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CHICAGO SECTION • IEEE • INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS

MARCH 1973

New System Power Supply Office Tour

On Wednesday, March 7, Fox Valley Subsection will hold a joint meeting with the IEEE Power Engineering Society. James H. Wear, Commonwealth Edison Company, will be the featured speaker and his talk will be followed by a tour of the facilities.

Wear will describe the operation of the System Power Supply Office, its computer system, automated display board, and the security features required to provide reliable operation.

James Wear, Staff Engineer, joined Commonwealth Edison in 1954 and has had experience in operational analysis, research, system planning and power supply areas of the company.

He holds BS and MS degrees in electrical engineering from Northwestern University, is a Senior Member of IEEE, and a Registered Professional Engineer in the state of Illinois.

The meeting will be at the Nordic Hills Country Club located on the west side of Route 53, just north of Lake Street (U.S. 20) in Itasca. Social hour is at 6:00 p.m.; dinner at 7:00 p.m.; meeting at 8:00 p.m. For reservations call 263-5954.

A tour of the System Power Supply Office will follow at about 9:00 p.m. The office is located on Swift Road about one-half mile south of North Avenue (Route 64) in Lombard.

Volkswagen Computer Diagnostic Concept

When your car gives you trouble, does the garage mechanic plug in a computer to find out what is wrong? Or does he say "I think you have a bad framis"? The next one says "Your wortle valve needs adjusting or maybe it's shot," etc., etc. Find out what at least one manufacturer is doing to improve the situation by bringing modern technology to bear on the problem.

The March meeting of the Northwest Subsection will be held on Wednesday the 21st at the Maitre'd Restaurant at Higgins and Arlington Heights Roads in Elk Grove Village. The featured speaker will be Claus D. Haage, who will talk about the Volkswagen Computer Diagnostic Concept. The development of computerized diagnosis of automotive systems at Volkswagen will be traced, and the application of on-board sensors and off-board computers to the problem of modern servicing will be discussed.

Haage was born in Erfurt, Germany and has been with Volkswagen since 1964. He has been involved in the Diagnosis program and is now General Service Manager of Volkswagen, Inc. in Deerfield.

As usual, cocktail hour will be from 6:00 p.m. with a cash bar; dinner at 7:00 p.m. and meeting at 8:00 p.m. Call 263-5954 for reservations if you plan to come for dinner. If you can't make it for dinner, come and hear this interesting talk anyway.

Silicone Oils For Electrical Power Equipment

Electrical Insulation Group (G-32) will sponsor an illustrated lecture on March 22, 1973 at Nielsen's Restaurant, 6475 North Mannheim Rd., Rosemont, Ill. (across from O'Hare airport). The meeting will start at 7:30 with dinner at 6:30 and social hour at 5:00. Call Wally Baltschun at 927-1420 for reservations.

Dr. Torkelson, Mgr. Product & Application Development for Fluids at General Electric will discuss the electrical, chemical and physical characteristics of silicone oils and design parameters for application in electrical power equipment and for substitution for askerals and mineral oils.

Midwest Acoustics Conference

Final arrangements are being completed for the 1973 Midwest Acoustics Conference, to be held at the new Norris Center of Northwestern University in Evanston, Illinois on April 7, 1973. The title of the Conference is "Loudspeaker Evaluation: Subjective versus Objective — Ear or Gear". The technical program will include technical sessions, panel discussions and product demonstrations.

The Midwest Acoustics Conference is sponsored annually by the IEEE; the Acoustical Society of America; the Audio Engineering Society, and the Chicago Acoustical and Audio Group.

Officers of the 1973 MAC are: Jose Pena, president; Henry Messerschmidt, vice-president; Peter Tappan, secretary; and Robert Schulein, treasurer.

FELLOW AWARDS TO
DRS. DOEHLER AND YAU

Each year the Board of Directors of the IEEE recognizes unusual professional distinction by conferring the membership grade of Fellow upon members of outstanding and extraordinary qualifications and experience in the fields of electrical engineering, electronics, radio, allied branches of engineering or the related arts and sciences, and who have made important and individual contributions to one or more of these fields. The award is by invitation only by the Board of Directors. A candidate must have been a member of IEEE for at least seven years, and attained the grade of Senior Member.

Appropriate recognition of outstanding service is as important to the industry and to the profession as it is to the individual who receives the award. Nominations for the grade of Fellow are made by associates of the candidate to the group or section Fellow Awards committees. These committees appoint someone to gather the necessary supporting data,

evaluate it, and then send their recommendations to the Board.

Awards are made by the Chicago section at its annual recognition dinner. This year the dinner will be held at the Arlington Park Towers Hotel, Arlington Heights, Illinois on Saturday, May 12, 1973. The awardees are Dr. Oskar Friedrich Doehler for contributions and technical leadership in the field of high-power microwave tubes and especially crossed field devices; and Dr. Stephen Yau for contributions to switching theory, the reliability of computing systems, and engineering education.

Dr. Doehler is manager, research and development for Warneke Electron Tubes, Inc. Dr. Yau is Professor and Chairman of the Computer Science Department of Northwestern University.

The Award committee and the Chicago Section extend their heartiest congratulations to these two new Fellows of the I.E.E.E.

John Bell, Chairman
Chicago Section
Fellow Awards Committee
Telephone 745-2551

ACG Meeting March 15

Larry Kirsch, Argonne Laboratory, will speak on "Modeling, Simulation and Control of a Distributed Parameter System" at the March 15 meeting of the Automatic Controls Group. The meeting will be held at the Black Steer Restaurant, 6446 W. North Ave., Chicago, Ill.

Kirsch will discuss a model of a large counter-current heat exchanger, which consists of a set of coupled nonlinear partial differential equations with mixed boundary conditions. This nonlinear model is simulated on a hybrid computer. An approximate model is obtained by first linearizing and then using the weighted residue approach to obtain a lumped parameter model. Vector-valued cost indices are introduced to obtain a feedback controller. Kirsch will compare the approximate, optimal and actual system responses.

Social hour, 6:00 p.m.; dinner, 7:00 p.m.; meeting 8:00 p.m. For reservations, call Professor Kirvaitis, IIT, 225-9630, ext. 1148, or Professor Priemer, University of Illinois, 996-5491.

Harold Chestnut Elected
President of IEEE

Dr. Harold Chestnut has been elected President of the IEEE. Dr. Chestnut, currently vice president of regional activities of IEEE, is a consultant, Systems Engineering, Information Science and Engineering, General Electric Corporate Research and Development, Schenectady, New York. He succeeds Robert H. Tanner.

Dr. Chestnut holds a B.S. and a M.S. degree in Electrical Engineering from the Massachusetts Institute of Technology. He was awarded an honorary D. Eng. from Case Institute of Technology. Author of several articles and books in the John Wiley Series on Systems Engineering and Analysis, Dr. Chestnut also co-authored a two-volume book, Servomechanisms and Regulating Systems Design.

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NEC Seminar Program

The 1973 National Electronics Conference Professional Growth in Engineering spring program features Signal Processing and Minicomputer institutes.

The "Signal Processing Institute" will be presented at Pheasant Run Lodge, St. Charles, Illinois. April 29 to May 4, 1973. The "Signal Processing Institute" will consist of three seminars presenting detailed design and application information.

April 29 - May 2, 1973 - Introduction to Modern Signal Processing Fundamental concepts and mathematical design techniques including: Review of analog design techniques; sampling theory-discrete time theory; and necessary digital filter design theory.

May 2 - 4, 1973 - Current Digital Filter Signal Processing Techniques. This seminar will cover the latest developments in this rapidly emerging field by providing: understanding of theory and design techniques; practice design consideration and tradeoffs; variety of design examples; demonstrations of digital filtering hardware; ability to evaluate impact of digital filtering on products and systems.

May 2-4, 1973 - New Analog Surface Wave Filter Techniques and Applications. A seminar on a practical, new family of filters which have excellent performance characteristics at very low cost, including: Advantages; design considerations; techniques and applications.

The "Minicomputer Institute" will also be presented at Pheasant Run Lodge, St.

Charles, Illinois, May 13-18, 1973. The "Minicomputer Institute" will consist of three seminars especially designed to update technologists on minicomputer Fundamentals, Software and Applications.

May 13-16, 1973 - Fundamental of Minicomputers is designed to provide participants an understanding of hardware, introduction to software, working experience on minicomputers, information on input/output and peripheral hardware, applications discussion, and practical guidelines ranging from potential application analysis to maintenance, reliability and cost.

May 13-16, 1973 - Software Engineering for Minicomputers will provide information on the most difficult and costly problem facing minicomputer users. In-depth principles and the newest concepts and techniques will be covered. The faculty will work closely with participants to provide specific information and guidelines on applications problems.

May 16-18, 1973 - Application of Minicomputers to Process and Production Control. Current state of the art of commercially available minicomputer systems and applications of these systems. Advantages, cost and availability will be reviewed. Practical step by step systems design procedure.

Registration fee for each seminar is \$395.00. The fee includes seminar notes and meals. Individuals interested in attending should write, wire or phone NEC Registrar, Oak Brook Executive Plaza No. 2, 1211 West 22nd Street, Oak Brook, Illinois 60521, phone: 312/325-5700.

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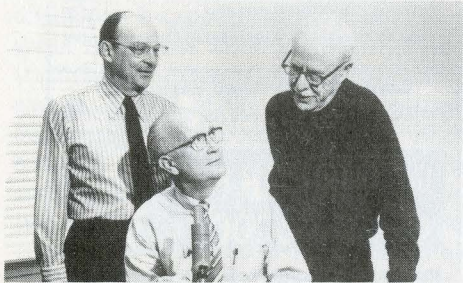
IEEE OFFICE: 263-5954

Chicago IEEE Calendar

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| March 7 | Fox Valley Joint Meeting with IEEE Power Engineering Society. Nordic Hills Restaurant, Itasca. For reservations call 263-5954. |
| March 14 | IAS-IECI meeting, Nielsen's Village, 7330 W. North Ave. Call 263-5954 for reservations. |
| March 20 | Joint Group on AP & MTT - "Microwave Point-to-Point Communications Systems - Menard's Black Steer Restaurant, 6446 W. North Ave., Chicago. Call Ms. Khalilian at 996-3422 by March 19. |
| March 21 | Engineering in Medicine & Biology Group (G-18) Meeting, IIT Research Institute, 7:30 p.m. For reservations call John Manness, 225-9630. |
| March 21 | Northwest Subsection "Volkswagen Computer Diagnostic Concept" - Maitre'd Restaurant, Elk Grove Village. Call 263-5954 for reservations. |
| March 21 | Audio Electroacoustics Group (G-1) Tour & Presentation at Dukane in St. Charles, Ill. |
| April 4 | Fox Valley Subsection - Tally Ho Restaurant, West Chicago, Ill. "Generating and Handling High RF Power at UHF Television Frequencies". Speaker is William P. Kusack, Vice President, Engineering, WFLD-TV. Call 263-5954 for reservations. |
| April 18 | IEEE, WSE, ISPE joint meeting on "25th Anniversary of the Transistor". Illinois Bell Telephone Co., 225 W. Randolph St. Reservations required. Call 263-5954. |
| April 18 | IEEE Executive Committee meeting - 4:30 p.m. at 1B. |
| April 24-25 | 6th Annual Scanning Electron Microscope Symposium, sponsored by IIT Research Institute. Pick-Congress Hotel, Chicago. Contact Dr. Om Johari at 225-9630 for details. |
| May 12 | IEEE Fellow Awards Dinner, Arlington Park Towers, Arlington Hgts., Ill. John Bell, 745-2551. |
| June 11-12 | G8 - Chicago Symposium Conference - BTB |

Wednesday, April 18, 1973

25th Anniversary of Transistor - Looking Ahead

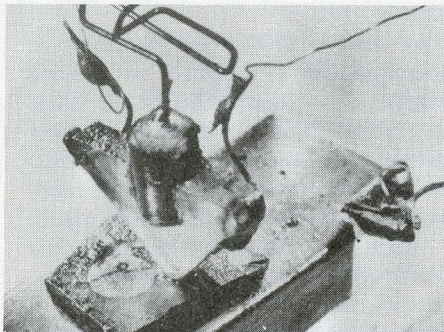


Drs. John Bardeen, William Shockley and Walter H. Brattain, l. to r., who received the Nobel Prize in 1956 for their transistor work, at 1972 reunion marking 25th anniversary of their invention.

IEEE, WSE, ISPE joint meeting on the "25th Anniversary of the Transistor—Looking Ahead". Speaker will be Dr. John Hornbeck, V.P. Electronics Technology Division, Bell Telephone Laboratories, Murray Hill, N.J. The meeting will be held at the Illinois Bell Telephone Company Headquarters building, 225 W. Randolph Street, Chicago, Illinois. Hot buffet dinner (\$5.50) 6:00 p.m.; meeting at 7:00 p.m. Reservations are required; call 263-5954.

The transistor—the Bell System invention that started the computer revolution and the space age, and created a multi-billion dollar industry—is 25 years old.

Originally developed as a solid-state replacement for electron tubes in telephone applications, the Nobel Prize-winning invention has become virtually



EARLY TRANSISTOR. The first transistor assembled 25 years ago at Bell Telephone Labs.

ubiquitous in American life. Most people are never more than a few feet away from a transistor.

It all began in December 1947 when three scientists at Bell Labs succeeded in amplifying an electrical signal by sending it through a very specially prepared crystal of germanium. The invention was announced to the public on June 30, 1948. By then, a Bell Labs task force was working on the job of making the transistor a practical device.

The first commercial application for the transistor was in a Bell System switching office, and within a few years, transistors were already affecting many areas of our lives. In 1956 the three inventors of the transistor—John Bardeen, William Shockley, and Walter Brattain—received the Nobel Prize in Physics for their work.

Microwave

Communication Systems

Robert Hargis, Motorola Inc., will discuss "Microwave Point-to-point Communication Systems" at the March 20 meeting of the Joint Group on Antennas and Propagation and Microwave Theory and Techniques.

The topic of the talk will be microwave techniques for point-to-point communications systems. The discussion will cover the application of microwave component designs to industrial communication systems and a system configuration using a common design approach for the oscillator and amplifier units which is adaptable to systems in the 2 GHz and 6 GHz bands. System performance parameters will be covered. Considerations for application of bulk effect devices in new systems will also be discussed.

Robert Hargis has been employed since 1954. His engineering career has primarily been in the design of microwave components for commercial and military systems and in system performance parameters. His present position is senior staff engineer in the Motorola Point-to-Point Engineering Department. Hargis holds degrees from the University of Illinois and Illinois Institute of Technology.

Dinner and meeting at Menard's Black Steer Restaurant, 6446 W. North Avenue, Chicago. Social hour, 6:00 p.m.; dinner (from menu), 6:30 p.m.; meeting, 7:30 p.m. For reservations, call Ms. Khalilian at 996-3422 by March 19, 1973.

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