

Scanfax

POSTMASTER:
SECOND CLASS POSTAGE
paid at Chicago, Illinois

(Publication number)
(ISSN 0018-9227)

SCANFAX, 125 S. CLARK ST., CHICAGO, IL 60603

Official Publication of the Chicago Section • Institute of Electrical & Electronics Engineers • November 1982

C A L E N D A R O F E V E N T S

For reservations call the IEEE office at 236-4609

(unless otherwise indicated)

COPY DEADLINE: FIRST WEEK OF MONTH PRIOR TO PUBN.

NOV. 3-5	"Foundations of Computer Science"	Computer Soc.	Holiday Inn-Mart Plaza 350 N. Orleans St. Chicago	(For infor., Ralph Wallace, 567-5150)
6	Seminar - "Engineering Liability"	Power Engrng. Soc.	Carson Pirie Scott Wabash & Monroe Sts. Highland Rm., 8th Fl.	(Advance regis., E. A. Capouch, 368-3923)
9	Monthly Meeting ALL WELCOME	IEEE Executive Cte.	Brown & Root Offices 701 E. 22nd St. Lombard	Meeting 7:30 PM
10	"Industrial Applications of Robots"	Industry Appls./ Industrial Electronics Soc.	Nielsen's Village 7330 W. North Ave. Elmwood Park	Social 5:30 PM Dinner 6:30 PM Meeting 7:30 PM
10	"Fiber Optic Data Highway"	Power Engrng. Soc.	Carson Pirie Scott Wabash & Monroe Sts. Highland Rm., 8th Fl.	Social 11:30 AM Lunch 12:00 PM Meeting 12:30 PM
15	"Monolithic Microwave IC's"	Antennas & Prop./ Microwave Theory & Techniques Soc.	Louis Restaurant 351 E. Lake St. Addison	Social 5:30 PM Dinner 6:30 PM Meeting 7:30 PM
15	"Cellular Car Telephone Systems"	Vehicular Tech. Soc. (For reserva., Jerry Underwood, 576-2747)	Mr. Peter's Banquets 1018 Mt. Prospect Plaza Rand & Central Rds.	Social 6:00 PM Dinner 6:45 PM Meeting 7:30 PM
16	A brief tutorial - "Local Area Networks"	Communications Soc. (j/w Computer Soc.)	Wilton Manor Geneva & Main St. Wheaton	Social 5:30 PM Dinner 6:30 PM Meeting 7:30 PM
17	"People Mover in Airports"	Fox Valley Sub.	Wilton Manor Geneva & Main St. Wheaton	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
18	"High Efficiency Motors"	Northwest Sub.	Mr. Peter's Banquets 1018 Mt. Prospect Plaza Rand & Central Rds.	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
25	Thanksgiving Day			
DEC. 1	Seminar - "Start. & Main. A Consult. Practice"	Communications Soc. (See art. w/regis. form on pg. 3)	Wilton Manor Geneva & Main St. Wheaton	(Advance regis., Daryl Eigen, 979-5353)
4	Seminar - "Comms. - A Listen. & Speaking Primer"	Industry Appls./ Industrial Electronics Soc.	Central Lab. Auditorium Fermi Natl. Acceler. Lab. Batavia	(Advance regis., Edward Barrett, 963-7070)
8	"Multiplexing"	Power Engrng. Soc.	Carson Pirie Scott Wabash & Monroe Sts. Highland Rm., 8th Fl.	Social 11:30 AM Lunch 12:00 PM Meeting 12:30 PM
14	Monthly Meeting ALL WELCOME	IEEE Executive Cte.	Brown & Root Offices 701 E. 22nd St. Lombard	Meeting 7:30 PM
25	Christmas Day			

A BRIEF TUTORIAL ON LOCAL AREA NETWORKS - The Communications and Computer Societies will hold a combined dinner meeting on Tuesday - November 16, 1982 where William P. Lidinsky will present "A Brief Tutorial on Local Area Networks." Local area networks (LAN) have gained wide attention over the past several years. Current high interest stems from three factors: 1) large and increasing numbers of computers within single organizational facilities; 2) huge increases in personal terminals and "smart" workstations, both in the office and more recently in factory environments; 3) the efforts of vendors to fill the above needs.

Mr. Lidinsky will present a brief introduction on LANs by first establishing a perspective and need. A taxonomy and characteristic set will be proposed. The components and topologies will be presented and inter-netting issues will be explored. LAN architectures and designs will be discussed and representative systems will be described. Finally, some future directions will be suggested. William Lidinsky is Supervisor of the Advanced Integrated Voice/Data Group, Bell Telephone Laboratories and is the Session Chairman on "Local Area Data Networks" for the 1982 National Electronics Conference. See Calendar of Events for meeting particulars.

KIRK D. HOUSER TO SPEAK AT POWER ENGINEERING MEETING - On Wednesday - November 10, 1982, Kirk D. Houser of Westinghouse Industry Electronics Division in Pittsburgh will speak on "Fiber Optic Data Highway." The Fiber Optic Highway uses a flexible glass rod to transmit signals by internal reflection. The highway offers high band width with low losses. It is free from electrical ground loops, or electromagnetic interference and safe from fire hazards. System drops are connected in a radial configuration. Each leg is more than 2,000 feet from the central optic coupler. The light transceivers are mounted directly on a printed circuit board located in the chassis of each drop.

The Fiber Optic Data Highway is a passive system and requires no special in-line electronics or repeaters. It is completely interchangeable with a coaxial cable transmission system - with only one card change at each drop. As control systems rely more and more on highway networks, the need for protection against electrical noise and transients increases. This new highway offers the option of not installing costly, special shielding materials on data transmission lines. In applications not requiring special noise and dielectric isolation, a coaxial cable can be installed.

NEW INDUSTRIAL REVOLUTION - APPLICATIONS OF ROBOTS - In the 1960's, the first Unimate industrial robot was demonstrated. However, due to the state-of-the-art at that time, the use of industrial robots was very limited. The real boom in the application of the industrial robot came with the microprocessor revolution. This has allowed for the miniaturization of controls, increased flexibility and ease of use. As a result, we are now on the verge of a new industrial revolution. The use of robots on the factory floor has increased by 40-50% annually. The applications of the industrial robot and its integration in the automated factory with CAD/CAM systems and CNC machines will be discussed on Wednesday - November 10, 1982 at a meeting of the Industry Applications/Industrial Electronics Society. The speaker will be Dan Iuster of Acrobe Positioning Systems, Inc. Mr. Iuster is a Design Engineer.

CONDOLENCES to Eleanore Burda, Scanfax Copy Manager, on the sudden death of her mother, Martha Furtek.

SCANFAX. (Publication number) (ISSN 0018-9227), November 1982 Volume 35, Number 3. SCANFAX is published monthly, except July and August by the Chicago Section, Institute of Electrical and Electronics Engineers for the information of its members. Business Office is at 125 S. Clark St., Chicago, Illinois 60603, telephone number (312) 236-4609. Subscription rate for IEEE members collected in dues, \$1.50; for others, \$3.00 per year. Second-class postage paid at Chicago, Illinois.

Unless otherwise specified, Chicago Section IEEE neither endorses nor sanctions any positions or actions espoused in SCANFAX.

John Tyner, Editor
Transmission & Distribution
(312) 469-5534

Tom Traub, Managing Editor
Commonwealth Edison Company
(312) 294-2703

Eleanore Burda, Copy Manager
IEEE Office
(312) 236-4609

Change of Address

A change of address form is included in each issue of SPECTRUM. Your local post office will also supply you with cards; mail to Roseann Schulz, Member Services, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. Include your SPECTRUM mailing label if possible. We cannot forward this information for you, so please do not send it to the local office.

"POSTMASTER: send address changes to: Roseann Schulz, Member Services, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854."

STARTING AND MAINTAINING A CONSULTING PRACTICE

Seminar:

The seminar will cover how to identify consulting opportunities, how to avoid giving away free consulting, knowing when to turn down a consulting job, how to create your own demand, the reasons for failure, advertising, proposal writing and how to handle the first meeting with the client. You will be shown the importance of writing a good proposal, knowing when to incorporate and how to get referral business.

If you've ever considered turning your weekends and evenings into increased income with your skill as an engineer, manager or whatever, this seminar will be of great benefit to you.



Lecturer:

Howard L. Shenson is regarded as the nation's leading authority on building a consulting practice.

A total of 14,667 have attended his seminar—"How To Build And Maintain Your Own Part-Time/Full-Time Consulting Practice". Each month more than 4,000 consultant read his monthly newsletter—The Professional Consultant. He is a Governor of the American Society of Professional Consultants and a frequent speaker at national professional and trade association meetings of many organizations. A recognized author, Shenson has been featured in numerous magazine and newspaper articles and been a guest on dozens of TV and radio talk shows.

Location: Wilton Manor, Conference Hall
2200 N. Main, Wheaton, IL.

Date: December 1, 1982

Time: 6:30 p.m. — Receive Materials
7:00 — 10:00 p.m. — Seminar

Sponsored by the IEEE Communication Society—Chicago Chapter

Narisa Chu, Chairperson
Bell Laboratories
Naperville, IL 60566
312-979-3999

Terry Sumner, Vice Chairperson
Motorola Inc.
1301 E. Algonquin Rd.
Schaumburg, IL 60196
576-5382

Daryl Eigen, Secretary & Treasure
Bell Laboratories
Naperville, IL 60566
312-979-5353

Registration

Name _____ Company _____

Address _____

Business Phone _____ IEEE Member No. _____

Mail registration request and fee to: Mr. Daryl J. Eigen
Bell Laboratories, Rm. 4B-148
Naperville-Wheaton Road
Naperville, IL 60566

Make check payable to: Chicago Communications Society

A map to the Seminar location will be furnished with registration confirmation.

Registration Fee:	before Nov. 1, 1982	after Nov. 1, 1982
Communications Society Member	\$35	\$40
IEEE Member	\$40	\$45
Non-member	\$45	\$50

UPDATE

IEEE ARGUES FOR PASSAGE OF NUCLEAR WASTE MANAGEMENT LEGISLATION — The problem of providing safe storage for radioactive wastes has occupied Congress for three years and although legislation has passed the Senate and cleared four House committees this session, the final solution still eludes Congress. In March, the Senate approved a bill establishing a national program for storage of wastes from nuclear power plants and weapons programs. On the House side, the Energy & Commerce Committee became the fourth panel to act when it approved H.R. 6598 by voice vote (on August 4). The three other House groups involved — the Committees on Interior; Science; and Armed Services — approved similar waste disposal bills earlier. Of importance to the nuclear utility industry, the bill would allow the government to provide storage for spent reactor fuel at existing Federal waste facilities.

IEEE's position paper on nuclear waste management states that the technology base exists for the safe and reliable management of all forms of nuclear wastes. "No scientific breakthroughs are required to develop and implement a total system..." To further its views, IEEE switched to an active advocacy mode September 17 with an appeal to PACE leaders to urge Congress to pass legislation and an appeal to the Chairman of the Rules Committee to speed the bill to the House floor. Jack Casazza, Chairman of the Energy Committee, asked PACE leaders to communicate with congressmen. All members are urged to write their representatives supporting this legislation. A sample letter is available from Eleanore at the IEEE office. Call her at 236-4611 for a copy.

As reported, H.R. 6598 sets a timetable for the Energy Department to recommend several potential repository sites and for the President to select one. It requires the government to work closely with the concerned states and gives states a procedure for objecting to a site picked within their borders. The prime areas now being considered are in Mississippi, Louisiana, Texas, Utah, Nevada and Washington. There is some likelihood that the Supreme Court will review the constitutionality of one-house vetoes later this year. Jack Doyle, in a letter to the Rules Committee, said nuclear waste legislation is necessary to avert disruptions in nuclear power production. Continuing, Doyle said this: A continuing search for "best" solutions to such specific problems as site selection, is nonproductive. We are particularly concerned that the limited, remaining on-site storage capacity of many reactors might well constrain future operation. Therefore, we urge adoption of the Away-From-Reactor (AFR) Interim Storage provisions which will permit uninterrupted use of these facilities. Further development should be mission-oriented with major emphasis on large-scale engineering demonstrations. Construction should begin as soon as possible after operation of a demonstration system and at least one permanent, full-size repository should be operational by the mid to late 1990's.

The bill excludes military waste, although it would allow a state to object to a repository built to hold only military waste. Before the legislation can be considered on the House floor, it must be cleared for action and rules for debate laid down by still another body, the House Rules Committee. Rules has scheduled a hearing later this month to determine whether the bill should come up and if so, under what conditions. One member, Rep. Butler Derrick (D., S.C.), is opposed to any legislation that would provide temporary storage of spent nuclear fuel from utilities. Barnwell, in his home state, is the site of one of the three repositories for radioactive military waste, the other two being at Hanford, Washington and Idaho Falls, Idaho.

One other problem inherent in the Energy Committee bill is the "states rights" provision. Some members believe it is unconstitutional. It provides that one House of Congress must sustain a state objection to the siting of a repository or else construction will proceed. A similar state objection provision was declared unconstitutional by a District of Columbia Court of Appeals on January 29, 1982 (*Consumer Energy Council of America et al v. the Federal Energy Regulatory Commission et al*). "In that decision, the one-house congressional veto was proclaimed unconstitutional, both by preventing the President from exercising his veto power and by permitting legislative action by only one House of Congress," one member of the House Energy panel noted.

A New Computer for Professionals On the Move! The HP-75C.



Hewlett-Packard's new HP-75C Portable Computer is small enough to bring to your problems; powerful enough to solve them.

- 48K ROM operating system
- Up to 24K system RAM
- Extensive HP BASIC
- QWERTY keyboard
- Built-in HP-IL interface and card reader
- Multiple file structure
- Time and Appointment modes



See us today for a demonstration.

FARNSWORTH COMPUTER CENTER
(Universal Constant, Inc.)

1691 N. Farnsworth Ave.
Aurora, IL 60505
(312) 851-3888

383 E. North Ave.
Villa Park, IL 60181
(312) 833-7100

Weekdays 10-8; Sat. 10-5

—Adv—

Carry the **OSBORNE** computer to work with you, for only \$1795

See how the new Osborne can solve your business problems. Two disk drives, monitor and keyboard fold into a compact 24-lb. unit that fits under an airplane seat. Complete with Word Star, the powerful word processor, and SuperCalc. Let Data Domain show you why the Osborne is a tremendous value for your business. Osborne Computers are great; they're better at Data Domain.

DATA DOMAIN
1612 E. Algonquin Road
Schaumburg, IL 60195
Ph: 312-397-8700

Hours:
Monday through Friday — noon-9 p.m.
Saturday — 10-5 p.m.
Closed Sundays



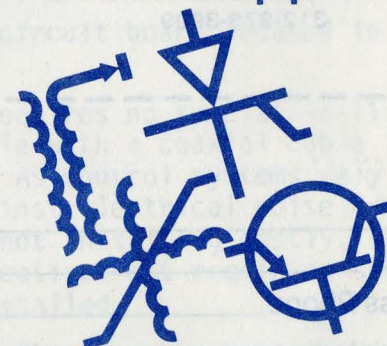
OSBORNE
COMPUTER CORPORATION

—Adv—

SUPPORT OUR

A
D
V
E
R
T
I
S
E
R
S

CHRISTIE High Current DC Power Supplies



Symbolic of time-tested reliability.

• DC current from 40 to 1500 amps
• Voltages to 280 VDC
Write for latest detailed catalog or call toll free for application assistance.

SINCE 1929
CHRISTIE
ELECTRIC CORP.

1929-1982

53 YEARS
THE SOURCE

20665 MANHATTAN PLACE
TORRANCE, CALIFORNIA 90501
(213) 320-0808
TWX 910-349-6260
(800) 421-2955

—Adv—

THE CHICAGO SECTION WOULD LIKE TO PRESENT A ONE-DAY SHORT COURSE ON ROBOTICS HOWEVER the Section must know in advance approximately how many would attend (location to be determined). The course, "Robotics: Research and Business Opportunities" is intended for research, design and development engineers, computer hardware and software engineers, control and systems engineers, manufacturing and production engineers, as well as top-level engineering management.

If today can be called "The Computer Age," the next several decades will surely become known as "The Robotics Age." The IEEE is offering a live, interactive satellite transmitted one-day course that will help point the way with expert coverage of current and future robot applications...tradeoffs...basics of control...vision and other sensing...touch sensing...programming...human interfacing...sociological considerations.

Here are course particulars: DATE: Tuesday - December 7, 1982 • INSTRUCTORS: James S. Albus, Acting Chief, Industrial Systems Division and Manager, Programmable Automation Section of the National Bureau of Standards; Maurice J. Dunne, Vice President, Product Planning, Unimation, Inc.; Michael Radeke, Robot Division Manager, Cincinnati Milacron, Inc.; Thomas B. Sheridan, Professor of Engineering & Applied Psychology and Head of the Man-Machine Systems Laboratory, MIT. • DOORS OPEN: 10:00 AM (EST); • CLASS BEGINS: 11:00 AM (EST); • FOOD BREAK/SELECTED FILMS: 1:30-2:00 PM; • CLASS ENDS: 4:00 PM, after roundtable discussion; • QUESTION/ ANSWER PERIODS: Interactive phone hook-up with each instructor after his presentation; • IEEE CERTIFICATE OF MERIT: Inscribed and mailed to each attendee; • FEES: Individual registration for IEEE members \$125.00 and non-members \$175.00. Note: Fee is tax deductible if course is taken to maintain or improve your skills. \$25.00 of non-member fee is applicable to IEEE membership if form is completed by course date. Fee includes course notes.

If you are interested in taking this course, call Eleanore Burda at the IEEE office on 236-4611 ~~before November 12.~~ A minimum number of registrants must be received for this course to be offered, so if interested, call her ~~today!~~

AP/MTTS PRESENTING "MONOLITHIC MICROWAVE IC'S" - On Monday - November 15, 1982, the Antennas & Propagation/Microwave Theory & Techniques Society will present a brief review of monolithic microwave integrated circuit (MMIC) technology. The talk will address the questions of: What are they; How are they used; How is the technology progressing; Are the desired goals likely to be reached? The speaker, Marvin Cohn is Manager of Microwave CKT Development for the Westinghouse Systems Development Divisions. See Calendar of Events for meeting particulars.

EDWARD STAIANO TO SPEAK ON CAR TELEPHONE SYSTEMS - An informative talk, which will include a brief review of the history of the car telephone leading to the current cellular concept, will be presented by the Vehicular Technology Society on Monday - November 15, 1982. Guest speaker will be Edward Staiano, Vice President and Director of the Systems Division of Motorola, Inc. His presentation will include what cellular is and what the products and technologies are to implement cellular systems. For additional information/reservations, call Jerry Underwood at 576-2747.

COMMUNICATIONS SOCIETY PRESENTING SEMINAR - A seminar, "Starting and Maintaining A Consulting Practice," will be conducted Wednesday - December 1, 1982 by the Communications Society. It will cover the opportunities that are available in the 80's as a full time or part time professional consultant. Topics include how to create your own demand, advertising, proposal writing, setting fees and handling clients. The instructor, Howard L. Shenson, regarded as a leading authority on building a consulting practice, has been a consultant for more than 13 years. More than 14,000 people have attended this seminar and more than 4,000 consultants receive his monthly newsletter, "The Professional Consultant." (See pg. 3 for complete details and registration form.)