



THE INSTITUTE OF
ELECTRICAL AND
ELECTRONICS
ENGINEERS, INC.

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 • February 1981

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.

FEB. 10	Monthly Meeting ALL WELCOME	IEEE Executive Cte.	Brown & Root Offices 701 E. 22nd St. Lombard	Meeting 7:30 PM
10	"Surface Acoustic Wave Signal Proces. in a Digital Age"		Gould Inc. 30 Gould Ctr., 2nd Fl. Rolling Meadows	Program 3:30 PM
11	Exhibitors Night	Indus. Appls. Soc. & Industl. Electronic Control Instru. Soc.	Holiday Inn 4400 Frontage Rd. Hillside	5:00 PM - 9:00 PM (For infor., Geo. Thomas, 963-7070)
11	"Co-Generation"	Power Engrng. Soc.	Carson Pirie Scott Wabash & Monroe Sts. Highland Rm.#2, 8th Fl.	Social 11:30 AM Lunch 12:00 PM Meeting 12:30 PM
15	Valentine's Day Party	Power Engrng. Soc. (j/w Fox Valley Sub.)	Drury Lane South 2500 W. 95th St. Evergreen Park	Dn. 4:30-Play 7 PM (For infor., Doug Smith, 261-2400)
22-28	Natl. Engrs.' Week			
24	58th Annual Washington Award Banquet		Pick-Congress Hotel 520 S. Michigan Ave. Chicago	(For infor., West. Soc. of Engrs., 372-3760)
25	"Fiber Optics"	Fox Valley Sub. (j/w Antennas & Prop./ Microwave T & T Soc.)	Elmhurst Inn 933 Riverside Dr. Elmhurst	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
26	"Software Reli." (Res. dead. 2/23)	Reliability Soc. (j/w Computer Soc.)	Holiday Inn Mannheim & Touhy Rds. Des Plaines	Social 5:30 PM Dinner 6:30 PM Meeting 7:30 PM
26	Seminar-Response Surf. Methodology	Foremost-McKesson Research Center	Chicago	(For infor., Sandra Donatoni, 415: 828-1440)
MAR. 10	Monthly Meeting	IEEE Executive Cte.	Brown & Root Offices	Meeting 7:30 PM
11	Ladies Night "Im- proving Inter- Personal Skills"	Indus. Appls. Soc. & Industl. Electronic Control Instru. Soc.	Nielsen's Village 7330 W. North Ave. Elmwood Park	Social 5:30 PM Dinner 6:15 PM Meeting 7:15 PM
11	"Load Management"	Power Engrng. Soc.	Carson Pirie Scott Wabash & Monroe Sts. Highland Rm.#2, 8th Fl.	Social 11:30 AM Lunch 12:00 PM Meeting 12:30 PM
12	"Computer Graphics"	Computer Soc. (j/w ACM)	Standard Oil Bldg. 200 E. Randolph Dr. Chicago	Social 5:30 PM Dinner 6:30 PM Meeting 7:30 PM
18	To be determined	Northwest Sub.	Mr. Peters Banquets 1018 Mt. Prospect Plaza Rand & Central Rds.	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
25	"Robotics"	Fox Valley Sub.	Elmhurst Inn 933 Riverside Dr. Elmhurst	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM

CHICAGO SECTION OFFICERS/EXECUTIVE COMMITTEE NOMINATIONS

Nominations for the IEEE Chicago Section officers and executive committee members for the 1981-82 term are: OFFICERS — Chairman, Dennis Lamont; Vice Chairman, Howard Wolfman; Treasurer, William Everson; Secretary, Robert Scheman. EXECUTIVE COMMITTEE — Michael Barnes; Charles Borchert, Jim Grotelueschen; Henry Korman; Bert Orszula; Cliff Torbert; John Tyner; John Waters.

RESOLUTION PASSED SUPPORTING CANDIDACY OF DR. ALVA TODD

At its January 13, 1981 meeting, the Executive Committee of the Chicago Section of IEEE passed a resolution supporting the candidacy of Dr. Alva C. Todd for appointment to the State of Illinois Licensing Board for Professional Engineers.

Dr. Todd is a licensed professional engineer in the State of Illinois and is President of Midwest College of Engineering. If appointed by Governor Thompson, he will be representing the electrical engineering profession on the State Licensing Board.

JOHN SWEARINGEN ELECTED TO RECEIVE WASHINGTON AWARD

Mr. John E. Swearingen, Chairman of the Board, Standard Oil Company (Indiana), has been elected to receive the 58th Annual Washington Award, one of the nation's most prized engineering honors. The Award will be presented at a banquet Tuesday, February 24 at the Pick-Congress Hotel in Chicago during National Engineers' Week. The event is arranged by the Western Society of Engineers, Chicago in behalf of WSE and six national engineering societies.

Mr. Swearingen is being honored for "pre-eminent service in advancing human progress" for his remarkable contributions to the technical and managerial leadership of the American Petroleum industry in time of increasing dependence on domestic supply of energy. Educated as a Chemical Engineer, Mr. Swearingen joined Standard Oil Company in 1939 in its research and development department. He holds eight honor awards for his humanitarian service and freedom, and was named Chief Executive of the Year in Petroleum in 1976.

The Washington Award Commission which elected Mr. Swearingen comprises 25 representatives from seven engineering societies including the American Society of Civil Engineers, American Institute of Mining, Metallurgical & Petroleum Engineers, American Society of Mechanical Engineers, American Nuclear Society, Institute of Electrical and Electronics Engineers, National Society of Professional Engineers, and the Western Society of Engineers. The Award was proposed in 1916 by the late John W. Alvord, a past president of the Western Society of Engineers and a founder of the Chicago firm of Alvord, Burdick & Howson. The first Award was presented in 1919 to Herbert Hoover. Other notables who have received the Award are Neil Armstrong, Orville Wright, Admiral H. G. Rickover and Henry Ford.

Tickets to the banquet can be obtained from the Western Society of Engineers located at 176 West Adams Street, Chicago, (372-3760).

SCANFAX, (Publication number) (ISSN 0018-9227), February 1981 Volume 33, Number 6, 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
Electrical Energy Management
(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, N.J. 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.

Professional Activity

UPDATE

RETIRING FCC HEAD FEARS FOR PRIVACY, FREEDOM IN NEW AGE

After years of leading the FCC in deregulating the telecommunications industry, Charles Ferris, the Chairman of the FCC who stepped down on January 20, warned industry leaders to address the privacy issues that, in part, could surface because of deregulation.

He emphasized the one fundamental problem confronting the information age: "I fear that, as the information age frees us from the weighty effect of ignorance, it will rob each of us of one of our most important rights: the right to privacy." He called for the "corporate citizens of the information society" to reexamine the amount of details that is collected on employees and either discard unnecessary data or store pertinent information with adequate safeguards. Also, inadvertent data on consumer habits that come to light through today's cable systems and future fiber optic systems should be dealt with to ensure personal privacy.

Mr. Ferris called on the industry from the start to design and program human engineering into its products which would ensure privacy.

"ENGINEERS + OPPORTUNITY = PROGRESS" THEME OF NATIONAL ENGINEERS' WEEK

This year's observance of National Engineers' Week will be held on February 22-28; its theme is "Engineers + Opportunity = Progress."

The purpose of National Engineers' Week is to familiarize the public with the work of engineers and to honor outstanding members of the profession. The week of Washington's birthday is traditionally the week of observance because the nation's first president had the educational background of a civil engineer in the 18th century.

RECOGNITION DINNER TO BE HELD APRIL 25

At the Annual Recognition Dinner, IEEE honors those members who have achieved Fellow status and area student members with outstanding achievements.

The date of this year's Recognition Dinner has been selected as Saturday, April 25. It will be held in the Penthouse Ballroom of Ramada-The O'Hare Inn in Rosemont. Cocktails will begin at 6:00 PM with dinner following at 7:00 PM. Entertainment will begin at approximately 8:30 PM. (Further information on the entertainment will be available for the March issue of Scanfax.)

Tickets may be purchased from Joe Allegretti, Ticket Chairman or from any member of the IEEE Recognition Dinner Committee. Joe can be reached at 626-3233.

U.S. POSTAL SERVICE
STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
 (ACT OF AUGUST 12, 1970: SECTION 3685, TITLE 39, UNITED STATES CODE)

1. Title of Publication: Scanfax
2. Date of filing: November 13, 1980
3. Frequency of issue: Monthly, except July and August. Subscription payment \$1.50 members; \$3.00 non-members.
4. Location of known office of publication: 125 S. Clark St., Room 1545, Chicago, Ill. 60603.
5. Location of the Headquarters or general business offices of the publishers: 125 S. Clark St., Room 1545, Chicago, Ill. 60603.
6. Names and addresses of publisher, editor, and managing editor; Publisher, Institute of Electrical and Electronics Engineers, 125 S. Clark St., Room 1545, Chicago, IL 60603; Editor, John Tyner, Managing Editor, T. P. Traub, 125 S. Clark St., Room 1545, Chicago, IL 60603.
7. Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the

name and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given.) Institute of Electrical & Electronics Engineers, Inc. — Chicago Section, 125 S. Clark St., Room 1545, Chicago, Ill. 60603.

8. Known bondholders, mortgages, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities: None.

9. For optional completion by publishers mailing at the regular rates (Section 132.121, Postal Service Manual).

10. For completion by nonprofit organizations authorized to mail at special rates (Section 132.122, Postal Manual). The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes have not changed during preceding 12 months.

11. Extent and nature of circulation

	Average No. Copies Each Issue During Preceding 12 Months	Actual No. of Copies of Single Issue Published Nearest to Filing Date
A. Total number copies printed (net press run)	5,200	5,200
B. Paid circulation		
1. Sales through dealers and carriers, street vendors and counter sales	3	3
2. Mail subscriptions	4,722	4,722
C. Total paid circulation	4,725	4,725
D. Free distribution by mail, carrier or other means. Samples, complimentary, and other free copies	200	200
E. Total distribution (sum of C and D)	4,925	4,925
F. Copies not distributed		
1. Office use, left-over, unaccounted, spoiled after printing	275	275
2. Returns from news agents	0	0
G. Total (Sum of E & F — should equal net press run shown in A)	5,200	5,200



THE TOTAL COMPUTER PEOPLE

Alpha-Microsystems, Apple, and Hewlett-Packard Personal Computers and Hewlett-Packard Calculators

fully supported by a complete line of accessories and software.

We offer factory-trained service . . . plus the largest selection of computer-related books, magazines, and software in the midwestern states.

1612 East Algonquin Road, Schaumburg, Illinois 60195 (312) 397-8700
 Store Hours: Noon to 9 p.m. Tues. thru Fri.; 11 a.m. to 5 p.m. Sat.; Closed Sun. and Mon.

—Adv—

EXHIBITORS NIGHT

FEBRUARY 11, 1981

5:00 PM TO 9:00 PM

HILLSIDE HOLIDAY INN

PRESENTED BY



INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

THE CHICAGO CHAPTER

INDUSTRY APPLICATIONS SOCIETY AND INDUSTRIAL ELECTRONIC CONTROL INSTRUMENTATION SOCIETY

PRODUCTS IN VARIOUS FIELDS SUCH AS:

- POWER DISTRIBUTION
- INSTRUMENTATION
- CONTROLS
- ENERGY MANAGEMENT SYSTEMS

FREE ADMISSION

FOR FURTHER INFORMATION REGARDING EXHIBITORS SPACE OR ATTENDANCE, PLEASE CONTACT GEORGE THOMAS AT 963-7070

—Adv—

THE PROBLEM-SOLVER.
 HP-85 . . . PLUS HP SOFTWARE.



HP-85 Application Pacs

- BASIC Training Pac
- General Statistics Pac
- Financial Decisions Pac
- Linear Programming Pac
- Regression Analysis Pac
- Text Editing Pac
- Basic Statistics and Data Manipulation Pac
- Math Pac
- Circuit Analysis Pac
- Games Pac
- Waveform Analysis Pac
- Visicalc Plus

HP Flexible Disc Drives

• HP82900 Series

• HP9895A

DATA BASE MANAGER



FARNSWORTH COMPUTER CENTER

1891 N. FARNSWORTH AVE.
 (At the East-West Tollway)
 AURORA, IL. (312) 851-3888

Weekdays 10-8; Sat. 10-5



—Adv—

TECHNICAL-SALES

Elk Grove Company requires energetic person having some technical background in electrical/electronic/industrial products.

Would consider a graduate from a Votec/Community College, EE, or technician having an interest in technical sales. Our products include industrial controls, computer peripherals, digital electronics, micro-design, as well as OEM components. We are prepared to train the right person.

Company car provided, medical benefits, and profit sharing trust. This is a rare position for the right person.

Phone for appointment at 956-8090, 8:30 to 5 PM. Saturday 10:30 to 4 PM.

—Adv—



VLSI Design

An Approach to Custom Integrated Circuit Design

Palo Alto, CA April 27-29 • Boston June 22-24 • Los Angeles July 13-15



Carlo H. Sequin is Professor of EECS and Associate Chairman for Computer Sciences at the University of California, Berkeley. He is known internationally for his work on VLSI design and coauthored the first book on Charge Transfer Devices (Academic Press). At Berkeley and Xerox PARC he has pioneered an interdisciplinary approach that makes custom IC design accessible to computer scientists and systems designers. This seminar now makes this revolutionary approach available to a much wider audience. No previous background in IC design is assumed. Rather, a background in logic design, computer science or systems is all that is required to gain an understanding of IC fabrication technology, MOS design methodology, and the skills needed for custom IC design.

Error Correcting Codes

With Applications to Computer System Design

Boston March 23-25 • Los Angeles, May 18-20 • Chicago June 22-24



Prof. E.J. Weldon, Jr. is known internationally as the co-author of two authoritative yet readable books: Peterson and Weldon's second edition of the classic text, **Error Correcting Codes** and Lucky, Salz and Weldon's often referenced **Principles of Data Communications**. Prof. Weldon's extensive practical experience allows him to translate complex mathematical coding techniques into circuitry which can be readily understood and implemented.

"Dr. Weldon was able to explain the intricacies of coding in clear, understandable terms. He's truly an outstanding lecturer." **Jerry Stockton, NAVSEACTPAC.**

"Prof. Weldon's knowledge of hardware and micro-computers made his lectures on coding extremely useful to me." **Neal Glover, Storage Technology Corp.**

Cryptography & Data Security

Washington, DC March 23-25 • Chicago April 27-29

Boston June 1-3 • Los Angeles July 13-15

NEW One Day Executive Summary:

Chicago March 19 • Palo Alto, CA May 11 • Washington, DC May 28



Prof. Martin E. Hellman has earned international acclaim for his invention of the revolutionary new "Public Key" encryption systems. **TIME Magazine** says, "As a result of recent work by Stanford University scientists, ciphers that are for all practical purposes unbreakable can be produced easily. Says **Scientific American** columnist Martin Gardner, 'The breakthrough bids fair to revolutionize the entire field of secret communication'. . . . Hellman overcame this fundamental obstacle with a dazzlingly simple yet ingenious scheme." Prof. Hellman has also played a leading role in suggesting improvements to the National Data Encryption Standard (DES).

Space is limited. Reserve your place now at these intensive special seminars.

Ch-2

Name _____

Company _____

Address _____

Phone _____

Reserve my place at _____ course.

Location/Date _____

Check enclosed (\$695, 3 days, \$295, 1 day).

Invoice my company.

Send further information about courses.

Contact me about in-house presentations.

Return to: **Hellman Associates**
299 California Avenue
Palo Alto, CA 94306 (415) 328-4091