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CHICAGO SECTION • IEEE • INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS

MARCH 1975

CALENDAR OF EVENTS

IEEE OFFICE: 263-5954

- March 5 "Coal Gasification"; Power Engineering Society/ Fox Valley Subsection; Spinning Wheel Restaurant, Hinsdale, Ill. Social hour, 6:30 p.m.; dinner, 7:00 p.m.; meeting, 8:00 p.m.
- March 6 First meeting of Microprocessor Systems Design Course; IEEE/IEEE Computer Society/Northwestern University; Northwestern University, Evanston, Ill.
- March 12 "Electrical Safety"; IAS/IECI; Nielsen's Village, 7330 W. North Avenue, Elmwood Park, Ill. Social hour, 5:30 p.m.; dinner, 6:15 p.m.; meeting, 7:15 p.m.
- March 18 "Science & Washington"; Acoustics, Speech & Signal Processing; O'Hare Holiday Inn, 3801 N. Mannheim Road, Des Plaines. Dinner, 6:00 p.m.; meeting, 7:30 p.m. For reservations, call J. C. Mitchell, 945-0040.
- March 19 "Service after Sales"; Communications Society; Lilac Lodge, 2135 S. Wolf Road, Hillside, Ill. Social hour, 6:30 p.m.; dinner, 7:00 p.m.; meeting, 8:00 p.m.
- March 19 "Automatic Calibration Systems"; Northwest Subsection; Holiday Inn, Mannheim and Touhy Roads, Des Plaines, Ill. Social hour, 6:00 p.m.; dinner, 7:00 p.m.; program, 8:00 p.m.
- March 22 Underwriters' Laboratories Tour; Fox Valley Subsection.
- April 2 "How Electronic Switching Evolved"; Fox Valley Subsection; Bell Telephone Laboratories, Wheaton and Warrenville Roads
- April 5 Midwest Acoustics Conference; IEEE; Norris Center, Northwestern University, Evanston, Ill.
- April 8-10 EMC Specs & Compliance Course
- April 8-10 IEEE INTERCON: Americana Hotel, New York, N. Y.
- April 9 "Motor Starting Vibration and Protection"; IAS/IECI; Nielsen's Village, 7330 W. North Ave., Elmwood Park, Ill. Social hour 5:30 p.m.; dinner, 6:15 p.m.; meeting, 7:15 p.m.
- April 21-23 American Power Conference, Palmer House, Chicago.
- April 21-25 "Bulk Power Interconnect"; Power Engineering Society
- May 5 Fox Valley Ladies Night
- May 10 IEEE Recognition Dinner, Arlington Park Towers

Deadline for copy: First week of month preceding publication

AUTOMATIC CALIBRATION SYSTEMS

As implied by the term "Automatic," calibration systems under software direction and hardware (computer) control can quickly calibrate a variety of different types of electronic test equipment; counters, voltmeters, oscilloscopes, etc. Roy Leo, John Fluke Manufacturing Company, and Noel O. Kindt, Cozzens and Cudahy, Inc., will discuss the state of the art in this new field of computer operated automatic calibration systems at the March 19, 1975, meeting of the Northwest Subsection, IEEE.

For the past few years, the automatic test equipment division of the John Fluke

Manufacturing Company has been actively engaged in the design and manufacture of such automatic calibration systems. In the Fluke system, the computer utility is typically a DEC (Digital Equipment Corporation) disc-based PDP-11. The PDP-11, associated peripherals, and software executives control programmable ac/dc current, voltage, and resistance calibrators, instructor the operator, perform accuracy enhancement routings, etc.

Meeting will be held at the Holiday Inn, Mannheim and Touhy Roads, Des Plaines. Social hour, 6:00 p.m.; dinner, 7:00 p.m.; program, 8:00 p.m. Cost of

the butt steak dinner is \$6.00. For reservations, call 263-5954.

THURSDAY'S THE DAY

The Microprocessor Systems Design Course to be held at Northwestern University, starting March 6, 1975, will be held on five *Thursdays*, not Saturdays, as reported in the February issue. The dates given were correct for Thursday. We regret the confusion this has apparently caused.

NOMINATING COMMITTEE SELECTS SLATE

The Chicago Section IEEE Nominating Committee, Richard Bulley, chairman, has selected a slate of officers and Executive Committee members for the 1975-76 Season. Any IEEE member who wishes to place anyone else's name in nomination may do so by presenting the Nominating Committee with a petition bearing 10 members' signatures. All such petitions must be received by Richard Bulley by April 1, 1975.

Candidates slated by the Nominating Committee for Section Officers are: Chairman, Daniel J. Veith, Argonne National Laboratory; vice-chairman, Paul E. Jahn, Commonwealth Edison Company; treasurer, Robert Waghorn, Teletype Corporation; and secretary, John E. Waters.

Candidates for the Executive Committee include: George W. Austin, Commonwealth Edison Company; Paul N. Geiger; Michael Musko; Ed Osterberg, Illinois Bell Telephone Company; Donald B. Owen, Motorola, Inc.; Edward S. Pierson; and Howard L. Wolfman, Teletype Corporation.

UL TOUR

The Fox Valley Subsection will tour the Ohio Street (Chicago) facility of Underwriters' Laboratories on Saturday morning, March 22. Highlights of the tour will include the electrical equipment testing and the hazardous location equipment testing.

Richard H. Aishton, administrative field engineer, Follow-up Services, UL, will be in charge of the tour. Aishton has been with UL for the last 16 years, going there after graduating from Lake Forest College with a BS in physics. He spent two and a half years at UL in the Casualty and Automotive Section. Since then, Aishton has been in Follow-up services.

The usual Fox Valley flyer will be mailed to all Fox Valley members in advance of the tour. Other members of the Chicago Section desiring additional information so they can meet the group can obtain a brochure by calling J. S. Cherskov, Publicity Chairman, Fox Valley, at 690-4096.

SCIENCE AND WASHINGTON

On March 18, 1975, Dr. Edward E. David, Jr., will speak on "Science and Washington: the Interface," at a joint meeting of the Chicago Chapter on Acoustics, Speech, and Signal Processing, IEEE and the Chicago Section.

Dr. David, a former Science Adviser to the president, will assess his Washington experience, the attitude of the government toward the social outlook of the scientific community. He will concentrate on the impressions of a scientist who comes out of the field of acoustics — and should have enlightening thoughts for all of us on the problems of speaking so the government can hear us and not having our thoughts obscured by noise.

The meeting will take place at the O'Hare Holiday Inn, 3801 N. Mannheim road. Dinner at 6:00 p.m.; meeting at 7:30 p.m. For reservations, call J. C. Mitchell, 945-0040.

Dr. David was science adviser to the president and Director of the Office of Science and Technology from September 1970 until July 1973, when the Office was "absorbed" into the National Science Foundation. Before going to Washington, he was executive director, research, communications principles division, Bell Laboratories. He is now executive vice president, research development and planning, Gould, Inc.

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SCANFAX, March 1975 — Volume 27, Number 7. SCANFAX is published monthly, except July and August by the Chicago Section, Institute of Electrical and Electronics Engineers for the information of the members. Editorial office is at 1200 E. Madison Park, Chicago, Ill. 60615, and business office at 55 E. Washington Street, Chicago, Illinois 60602; telephone number (312) 263-5954. Subscription rate for IEEE members collected in dues, \$1.50; for others, \$3.00 per year. Second-class postage paid at Chicago, Illinois.

Meeting Reservations

Remember that the IEEE office, (312) 263-5954, will take your meeting reservations. The best time to call is between 9:30 a.m. and 12:30 p.m. or between 2:30 p.m. and 5:00 p.m.

The meeting coordinator for any group should call and leave his number with Ollie at the office, so she can refer questions on matters other than reservations.

Change of Address

If you have moved — or are about to move — please notify the IEEE office in NEW YORK. Our SCANFAX mailing labels come from there, and we cannot update your mailing address locally in Chicago.

A change of address form is included in each issue of SPECTRUM. Your local post office will also supply you with cards; mail to Emily Sirjane, Membership Services, IEEE, 345 E. 47th Street, New York, NY 10017. Include your SPECTRUM mailing label if possible. We cannot forward this information for you, so please do not send it to the local office.

COAL GASIFICATION

The energy crisis has placed new importance on alternate sources of fuel for electric power generation. At the March 5 joint meeting of the Chicago Chapter, Power Engineering Society, and the Fox Valley Subsection, Dr. Bernard S. Lee, Institute of Gas Technology, will offer a look at one new and fascinating alternative to the classic fossil fuel processes. This coal gasification process is being developed by the Institute of Gas Technology, associated with Illinois Institute of Technology.

Lee will review the development of coal gasification for producing both pipeline-quality gas of high BTU content and utility gas of low BTU content, suitable for power plant use. He will describe briefly the basic chemistry involved, outline several processes now under development, and point out the key differences among them.

As Director, Coal Gasification Research at IGT, Dr. Lee's primary responsibility is directing the development of the IGT HYGAS process for producing pipeline gas from coal. This project includes basic laboratory research, pilot plant development work, economic evaluation, and process design and engineering for commercial plants.

Bernard S. Lee received his BS and his PhD, both in chemical engineering, from Polytechnic Institute of Brooklyn in 1956 and 1960, respectively. He is a registered professional engineer in New York, Illinois, and Massachusetts. Dr. Lee is a member of the American Institute of Chemical Engineers; American Chemical Society; American Institute of Mining, Metallurgical, and Petroleum Engineers; American Association for the Advancement of Science; and Sigma Xi.

The meeting will be held on Wednesday, March 5, 1975, at the Spinning Wheel Restaurant in Hinsdale. Attendance is open to the public and is

not limited to IEEE members. Social hour, 6:30 p.m.; dinner, 7:00 p.m.; meeting 8:00 p.m. For reservations, please call the IEEE office, 263-5954.

TELECOMMUNICATIONS ENGINEER

Seeking full time staff and part-time consultants. E.E. degree required plus minimum 3 years experience in design, specification and installation of police telecommunications systems. For work throughout the State of Illinois. Compensation commensurate with experience and capability. Send resume to:

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Arlington Heights, IL 60004

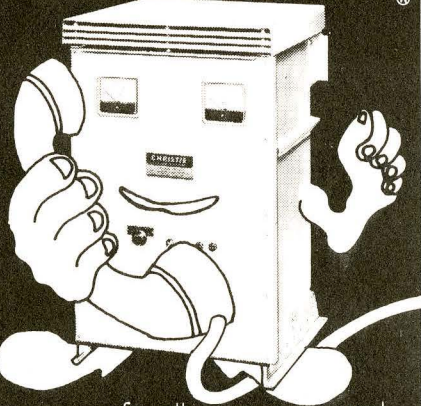
MIDWEST ACOUSTICS CONFERENCE MAC 75

DIGITAL TECHNIQUES IN AUDIO: PROCESSING, RECORDING, AND GENERATION

TIME	PRESENTATION	SPEAKER
9:00 AM	Overview of Conference	Robert Schulein President of MAC
9:10	Digital Processing of Audio Signals	Barry Blesser M.I.T.
10:05	Coffee Break	
DIGITAL PROCESSING OF AUDIO SIGNALS		
10:25 AM	1. Digital Delay Lines	Mahlon Burkhard Industrial Research Prod., Inc.
	2. Digital Filtering of Audio Signals	Thomas Curtis Bell Telephone Laboratories
	3. Digital Frequency Shifting and Time Companding of Speech Signals	Francis Lee Lexicon Incorporated
12:05 PM	Lunch, Demonstrations and Exhibits	
DIGITAL TECHNIQUES IN AUDIO RECORDING		
2:15 PM	1. Digital Recording, Archiving and Editing of Audio Signals	Thomas Stockham University of Utah
	2. The Use of Digital Memory Techniques in Professional Audio Consoles	Derek A. Tilsley Rupert Neve and Co., Ltd.
3:15	Coffee Break	
DIGITAL GENERATION OF AUDIO SIGNALS		
3:35 PM	1. The Scalatron: A Digitally Programmable Keyboard Instrument	Richard Harasek Scalatron Division, Motorola
4:05	2. The Use of the Digital Computer in the Generation of Music	Joe Olive Bell Telephone Laboratories
4:50	Closing Comments	Robert Schulein President of MAC

Conference fee: \$4 for advance registration; \$5 at conference; \$2 for students at door.
For brochure and registration materials, call: Robert B. Schulein, President, MAC 75
(312) DA 8-9000, Ext. 268

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HOW ELECTRONIC SWITCHING EVOLVED

At the April 2 meeting of the Fox Valley Subsection, Amos E. Joel, Bell Telephone Laboratories, will discuss "How Switching Evolved to be Electronic." He will trace the development of telephone switching systems and emphasize the need for the development of electronic systems, which were initiated more than 20 years ago. Joel will also review current types of electronic switch systems and will point out some of the possibilities for future developments.

Amos E. Joel joined Bell Laboratories

in 1940 with a BS from Massachusetts Institute of Technology, and later received an MS. He is currently a switching consultant at the Holmdel location of Bell Laboratories. His early work involved relay engineering, relay digital computer design, automatic message accounting circuits, and fundamental studies of new switching systems. He was head of the department responsible for the development planning of the Bell System's first electronic switching system.

Joel is a Fellow of IEEE and has been

active in both national and local IEEE activities. He is currently president of the IEEE Communications Society, a member of its Communications Switching Committee, and has served as chairman of the Board of Directors of the International Conference on Communications.

Dinner and meeting will be at Bell Laboratories, Naperville, Ill., Wheaton and Warrenville Roads (immediately north of the East-West Tollway). Dinner, 7:00 p.m.; meeting, 8:00 p.m.. There will be an informal social hour preceding dinner at the Kings Palace, Route 53 and Aurora. For dinner and meeting reservations, call 263-5954.

PRODUCT SERVICE AFTER SALE AND DELIVERY

Where does an engineer's responsibility for a design end? Is he done with a job when his design gets converted into a product, the product gets manufactured and meets his requirements, and is delivered and put to work by a customer. Just who is supposed to "keep the customer happy" when problems arise during use of the product? Can the engineer hope to duplicate field conditions in his laboratory, or must he "learn by bitter experience" after his equipment begins to be used by his customers?

These and similar questions will be discussed on March 19th at an IEEE Communications Society Chapter meeting when George S. Foye, Teletype Corporation Regional Manager of South Central U.S. Product Service Centers reviews the subject of: "Service after Sales." The meeting will be held at Richard's Lilac Lodge, Wolf Road and

22nd St. (Cermak Road), Hillside. Social hour, 6:00 p.m.; dinner, 7:00 p.m.; and discussion at 8:00 p.m.

George Foye attended the University of Wisconsin, studied at the Sorbonne in Paris while in the Army, and completed his training at DeVry Technical Institute. He has been with Teletype for 35 years, working in the shop, on production control, and on technical training and writing assignments. Foye designed the master training courses on all Teletype equipment for AT&T, and was Teletype sales representative in Washington, D.C. for four years. His most recent assignment has been with the product service organization at Teletype.

For reservations to the dinner, call 263-5954 before March 17th. If unable to come to the dinner, come for the discussion afterwards.

DIGITAL TECHNIQUES IN AUDIO

The theme of the ninth annual Midwest Acoustics Conference will be Digital Techniques in Audio. To be held on April 5 at the Norris Center, Evanston Campus of Northwestern University, the 1975 Midwest Acoustics Conference (MAC 75) is sponsored by the Audio Engineering Society, Chicago Acoustical and Audio Group, Chicago Regional Chapter of the Acoustical Society of America, and the Chicago Section, IEEE.

Program for MAC 75 is given on page 3 of this issue. Fee for the all day session is \$4 for advance registration; \$5, for registration at the conference; \$2 for students registering at the conference with student ID cards registering at the conference. For brochure describing MAC 75 more completely and registration materials, call Robert B. Schulein, president MAC 75, Shure Brothers Inc., DA 8-9000, ext. 268.

EMI/EMC TRAINING

(Electromagnetic Interference & Compatibility)

COMPREHENSIVE ACCELERATED TRAINING COURSES TAUGHT BY
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- **INDUSTRIAL AND COMMERCIAL EMC SPECS AND COMPLIANCE** - April 8-10, 1975, Holiday Inn, Chicago O'Hare Airport
This 3-day course covers FCC Rules & Regulations Parts 15 & 18, CISPR (International Special Committee on Radio Interference) Specifications including CSA and VDE, and test methods and procedures. The course covers terms and definitions, how to get a test item type approved, type accepted, or certificated. If your company designs, manufactures, and/or sells electronic, electrical, and/or electromechanical devices or equipment in the U.S. or overseas, this course is intended for you. \$375*
- **DESIGN AND MEASUREMENT FOR CONTROL OF EMI** - April 21-25, 1975, Toronto, Canada
This 5-day course covers the RFI/EMI/EMC field including intra-system/equipment design and analysis, EMC specifications, control and test plans, instruments, test methods and procedures, and EMI control, fix, and retrofit techniques. The latter includes wiring, grounding, bonding, filtering, shielding and active circuits. \$595

*Registration fee in addition to the lecture series, includes handbooks and texts, lecture notes and break refreshments. For further information on these or other course offerings or registration, contact:

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