



Scanfax

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

U.S. POSTAGE PAID
NON-PROFIT ORG.
Permit No. 479
Glen Ellyn, Illinois

Official Publication of the Chicago Section • Institute of Electrical & Electronics Engineers • March 1987

TIME SENSITIVE MATERIAL

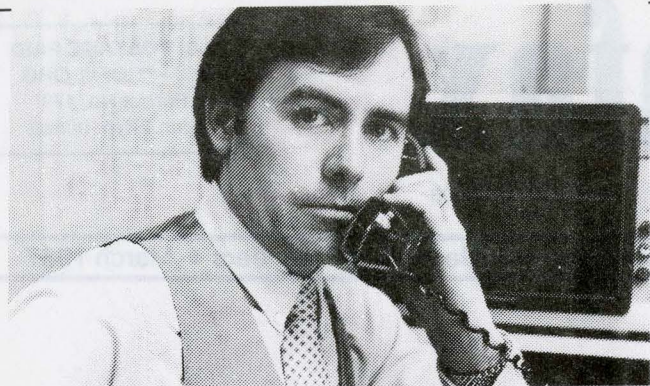
CALENDAR OF EVENTS

For reservations call the IEEE office 236-4609
(unless otherwise indicated)

Copy Deadline for April Scanfax is Feb. 23, 1987

MAR. 4	"Downtown Chicago's Network Distribution System"	Power Engrng. Soc.	Carson Pirie Scott Wabash & Monroe Sts. Highland Rm., 8th Fl.	Social 11:30 AM Lunch 12 Noon Meeting 12:30 PM
4	Tour - DuPage County Emergency Communications Center	Computer Society	136 N. County Farm Rd. Wheaton, IL	Tour 7:30 PM
5	"Getting a Fast Start in the Job Market"	Engineering Management/ Professional Communica- tions Societies	See Meeting Notice on pg. 9	Dinner 6:00 PM Meeting 8:00 PM
10	Monthly Meeting ALL WELCOME	IEEE Executive Cte.	Allen-Bradley Company 910 Pasquinelli Dr. Westmont, IL	Meeting 7:30 PM
11	"MAPP"	Industry Applications Society/Industrial Electronics Society	Mr. Peter's Restaurant 1018 Mt. Prospect Ave. Mount Prospect, IL	Social 5:30 PM Dinner 6:15 PM Meeting 7:15 PM
25	"Robotics: Industrial Controls & Feedback Networks"	Fox Valley Subsection	Wilton Manor 2200 Main St. Wheaton, IL	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
APR. 8	"1987 National Electric Code Review"	Industry Applications Society/Industrial Electronics Society	Mr. Peter's Restaurant 1018 Mt. Prospect Ave. Mount Prospect, IL	Social 5:30 PM Dinner 6:15 PM Meeting 7:15 PM
8	"Lightning Protection & Grounding Technology"	Power Engrng. Society	Carson Pirie Scott Wabash & Monroe Sts. Highland Rm., 8th Fl.	Social 11:30 AM Lunch 12 Noon Meeting 12:30 PM

(continued on pg. 3)



How come so many companies like yours hire so many DeVry graduates?

Our grads have the DeVry combination of broad-based, practical electronics education - plus plenty of hands-on experience. So our Bachelor's Degree* grads or Electronics Technicians can step right in. Adjust quickly on the job. Bridge the gap between theory and application. And our nationwide, computerized placement system makes it easy to locate and prescreen applicants. What's more, DeVry Institute of Technology can also provide your firm with well-qualified graduates in Computer Information Systems. Just send the coupon or call our Director of Graduate Placement.

DEVRY
INSTITUTE OF TECHNOLOGY
CHICAGO
(312) 929-8500
LOMBARD
(312) 953-1300
Campuses in Atlanta • Chicago
Columbus • Dallas • Kansas City • Lombard,
IL • Los Angeles • Phoenix • Woodbridge,
NJ. In Canada: Calgary • Toronto

DEVRY. We're serious about success.™

Director of Graduate Placement
Glen Edwards
3300 N. Campbell, Chicago, IL 60618
James F. Kacena
2000 S. Finley, Lombard, IL 60148

Please provide information on hiring Electronics graduates, and your free placement services.

I'd also like information on DeVry graduates in Computer Information Systems.

Name _____
Title _____
Company _____
Address _____
City _____
State _____ Zip _____
Bus Phone _____

© 1986 DeVry Inc. A Bell & Howell Company

G-427

-ADV-

SCANFAX, (Publication) number (ISSN 0018-1297), March 1987 Volume 39, Number 7, 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. Third class postage paid at Glen Ellyn, Illinois.

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

Bob Hofmann, Editor
979-3627

James Carroll, Assoc. Editor
979-5824

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

Change of Address

Send change of address to Roseann Schulz, Member Services, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854-4150. Include your SPECTRUM mailing label is possible. We cannot forward this information for you, so please do not send it to the local office.

SCANFAX DEADLINES

ISSUE	COPY DUE	MAILED ON	ISSUE	COPY DUE	MAILED ON
APR.	FEB. 23	MAR. 16	SEPT.	JULY 27	AUG. 15
MAY	MAR. 30	APR. 15	OCT.	AUG. 31	SEPT. 15
JUNE	APR. 27	MAY 15	NOV.	SEPT. 28	OCT. 15
			DEC.	OCT. 26	NOV. 15

COMPAQ **RENT** IBM
PERSONAL COMPUTERS
hourly weekly monthly
VINCE CAMARDA
(312) 882-2030
ABACUS COMPUTER RENTAL, INC.

-ADV-

-ADV-

FOX VALLEY SUBSECTION
Robotics: Industrial Controls & Feedback Networks
Wednesday, March 25, 1987

When robots are applied in a large factory context, they must interact with vision and force sensors, other automated equipment and supervisory computers. These factors all influence the control system design and implementation.

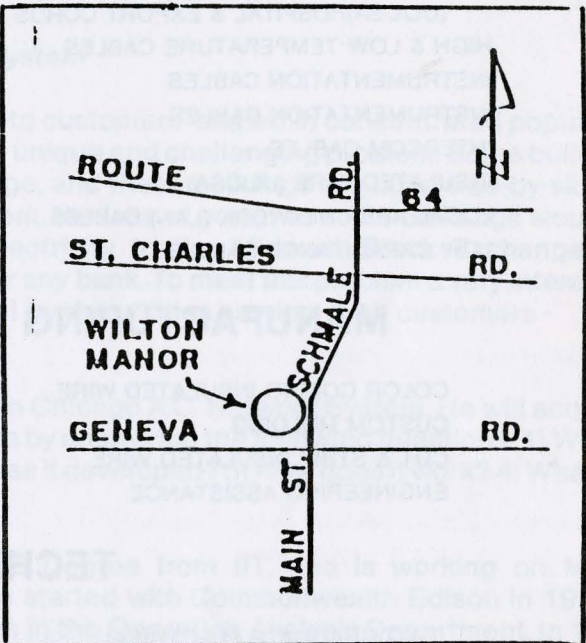
Dr. Margaret A. (Peg) Eastwood, VP & Manager of Cimcorp, Inc., is recognized as one of the leading authorities in factory automation control systems and robotics programming languages.

Drawing on her more than 20 year's experience in computer-integrated product and software development, she will discuss control demands for factory automation in general, and robots in particular.

Location: Wilton Manor
2200 Main St.
Wheaton, IL

Mental Preparation	6:00 PM
Cash Bar	
Food For Body	
\$10.00	7:00 PM
Food For Mind	
Free	8:00 PM

Reservations requested for Dinner.
Please phone 236-4609.



CALENDAR OF EVENTS

(continued from pg. 1)

14	Monthly Meeting ALL WELCOME	IEEE Executive Cte.	Allen-Bradley Company 910 Pasquinelli Dr. Westmont, IL	Meeting 7:30 PM
22	"KDS: Expert System Shell"	Computer Society	Wilton Manor 2200 N. Main St. at Wheaton, IL	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
28	"New FCC Rules"	Electromagnetic Compatibility Society	AT&T - Bell Labs Naperville & Warrenville Rds.	Meeting 7:30 PM
Call 979-3627 for information.				
29	"High Performance Data Comms. Over a Metro. Area"	Fox Valley Subsection	Wilton Manor 2200 Main St. Wheaton, IL	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM

STORM PRODUCTS

PRODUCTS CAPABILITY

AIR DUCT & PLENUM CABLE	LOW INDUCTANCE CABLES
AUDIO CABLES (SHIELDED & UNSHIELDED)	MEDICAL ELECTRONIC CABLES
BACK PANEL WIRE	MICROWAVE CABLES (FLEXIBLE & SEMI RIGID)
COAXIAL CABLE & TRIAXIAL CABLE	MICROWAVE CABLE ASSEMBLIES (2 TO 40 GHZ)
COMMUNICATION CABLES	MOLDED CABLE ASSEMBLIES
COMPUTER CABLES (SHIELDED & UNSHIELDED)	MULTI CONDUCTOR CABLES (SHIELDED & UNSHIELDED)
CONNECTORS (MICROWAVE, FIBER OPTIC & IDC)	MIL-SPEC INSULATED WIRE
CONTROL CABLES	PHASE MATCHED CABLE ASSEMBLIES
DATA PROCESSING CABLE (HIGH SPEED)	POINT OF SALE CABLE
DELAY LINES	POWER LIMITED CIRCUIT CABLE CLASS 2 OR 3
FIBER OPTIC CABLE & ASSEMBLIES	POWER LIMITED FIRE ALARM CABLE
FLEXIBLE CORD - SJT, ST, STO, SJTO (UL/CSA)HOSPITAL & EXPORT CORDS	POWER LIMITED FIRE PROTECTIVE SIGNALING CABLE
HIGH & LOW TEMPERATURE CABLES	PROCESS CONTROL CABLES
INSTRUMENTATION CABLES	PULSE CABLES
INSTRUMENTATION CABLES	ROBOTIC CABLES
INTERCOM CABLES	RS-232 INTERCONNECT CABLES
INSULATED WIRE (UL/CSA)	SPECIAL IMPEDANCE CABLE (10 to 150 OHMS)
LOCAL AREA NETWORK (LAN) CABLES	THERMOPLASTIC RUBBER CABLE (TPR)
LOW CAPACITANCE CABLES	TWINAXIAL CABLE
	TWISTED PAIRS (UL/CSA)

MANUFACTURING & ENGINEERING SERVICES

COLOR CODING INSULATED WIRE	PRODUCT DEVELOPMENT ASSISTANCE
CUSTOM MOLDING	TERMINATING
CUT & STRIP INSULATED WIRE	TESTING (DC TO 40 GHZ)
ENGINEERING ASSISTANCE	TINNING WIRE

TECHNICAL STAFF

TWO GRADUATE ELECTRICAL ENGINEERS	FOUR GRADUATE ENGINEERING ASSOCIATES (ELECTRONICS)
ONE GRADUATE CHEMIST	EIGHT GRADUATE SENIOR ELECTRONIC TECHNICIANS
ONE GRADUATE MECHANICAL ENGINEER	

EXPERIENCED SALES STAFF
TWO MANUFACTURING FACILITIES



116 SHORE DRIVE
HINSDALE INDUSTRIAL PARK
HINSDALE, ILL. 60521
(312) 323-9121 TWX 910-651-0850

POWER ENGINEERING SOCIETY

MEETING NOTICE

LUNCHEON MEETING

WEDNESDAY, MARCH 4, 1987

SPEAKER: John Jamcich
Principal Engineer
Commonwealth Edison Company

TOPIC: Chicago's A.C. Network Distribution System

ABSTRACT: The supply of reliable electrical power to customers located in concentrated population areas such as, Downtown Chicago, is a unique and challenging problem. Some buildings house as many people as a small village, and these buildings are built side-by-side for miles. To further complicate the problem, the loss of power to some buildings would be devastating. Consider the loss of electricity to the Midwest Stock Exchange, the Commodities Exchange, any hospital, or any bank. To meet this problem a very interesting distribution system has been designed by the utilities serving such customers - **The Network System.**

Mr. Jamcich will discuss the Downtown Chicago A.C. Network System. He will acquaint us with some of the basics of the system by answering the following questions: 1) What is a Network System? 2) When and why was it developed? 3) How does it work? 4) What has been the recent trend?

ABOUT THE SPEAKER: Mr. Jamcich graduated with a BSEE Degree from IIT, and is working on MS in Management at Purdue University. He started with Commonwealth Edison in 1982 at Chicago Central Division Headquarters in the Operation Analysis Department. In 1985, he was transferred to the Engineering Planning Group. In 1986, he was moved to his present position in the Field Group.

LOCATION:	Carson, Pirie, Scott & Co.	Cocktails:	11:30 AM
	Highland Room	Lunch:	12:00 PM
	Monroe & Wabash	Meeting:	1:00 PM
	Downtown Chicago		

Lunch is \$11.00 per person. Advance reservations should be made by calling Eleanor Burda at 236-4609. For further information contact John Whelan at Klockner-Moeller at 593-0980.

•NEW•NEW•NEW•NEW•

Antennas



- RUGGED-LINE™ INDESTRUCTIBLE and CORROSION-PROOF LOG PERIODICS†,
- FCC-Type DIPOLES and BICONS
- HORNS- Standard gain and custom!

Probes



EMI/EMC H and E-field "Detective Probes", impedance-matched for high sensitivity!, board or circuit level, preamplifiers, can also be calibrated. CUSTOM DESIGNS

Accessories



- Computer-automated TURNTABLES
- Computer-automated ANTENNA MASTS
- HP/EMCO/A.H. Systems Compatible!
- GPIB, RS232, local mode, or HAND-HELD REMOTE CONTROL!

Software



IBM PC-based AUTOMATED EMC TESTING SOFTWARE. Easy-to-use Commercial, Medical, and MIL-STD testing modules for HP. Fast, Inexpensive, and easy to modify

Engineering



- FCC, VDE, CISPR, DOC, SAE J-551, SAMA, MDS-201-0004, DO160, ESD up to 75KV
- MIL-STD's 220/285/461
- CUSTOM SUSCEPTIBILITY
- *AND OTHERS!*

RADIOMETRICS

The TOTAL SOLUTION™

2200 S. Main, Lombard, IL 60148 (312) 932-7262

†A trademark of RADIOMETRICS Midwest Corporation

Dial FREE 1-800-423-2650, then 93*

-ADV-

IEEE/IAS MEETING - MARCH 11, 1987

Presentation by Brendan Woods
Allen-Bradley Company, Communications Division

TOPIC:

GENERAL MOTOR'S MANUFACTURING AUTOMATION PROTOCOL (MAP) . . . It's History, Present Applications, It's Future Directions.

Mr. Woods received his B.S. in Electrical Engineering Technology from Purdue University in 1977. He worked for 3M as Manager of Field Engineering for computer and communications products. In 1981, after the acquisition of Interactive Systems, a Broadband communications company, Brendan joined I.S. as a Systems Engineer selling and supporting Broadband products. He has been an active member of the G.M. MAP Users Group since 1981 and has continued to participate in this organization after the acquisition of 3M/Interactive Systems by Allen-Bradley Company in 1985. His experience includes design, specification, and application of Broadband, Baseband and MAP certified networks for industrial, commercial and educational institutions.

SCHEDULE FOR MEETING:

5:30 Cash Bar
6:15 Dinner
7:15 Technical Program

LOCATION:

Mr. Peter's Restaurant
1018 Mt. Prospect Ave. at Rand and Central
Mt. Prospect Shopping Center
Mt. Prospect, IL.

RESERVATIONS:

Please call the Electrical Association, 236-4609, to make dinner reservations by noon March 4, 1987. Remit dinner reservation checks to our Chapter Treasurer payable to IEEE IAS/IES Society on or before March 9, 1987. The cost for dinner is \$12 for IEEE members, \$13 for nonmembers. There is no charge for attendance at the technical program portion of the meeting; however, reservations are appreciated.

REMINDER - RECOGNITION DINNER

Saturday April 11, 1987 at the Westin Hotel - O'Hare

Cocktails - Hors D'Oeuvres - Dinner

Fellow Awards - Student Awards

Entertainment - Dancing til Midnight with Lindy Kao & Orchestra

This 1987 Recognition Dinner will honor three Fellow Awardees

and also student awardees from our local universities.

This year's fellows are: Mr. Bruce R. DeMaeyer, President AMERITECH Services Inc.,

Dr. Charles M. Knop, Andrew Corp., and Mr. Michael G. Strauss, University of Chicago, Argonne Laboratory

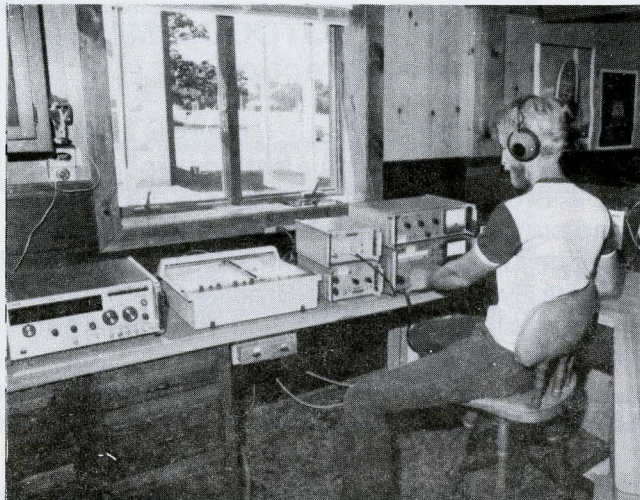
The Chicago Section is honored to have these Fellow Awardees as members of our Section.

Come to the Dinner to personally meet and honor them.

Please attend. We committed IEEE to 250-300 attending.

Bring a friend. Dinner Application form may be found at the bottom of page 12.

Look what makes D.L.S. the #1 test house for a growing number of engineers throughout the U.S.A.



Approved by the National Bureau of Standards

D.L.S. is proud to be recognized by the National Bureau of Standards as an accredited FCC test facility. Being approved by NBS is one of the best ways to assure clients of both the validity of our test results, and our adherence to the stringent requirements of the FCC. To obtain NBS approval, not only were our testing procedures and test equipment closely inspected, but also comprehensive investigations were held at our Glenview lab and open field site. In addition, the NBS also conducted in-depth interviews with our test engineers.

D.L.S. provides a wide array of testing and consulting services including FCC parts 2, 5, 15 (subparts J, H, and others), 18, and 68, and VDE including 0871 and 0875. In addition, D.L.S. also provides Mil Std 461 emissions and susceptibility testing and its commercial counterpart which includes MDS, Bell Stds., and others.

Two open field sites to serve you better

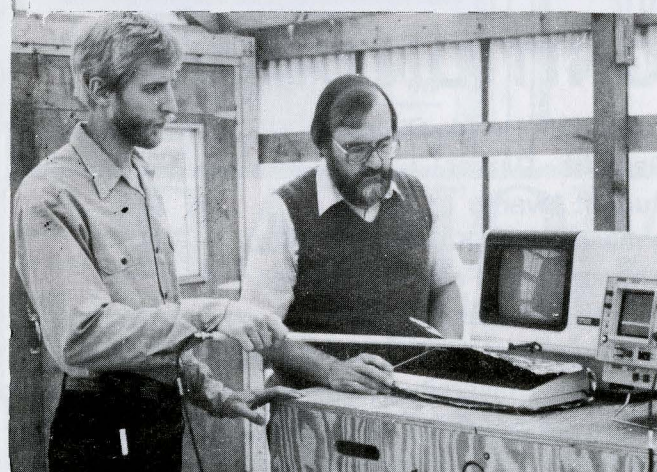
D.L.S.'s Genoa facility has been expanded to include a second test site. The site was carefully chosen because of the low ambient level of RF energy and because it meets the requirements of FCC Bulletin Ost 55. In addition, significant improvements have been made to our original all-weather test building. It is now totally climate controlled incorporating heating and air conditioning. We have also increased our electrical service so that we can continue to provide complete, professional testing to meet your growing demands.

In-depth problem solving

Because our highly trained and knowledgeable staff is regularly involved with radiated, conducted and susceptibility testing, their in-depth experience can be the key to solving your particular problem. Once the problem area has been identified, they utilize D.L.S.'s vast inventory of materials to bring your product into compliance. This results in the fast, efficient turn around time and cost effective solutions our customers have come to expect.

High quality testing

As you would expect from an NBS accredited test house, D.L.S. prides itself on its up-to-the-minute awareness of, and absolute conformity to, the latest rules and regulations. This total involvement assures you of thorough, professional test results you can depend on.



10350 Dearlove Road, Glenview, IL 60025 (312) 699-9060

JOINT MEETING IEEE ENGINEERING MANAGEMENT/ PROFESSIONAL COMMUNICATION CHAPTER CHICAGO SECTION - AMERICAN SOCIETY FOR ENGINEERING MANAGEMENT ASEM STUDENT CHAPTER - UNIVERSITY OF ILLINOIS - CHICAGO

"Getting a Fast Start in the Job Market," by Joseph R. McLennan

Joe McLennan is Vice-President of J. M. Boros & Associates, an outplacement counseling firm, which has had over ten years of experience helping people find rewarding and satisfying careers. He will discuss such topics as:

How to prepare a résumé
How to make contacts work for you
How to develop job search strategies
How to conduct yourself in an interview

Date:
March 5, 1987

Place:
Room 502
Chicago Circle Center, 750 S. Halsted
University of Illinois - Chicago

Time:
8:00 PM

Price:
None

There will be a speaker's dinner at the Golden Ox, 1578 N. Clyborn at 6 p.m. Everyone is invited to attend; we will order from the menu.

For reservations phone Eleanore Burda at Scanfax, 236-4609, and let her know if you are coming to the dinner or just to the talk.

Elections Coming

Next month's SCANFAX will contain a ballot for Chicago section officers. There will be a place to write in candidates names if you are unhappy with the slate proposed by the nominating committee and approved by the present section officers. IEEE is not a closed society, and more willing workers are always needed. If you would like to see how the section operates, please come to one of the section executive committee meetings, they are always listed in the calendar on the front page of SCANFAX. Contact the IEEE office manager, Eleanore Burda at 236-4609 if you need any information about any section activities. Eleanore can put you in touch with the appropriate person. Since the entire section is run with volunteers, except for Eleanore, what you put into the section helps determine what benefits you receive. When you get next month's SCANFAX, don't just read it and throw it away, but vote for the candidates you prefer, and help to make your voice heard. Apathy may be easy, but it brings predictable results which most people don't like. If you want changes in the section, next month is the time to take some action!

THE WASHINGTON AWARD

*Rear Admiral Grace M. Hopper, Nation's First Computer Programmer,
To Receive National Engineering Award in Chicago, Feb. 18*

Was nation's oldest active military officer

Chicago January 22 — The 1987 Washington Award, a prized national engineering honor, was given to Rear Admiral Grace M. Hopper, USN (ret.), for her pioneering work in developing the first computer language, first compiler, first language compiler and helping launch the computer revolution.

... The award was presented at a banquet, Wednesday, February 18, at the Americana Congress by 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 Western Society of Engineers (of Chicago).

The Award, named after George Washington, was established in 1916 by John W. Alvord to honor an engineer annually for "devoted, unselfish and pre-eminent service in advancing human progress."

We are pleased to honor Admiral Hopper for her amazing work. Touching off the computer revolution by programming the first large-scale digital computer, the Mark I, is just one of many outstanding accomplishments in her outstanding and still continuing career," said Byron Lee, Jr., executive vice president of Commonwealth Edison and chairman of the 25-member Washington Award Commission.

Admiral Hopper retired from the Navy in September 1986 at the age of 79 after 43 years of service. She was then the country's oldest active military officer. She will be the 64th recipient of the Washington Award, and the second woman to receive the award. The first was industrial engineering pioneer Lillian M. Gilbreth in 1954. Dr. Hopper continues to be active as senior consultant to the Digital Equipment Corporation.

The recipient of 70 major awards and honorary degrees, author of more than 30 publications, and subject of some 39 books, reports and articles, Admiral Hopper has also been profiled in the oft-repeated CBS television program "60 Minutes."



American Society For Quality Control - Chicago Section Conducts

Statistical Process Control Workshop 41 st Year

March 12 and 13, 1987
Woodfield Hilton
Arlington Heights, IL
\$250 fee

Need more information call:

Frank Colby	312/586-1517
Peter Mauch	312/387-7338
Frank Straka	312/934-2443
LaVerne Wach	312/424-5352

-ADV-

PLACEMENT SERVICE

The Chicago Section is now offering a Placement Service for its members free of charge. The program is intended for those who are Member Grade and above and is a positive step to help our members who are unemployed. If interested in any of the applicants listed below, call the IEEE office (236-4609) for their name and phone number. If marked "confidential," the applicant will be contacted by the IEEE office so that he/she may contact the prospective employer.

- B53 — Tel sys hdw/sfw des exp, assem pascal fortran PLI, GTE sys's, sys tst, QA
- B54 — BSEE - looking for entry level electrical engineering position.
- B55 — B.S. Elec. - looking for field service engrng. position - I like to work.
- B56 — BSEET - GPA 3 - 90 (4.0) entry level position in field service or in house.
- B57 — Facility Mg. EE/ME/RPE - power, lgt. & control HVAC, matl. handlg. & mech. systems.
- B58 — MBA, BSEE, exp. mgr. in finance, planning, market analysis, engineering, operations.
- B59 — BSCS UIUC, GPA 3.8 - seeking entry level software development position.
- B60 — BSCS, BSEE - entry level position in software engineering.

- B61 — Hardware/software engineering - C, assembler, MS-DOS, UNIX, PC's, communications.
- B62 — Electronic project engineer - analog/digital design DC, audio to RF.
- B63 — R & D Mgr. - medical products, 15 yrs. experience, hwd/sftw/disp, BSEE, Baxter.
- B64 — Sr. Project Engr. - factory automation, robotics, vision, AI, CAD/CAM, communication, software develop.
- B65 — Graduate Electrical Engineer - industrial power system plant and machines.
- B66 — Test/Software Engineer - HP Basic, Fortran; C & UNIX; BSEE pursuing MS at UIC.
- B67 — Sr. Project Engr. - elect./electronic controls - medical/dent./indusl. - BSEE.
- B68 — Elec. Engr. Mgr. - 19 yrs. high-tech mil systems, exp. includes servo controls.
- B69 — Engrng. Mgr. w/exp. in product mngmnt. of computer related telecommunications prods.

If you are an IEEE member and unemployed, call or write for the necessary form. Direct your request to: IEEE Placement Service • 125 S. Clark Street - Room 1545 • Chicago, Illinois 60603.

MARCH MEETING OF THE CHICAGO CHAPTER ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY

The March meeting of the Chicago Chapter of the Engineering in Medicine and Biology Society will be held on Wednesday, March 4, 1987 at 7:30 P.M. The speaker will be Dr. Bruce Brundage, Professor of Medicine and Chief, Section of Cardiology at the University of Illinois College of Medicine at Chicago. The title of Dr. Brundage's talk will be:

"Ultrafast Computer Tomography' A new Approach to the Diagnosis of Cardiovascular Disease".

The meeting will be held in Conference Room B at Siemens Gammasonics Inc., 2000 Nuclear Dr., Des Plaines. To reach the Siemens plant from Chicago, take the Kennedy Expressway West to the O'Hare cut-off (I-190). Follow I-190 to the Manneheim Rd. North exit. Take Manneheim Rd. North to Howard Street, and turn left (West) onto Howard. Nuclear Drive is the first street to the left after Howard crosses Wolf Rd. Please enter through the Personnel entrance on Nuclear Drive.

Recognition Dinner Application Form

Mail Reservations to:

John E. Murray, Tickets/Arrangements Chairman, IEEE
Recognition Dinner, Zenith Microcircuits Corp.,
Subsidiary of Zenith Electronics Corporation
1851 Arthur Ave.
Elk Grove Village, IL 60007-6066
(312) 956-1550

Enclosed is my check in the amount of \$_____ covering _____ tickets at \$30.00 each for the 1987 IEEE Recognition Dinner at the Westin Hotel O'Hare, Rosemont, IL.

NAME _____

FIRM _____

ADDRESS _____ PHONE _____

CITY/STATE _____ ZIP _____

Make checks payable to: IEEE Recognition Dinner. Please mail by March 28, 1987.

MIDCON IS COMING!

This year's MIDCON will be held in Chicago at the Hyatt Regency O'Hare on September 15, 16, and 17. Part of the profit from this convention goes to the Chicago IEEE section, to help pay for section programs for members, such as seminars and SCANFAX. If you could give a few hours of your time to help with MIDCON, please call Paul Jahn at (312) 367-5786.

SURVEY RESULTS

This month's SCANFAX contains the results of the second half of the survey conducted in SCANFAX last spring. The following two pages contain the survey page itself and the tabulated results. Preferred locations for meetings should be of special interest to program chairmen. As with the salary survey results, there may not always be the same number of responses to all questions, because not all responses were valid. This contributed to the large number of "other" answers in some categories. We will be running the salary survey again later this year, and hope for a greater response than last year.

Bob Hofmann, Scanfax Editor

ADVERTISERS:
THIS AD REACHES OVER 6,000
ELECTRICAL AND ELECTRONIC ENGINEERS
IN THE CHICAGOLAND AREA
CALL ELEANORE FOR RATE CARD
312-236-4609
THE CHICAGO SECTION
APPRECIATES YOUR SUPPORT

More EMI/RFI Protection

We offer a complete line of modular enclosures, equipment cabinets, and custom enclosures in virtually all shielding materials.

- Patented, Double-Electrically-Isolated construction for maximum protection against low-frequency magnetic and high-frequency electric fields
- Double sealed, single shield systems designed to accommodate conventional interior finishing for computer room and medical applications
- Modular interchangeable panel design permits modifications and relocation without specially trained personnel

Lindgren enclosures are **assembled, tested, and guaranteed** to meet your specifications before they are shipped.

Call us for more
information and applications
assistance.
312-628-9100.

 **LINDGREN
ENCLOSURES**
1228 Capitol Drive
Addison, Illinois 60101

MICROPROCESSOR DESIGN PROFESSIONALS

Our company manufactures board level microcomputer products intended for industrial automation. We are seeking experienced hardware and software engineers to expand the company's local area network (LAN) product line. We are an established and growing company and need individuals who will contribute to our success. Please submit your credentials to Mrs. Shirley Stein.

 **Contemporary
Control Systems, Inc.**

2733 Curtiss Street
Downers Grove, Illinois 60515

IEEE CHICAGO SECTION MEMBER OPINION SURVEY

Please mark all of your responses on the Enclosed Survey Reply Card. Your response must be received by June 30, 1986 to be tabulated. Please respond only if you are working or seeking employment in an engineering or engineering management position on a full-time basis.

A. ORGANIZATION

A.1 Do you think that engineers should have an organization to coordinate their common interests?
Response: Yes-Y, No-N, Undecided-U.

A.2 In your opinion, is there a role for the American Association of Engineering Societies (AAES) as an effective voice for engineers? Response: Yes-Y, No-N, Not enough knowledge to judge-K, Not sure-U.

A.3 The United States Activities Board (USAB) has numerous programs which are managed through the IEEE Chicago Office. How aware are you of these activities? Response: Very aware-1, Somewhat aware-2, Not aware-3.

A.4 USAB Programs are managed by five councils. Indicate which of these are of interest to you. Response: Career Activities-C, Government Activities-G, Member Activities-M, Professional Activities-P, Technology Activities-T. Answer one or more.

A.5 The IEEE has Professional Activities for Engineers (PACE) that are active in the local IEEE Sections. How aware are you of these activities? Response: Very aware-1, Somewhat aware-2, Not aware-3, the PACE in my local section is not active-4.

A.6 How involved are you with PACE activities? Response: I attend PACE meetings-1, I read PACE material-2, I respond to PACE legislative alerts-3.

A.7 Would you like to become involved in USAB and PACE programs? Response: Yes-Y, No-N, Undecided-U. If you are interested, enter your home telephone on the reply card.

B. COMMUNICATIONS

B.1 How effective are each of the following as a source of information about IEEE/USAB activities? (1-5 rating scale with 1 highest and not sure as 6).

- a. Section meetings
- b. Section newsletter "SCANFAX"
- c. Society meetings
- d. Society newsletters
- e. Communications from Region 4
- f. Panels at IEEE general or Society meetings
- g. "Electronic Engineering Times"
- h. The professional column of other trade journals
- i. "IEEE Spectrum"
- j. "The Institute"
- k. "Professional Perspectives"
- l. "Impact"
- m. Committee of Concerned EE's Newsletter

B.2 How do you feel about the amount of coverage given to USAB and PACE programs in SCANFAX? Response: Too much-1, About right-2, Undecided-3, Too little-4.

B.3 When is your "SCANFAX" normally received? Response:
Prior to first of month-1, Between first and fifth-2,
Between Sixth and tenth-3, After tenth of month-4. Enter
your ZIP Code on survey card.

C. SECTION AND CHAPTER MEETINGS

C.1 What types of section meetings do you prefer?
Response: (1-3 scale with 1 highest)

- Technical subjects of general interest
- Technical meetings of specific interest
- Facility tours
- Joint Section meetings
- Separate Section meetings
- Joint Section and Chapter meetings

C.2 What locations and facilities for Section meetings do you prefer? Only evening meetings are considered to be feasible. Response: (1-3 scale with 1 highest)

- possible. Response: (1-5 Scale with 1 highest)
- a. Downtown Chicago
 - b. Northern Suburbs
 - c. Western Suburbs
 - d. Southern Suburbs
 - e. Near O'Hare
 - f. Dinner and meeting at same location
 - g. Dinner and meeting at different locations
 - h. Meeting only

C.3 What types of Chapter meetings do you prefer?
Response: (1-3 scale with 1 highest)

- response: (1-5 scale with 1 highest)
- a. Technical subjects of general interest
 - b. Technical meetings of specific interest
 - c. Facility tours
 - d. Joint Chapter meetings
 - e. Separate Chapter meetings
 - f. Joint Section and Chapter meetings

C.4 What locations and facilities for Chapter meetings do you prefer? Response: (1-3 scale with 1 highest)

- a. Downtown Chicago
b. Northern Suburbs
c. Western Suburbs
d. Southern Suburbs
e. Near O'Hare
f. Luncheon and meeting at same location
g. Luncheon and meeting at different locations
h. Dinner and meeting at same location
i. Dinner and meeting at different locations
j. Meeting only

D. ELEMENTARY AND SECONDARY EDUCATION

D.1 Do you think that IEEE should have a role in trying to improve mathematics and science education in our nation's elementary and secondary schools? Response: Yes-Y, No-N, Not sure-U.

D.2 In your opinion, what is the quality of mathematics and science education in our nations' public elementary and secondary schools to meet our nation's needs?
Response: More than adequate-1, Adequate-2, Less than adequate-3, Not sure-4.

D.3 Are you interested in helping to improve mathematics and science education in the elementary and secondary schools in the Chicago metropolitan area? Response: Yes-Y, No-N, Undecided-U, Send me more information-I. If interested, enter home telephone on card.

E. CONTINUING EDUCATION

E.1 How interested would you be in pursuing a continuing education program if it were any of the following types of service? (1-5 rating scale with 1 highest and 5 not interested.)

- a. A live seminar or short course on site with an instructor.
- b. An individual learning package with textbook, study guide, audio or video tape, optional formal examination and permanent record of achievement.
- c. Live video conferences or seminars, via satellite (live TV broadcast with 2-way interactive telephone link).
- d. Video tapes of seminars, with local tutors.
- e. Short courses run in conjunction with shows, conventions, or conferences.
- f. Rental video tapes for viewing on own time.

F. PUBLIC POLICIES

F.1 Which one of the following statement best expresses your opinion about how the federal government should allocate its science and engineering Research and Development (R&D) dollars?

- a. The federal government should spend more on engineering R&D than on scientific R&D. Response: A.
- b. The federal government should spend equal amounts on both engineering and scientific R&D. Response: B.
- c. The federal government should spend more on scientific R&D than on engineering R&D. Response: C.
- d. The federal government should not spend anything on scientific and engineering R&D. Response: D.
- e. Not sure. Response: E.

F.2 Which government program listed do you feel as most important to the future of American science and technology?

- a. NSF engineering and science education programs. Response: A.
- b. NSF programs for university engineering and science laboratory equipment. Response: B.
- c. NASA programs for space exploration. Response: C.
- d. DoE programs for new sources of energy. Response: D.
- e. DoD research and development programs. Response: E.
- f. DoD weapons procurement programs. Response: F.
- g. Government programs for basic research. Response: G.

F.3 The current level of U. S. government regulations concerning national security unnecessarily hampers the free flow of scientific and technical communications. To what extent do you agree or disagree with this statement? Response: Strongly agree-1, Agree-2, Not sure-3, Disagree-4, Strongly disagree-5.

F.4 The federal government currently sponsors consortia to promote cooperation among government, industry and universities. To what extent do you agree or disagree with this effort? Response: Strongly agree-1, Agree-2, Not sure-3, Disagree-4, Strongly disagree-5.

E CHICAGO SECTION MEMBER SURVEY RESULTS									
A1	Y	106	9	10	5	OTHER			
A2	Y	34	17	60	16	3	OTHER		
A3	1	3	2	46	78	3	OTHER		
A4	C	68	25	6	42	71	67	T	
A5	1	2	2	33	86	7	2	OTHER	
A6	1	2	2	32	5	91	OTHER		
A7	Y	11	61	N	50	8	OTHER		
B1A	1	9	2	6	3	4	5	6	OTHER
B1B	9	39	25	24	15	5	8	14	
B1C	9	6	6	23	10	16	45	21	
B1D	16	19	19	24	12	10	30	19	
B1E	3	7	7	16	16	21	45	22	
B1F	4	4	3	13	13	22	53	22	
B1G	12	12	16	19	11	11	41	20	
B1H	4	4	17	20	19	23	27	20	
B1I	19	19	30	34	11	12	10	14	
B1J	31	25	22	22	11	11	12	18	
B1K	5	5	12	10	13	13	61	24	
B1L	4	4	3	8	16	16	70	23	
B1M	7	7	8	12	5	10	65	23	
B2	1	2	2	32	42	32	12	OTHER	
B3	1	37	2	21	12	35	25	OTHER	
C1A	1	66	2	28	14	22	OTHER		
C1B	57	34	16	23	23				
C1C	48	35	22	25	33				
C1D	10	34	53	32					
C1E	13	40	45	32					
C1F	14	35	48	33					
C2A	1	20	14	68	28	OTHER			
C2B	38	28	41	23					
C2C	53	23	26	28					
C2D	8	18	73	31					
C2E	37	41	26	26					
C2F	64	20	21	25					
C2G	7	12	79	32					
C2H	41	36	20	33					
C3A	1	63	2	3	OTHER				
C3B	56	34	15	25					
C3C	41	40	24	25					
C3D	11	36	49	34					
C3E	16	39	42	33					
C3F	9	34	49	38					
C4A	1	22	14	63	31	OTHER			
C4B	34	28	40	28					
C4C	52	20	28	30					
C4D	9	17	71	33					
C4E	32	41	27	30					
C4F	36	17	46	31					
C4G	6	5	86	33					
C4H	52	24	24	30					
C4I	8	15	73	34					
C4J	34	44	17	35					
D1	Y	85	N	12	9	OTHER			
D2	1	2	31	84	5	OTHER			
D3	Y	27	N	52	18	OTHER			
E1A	1	73	19	17	4	5	OTHER		
E1B	29	32	35	8	13	13			
E1C	14	39	32	17	15	13			
E1D	10	33	40	20	14	13			
E1E	18	27	40	13	21	11			
E1F	27	24	29	12	25	13			
F1	A	11	B	54	C	D	E	OTHER	
F2	A	32	B	22	C	D	E	F	G
F3	1	2	3	4	5	OTHER			
F4	39	43	32	4	8				



Systems for Success

"A few people working as a team will produce more than many working as individuals." Charles P. McCormick

The true breakthroughs in technology are born of a success system in an environment of cooperation and teamwork among individuals who have the opportunity to test and refine their ideas.

We offer professionals with BSEE, BSCS, BS Math, Physics or equivalent, (advanced degrees preferred) and relevant experience, opportunities for continued career development.

ADVANCED TECHNOLOGY ENGINEERS

Positions available for individuals experienced in one of the following concentrations: Active and/or passive microwave-millimeter wave integrated circuit design; conceptual design, fabrication, and test of receiver systems for ECM/Elint application; feedback theory analysis and computer-aided circuit analysis; design/development of high speed signal processing and control systems.

SOFTWARE ENGINEERS

Systems Programmer

Requires experience with Ada, Assembler, C, Fortran and Jovial languages; and Pascal operating systems.

ECM/EW Systems

Experience in real-time control systems; embedded computer systems; radar data processing; systems and unit level diagnostics, and object discrimination and classification.

Artificial Intelligence

Experience in Ada, C, LISP and Prolog; engineering expert systems development; system prototypes; and implementation of AI technology in real-time embedded systems required.

Software Systems

Background in software requirements analysis; architecture design; software validation and test/performance specification and modeling; and interface design/specification required.

Hardware Diagnostics

Experience in design and development of intelligent control panel systems; built-in-test, functional test; and micro and macro diagnostics for fault identification required.

AUTOMATIC TEST SYSTEMS ENGINEERS

Develop state-of-the-art automatic test stations for depot level troubleshooting of military avionic systems. Openings exist in: ATS Systems Engineering, Test Program Set Development, and Hardware Design.

Northrop offers a highly competitive salary schedule commensurate with level of experience plus a comprehensive benefits portfolio. Interested individuals should forward resume with compensation history to: **Supervisor - Staffing, Northrop Corporation, Defense Systems Division, 600 Hicks Road, Rolling Meadows, IL 60008.** An equal opportunity employer m/f/v/h. U.S. citizenship required.

NORTHROP

Defense Systems Division
Electronics Systems Group

Northrop DSD: Where the individual thrives . . . on teamwork.