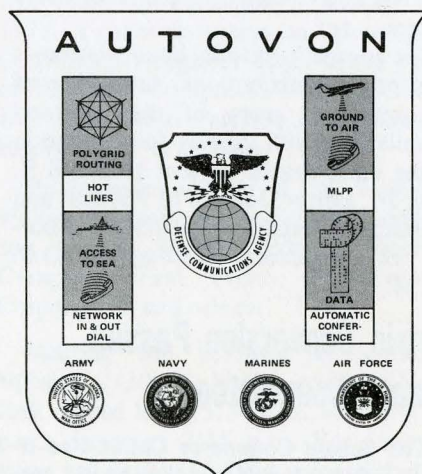
AUTOVON At Fox Valley Meeting, October 4

The Fox Valley Subsection and the Communications Technology Society will hold a joint meeting on Wednesday, October 4, at Bell Laboratories, Warrenville and Naperville Roads, Naperville, Illinois.

The subject will be the AUTOVON Military Communications Network and will include both a talk and demonstration of AUTOVON features as well as a tour of the building. The speaker will be Michael Haverty, who supervised the design of the control programs for the electronic switching system used in the AUTOVON network. Haverty joined Bell Laboratories in 1960 and has been involved in many phases of electronic switching design, program design and system evaluation and testing.

Dinner will be at 7:00 p.m. in the company restaurant. Reservations must be made by calling 263-3776. The AUTO-

VON demonstration and tour of the building is limited to the first 125 making reservations. There is, however, no limit on the number attending the dinner or talk.



OCTOBER 21

FOX VALLEY TO TOUR ZION

The Fox Valley Subsection plans to tour the Westinghouse Nuclear Training Center at Zion, Ill., on Saturday, October 21 (not Oct. 12, as carried in the Fox Valley program). Tour will be followed by lunch, at noon, at the Rustic Manor Restaurant, Gurnee, Ill. For tour reservations, call 263-3776 by October 17.

Allerton Conference

The Information Theory Group (G-12) is sponsoring a meeting at the Allerton Conference, Allerton House, Monticello, Ill., on Wednesday, October 4 at 7:30 p.m. If you are interested in attending, call the IEEE office (312) 263-5954 for reservations and further details.

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PHP Holds Seminar on Dielectric Effects

A seminar on "Chip Capacitor Dielectric Effects on Hybrid Microwave Amplifiers" will be the first meeting of the year for the Parts Hybrids Packaging Group (G-21) on Wednesday, October 25, 1972.

Vince Perna, vice president, micro-waves, of American Technical Ceramics, will present the seminar, which will cover: test results of ATC's program of measurement of capacitor equivalent rf series resistance, shunt reactance and admittance, series S-parameters, insertion loss, VSWR, and resonance characteristics for spaced capacitance values in both physical sizes from 100 megaHerz to 3 gigaHerz.

The seminar will also include dielectric characteristics as functions of frequency, temperature and RMS voltage, including physical-stress effects; interrelationship of insertion loss, capacitor Q, and the S-parameters . . . with special emphasis on apparent Q versus VSWR.

Other topics to be covered are: rf transistor input current versus circuit bandwidth and rf input power; power dissipated by the resulting circulating current; circuit influence of semiconductor tradeoffs; average minimum collector efficiency versus average power gain as functions of frequency, rf output power and dc working voltage.

Special attention will be given to a study of the effects of interstage losses on driver junction temperature and the resulting failure mechanisms of forward bias second breakdown, aluminum/silicon mass-transport, and reduced transistor lifetime.

Copies of an rf capacitor handbook will be given to each attendee.

The meeting will be held at Menard's Black Steer Restaurant, 6446 W. North Avenue, Chicago, Ill. Social hour, 6:00 p.m.; dinner, ordered from the menu, 6:30 p.m.; seminar, 7:30 p.m. Even if you cannot attend dinner, please come to the seminar.

For reservations, please call the IEEE office (312) 263-5954, identifying the meeting. Call before October 23, 1972 and tell the secretary whether you will be there for dinner as well as the seminar.

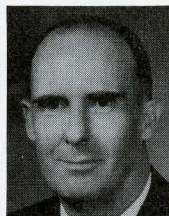
Meeting coordinator is Frank Lakowski, The Gudeman Corp. (312) 337-7400.

Now hear this . . .

Harza Engineering Company, Chicago, has appointed Frank M. Scott, Head of The Electric Utilities Division, the Company's group responsible for services to the utility industry, including organization and management, operation, accounting, training, and power system planning.

Prior to joining Harza in 1968, Scott was Manager of the West Central Area for the Utility Industry with Allis Chalmers Manufacturing Company. Other assignments with Allis Chalmers were Midwest Regional Specialist for Heavy Equipment and Head of the Motor and Generator Special Applications Group.

His professional activities have included the Presidency of the Western Society of Engineers, Chicago Section Chairmanships of both the IEEE and the American Society of Mechanical Engineers, as well as memberships in the American Nuclear Society and the National Society of Professional Engineers. A graduate of the University of Nebraska, he is a registered Professional Engineer in Illinois.



Scott

Karl Kramer has recently joined Midwest Audio Corporation of Chicago as Manager, Manufacturing. He had been associated with the Jensen Manufacturing Company for a number of years in top management and technical capacities.

Kramer has been active in audio and acoustical societies at both the regional and national levels. He is a member of IEEE, the Acoustical Society of America, Audio Engineering Society, and the Illinois Engineering Council. In addition, he has served as Director of National Electronic Conferences and as Chairman of the Chicago Chapter of the IEEE.

Kramer's responsibility at Midwest will include engineering, procurement and all phases of manufacturing. Midwest is a leading designer and producer of specialized sound systems for the transportation industry.



Midwest College Elects IEEE Members

The trustees of Midwest College of Engineering have elected William Arrott and Paul F. Carroll to be chairman and vice-chairman, respectively, for the 1972-73 academic year. Both are IEEE members.

Arrott, who is vice president and director of Gardner, Jones & Company, Inc., public relations counsel, has been a member of the board of trustees since the college was founded.



Arrott



Carroll

Carroll, president and founder of Semiconductor Specialists, Inc., international distributor of electronic components and devices, was named a trustee last year.

Founded in 1967, Midwest College of Engineering is the first professional college of engineering in the country. It offers programs leading to the bachelors' and masters' degree in all branches of engineering and to the degree of master in engineering administration.

Earlier in September, the college was granted the status of Recognized Candidate for Accreditation by the North Central Association of Colleges and Secondary Schools.

Communications Technology Group Sponsors NEC Session

Session 1 of the NEC technical program, on Monday morning October 9 at 9:30 a.m., is sponsored by the Communications Theory Group. George Mack, Illinois Bell Telephone Company, president of Scanfax, Inc., is chairman of the session.

Papers include: "Radio Paging-Swap Terminal," by M.A. Fraser, Omicron Data Systems; "Encoding and Decoding Techniques," by A. J. Bonney, Bell Telephone of Canada; "Paging-Radio Transmission and Design," by L. Schneller, Stewart-Warner Electronics; "Reliable Communications in Coal Mines," by M. D. Aldridge, West Virginia University; and "Electromagnetic Field Analysis for Underground Wireless Communication," by C. A. Balanis, West Virginia University.

Session 8, Tuesday morning October 10 at 9:30 a.m. will also be devoted to Communications Technology.