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CALENDAR OF EVENTS

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

MAR.	5	"Radio Astronomy"	Fox Valley Sub. (j/w Antennas & Propaga./MTTS)	The Tally-Ho Rest. 27W103 North Ave. Rt. 64, West Chgo.	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
		CANCELLED			
	8	Ladies Night - "The Entertainer" (musical review)	Indus. Appls. Soc. & Indusl. Elecncs. Control Instrumen.	Nielsen's Village 7330 W. North Ave. Elmwood Park	Dinner 9:00 PM Show 10:30 PM
	10	To be announced	Communica. Soc.		
	11	Monthly Meeting - ALL WELCOME	IEEE Executive Cte.	Brown & Root Offices 2001 Spring Rd. Oak Brook	Meeting 7:30 PM
	12	"Present Trends in High Voltage DC Development"	Power Engrng. Soc.	Stouffer's Rest. 32 E. Randolph St. 2nd Fl., Chicago	Social 11:15 AM Lunch 11:45 AM Meeting 12:30 PM
	19	"Concept of Distributed Processing"	Northwest Sub. (j/w Computer Soc.)	Mr. Peters Rest. Rand Rd. (Shop. Mall) Mount Prospect	Social 6:00 PM Dinner 6:30 PM Meeting 7:30 PM
	19	"FCC Update - Land Mobile Radio & WARC"	Vehicular Tech. Grp.	To be announced	Social 6:30 PM Dinner 7:00 PM Meeting 8:00 PM
	26	"CMOS vs. NMOS"	Electron Device Soc.	Holiday Inn Algonquin Rd./Rt. 53 Rolling Meadows	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
APR.	2	"Motivation in a Technical Environment"	Fox Valley Sub.	Elmhurst Inn 933 Riverside Dr. Elmhurst	Social 6:00 PM Dinner 7:00 PM Meeting 8:00 PM
	7	To be announced	Antennas & Prop.		
	8	Monthly Meeting - ALL WELCOME	IEEE Executive Cte.	Brown & Root Offices 2001 Spring Rd. Oak Brook	Meeting 7:30 PM
	12	Tour - Commonwealth Edison's South Zone Control Center	Power Engrng. Soc. (j/w Indus.Appls.Soc. & Control Instrumen.)	(near) Joliet	Morning
	16	"Safety of 800 Megahertz in Personal Portables"	Vehicular Tech. Grp.	To be announced	Social 6:30 PM Dinner 7:00 PM Meeting 8:00 PM
	27-29	American Power Conference	Ill.Inst.of Tech., Power Engrng.Soc. & 8 other Engrng. Soc.	The Palmer House State & Monroe Sts. Chicago	(For info.contact R.A. Budenholzer 567-3196)

RECOGNITION DINNER TO BE HELD ON MAY 17

The IEEE Recognition Dinner will be held on May 17, 1980 at Ramada-The O'Hare Inn, 6600 Mannheim Road, Rosemont in the Penthouse Ballroom. Festivities will begin with cocktails at 6:00 PM, dinner 7:00, and entertainment at 8:30 PM.

The purpose of the Recognition Dinner is for members of the IEEE to recognize the accomplishments of engineers being honored as Fellows. Not only will recognition be given to Fellows that night, but also honored will be those joining IEEE ranks from the student status in the near future.

Entertainment will include Paul Lennon, an outstanding comedian, who will also serve as Master of Ceremonies. Featured entertainment will be Nani's Polynesian Review who will perform the hula, knife dancing and fire dancing as seen on TV and in the movies. The Ravenswood Orchestra will feature music from disco through the big band sounds. During the cocktail hour, strolling musicians will set the tenor for the evening.

Contact Ticket Chairman, Frank Voltaggio at 259-9600, extension 5108 who will direct you to the easiest way to obtain your tickets.

IEEE STUDENT NIGHT

On February 1, 1980 the IEEE student branches of Northwestern and the University of Illinois at Chicago Circle were the guests of the Chicago Section and Motorola Communications Group in Schaumburg for a student tour, dinner and program.

Highlights were tours of Motorola's Computer Aided Graphics and Computer Systems Departments. Presentations were given on the Dyna TAC Portable Telephone, Digital Voice Privacy and Digital Speech Processing research. A captivating after-dinner talk was given by Marty Cooper, Vice President of Corporate Research and Development (and IEEE Fellow) on the rapid advancement of technology and the students' great fortune to be a part of it.

NW HAS SUCCESSFUL MEETING AT MOTOROLA

Sixty people turned out for the Northwest Subsection meeting on January 16, 1980 to hear about the development of AM stereo. As this system has not been type accepted by the FCC, the presentation covered all designs submitted for consideration. The technical review was presented by Norm Parker and Frank Hilbert of the Motorola Corporate Scientific staff. A tape recording of actual "on-the-air" tests of AM stereo provided the audience with assurance the stereo feature is possible when hundreds of miles from the transmitter.

Mr. Chuck Marik gave a demonstration of the equipment with everyone having a chance to put earphones on to judge for themselves on the performance of AM stereo. Three simulated environments were presented for evaluation by the engineers in attendance.



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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

COMPETE FOR A CONGRESSIONAL FELLOWSHIP

Competition is open for 1980-81 Congressional Fellowship.

The winner will serve a one-year term on the personal staff of individual representatives or senators or on the professional staff of congressional committees.

IEEE plans to award at least two Congressional Fellowships for the 1980-81 term.

Selection will be based on technical competence, ability to serve in a public environment and on evidence of service to the Institute and the profession. Also, the candidate must be a U.S. citizen at the time of selection and must have been in the IEEE at member grade or higher for at least four years.

Applications must be postmarked no later than April 30, 1980.

Mail applications to: Secretary, Congressional Fellow Program, The Institute of Electrical and Electronic Engineers, Inc., 111 Nineteenth Street, N.W., Washington, D.C. 20036.

CHICAGO SECTION ACTIVE IN IEC

The January 1980 issue of Scanfax briefly pointed out that the Chicago Section has joined the Illinois Engineering Council (IEC) and all the IEEE members in Illinois benefit from the efforts of this organization. The IEC is made up of 20 engineering organizations who are concerned with legislation affecting the practice of engineering.



On December 8, 1979 the IEC met in Joliet. Mr. Paul Jahn, Chairman of the Professional Activities Committee and John Waters, past Chicago Section Chairman attended. Pictured (l to r): Council Vice President Niva Oghigian; John LaPlante; John Waters; Kenneth Gerler; Council President Walter Linzing; Leonard Holt; and Council Secretary Eugene Yamamoto. Messrs. LaPlante and Holt are past Presidents of the Council.

THE TIME IS NOW!

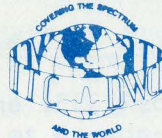
Yes, the time is NOW to make a Fellow of your friend. By nominating outstanding IEEE members to Fellow grade, you are not only honoring them, but you are bringing increasing pride to the Chicago Section. Call Ed Koncel, Chicago Section Awards Committee Chairman at 294-3365 for information. Remember, MAKE A FELLOW OF YOUR FRIEND!

NEW SOCIETY IN OUR MIDST

The Chicago Section is pleased to welcome Electron Device, a new Society with its Chairman, Cliff Torbert. Their first meeting will be held on March 26, 1980 with speaker Charles Duncan, Applications Engineer, Motorola Semiconductor Products who will speak on "CMOS vs. NMOS." See Calendar of Events for location and time.

YESTERDAY/TODAY'S MICRO SYSTEM ARCHITECTURES EXAMINED

Speaker at the Northwest Subsection meeting on March 19, 1980 will be Howard Jacob, Field Applications Engineer of Intel Corporation. His presentation, "Concept of Distributed Processing," will examine microprocessor system architectures from early single processor implementations through today's multiprocessing system topologies. The hardware and software support required to effectively and efficiently implement multiprocessor architectures and the partitioning of tasks and their assignment to appropriate processing elements will be discussed. See Calendar for location and time.



EMI EMC

Grounding and Shielding
Amsterdam, Neth. March 18-20, 1980
Atlanta, Ga. April 22-24, 1980
Three Days Overseas \$635
North America \$535

CEU's Awarded: 1.9
COURSE OVERVIEW

This three-day comprehensive training program covers the design techniques, procedures and rationale for grounding, both for safety and EMI control. The design of shields for cables, circuits, compartments, boxes, equipment, subsystems, systems, buildings and complete vehicles is also presented in this in-depth course. To combat grounding problems the course covers circuit and equipment isolation schemes including balanced networks, optical isolators, isolation transformers, double boxes, chokes and new techniques. Methodology flow-diagram questions and calculations are made for the design and the trade-off benefits of wiring-network, multiple-box-level grounding schemes in the presence of any electromagnetic ambient environment.

MIL-STD-462 and System-Level EMI Testing and Procedures

Washington, D.C. June 9-13, 1980
Five Days Price: \$795

This comprehensive one-week course covering the ABC's and how-to-do-its for EMC compliance demonstration testing utilizes pictorial test examples to reinforce the understanding of the numerous MIL-STD-462 testing procedure requirements. The first two days focus on the EMI test area, test instrumentation, calibration, measurement errors, accuracy and control. The last three days present MIL-STD-462 equipment-level test methods and procedures, MIL-STD-461 specification limits and interpretations and the new forthcoming MIL-STD-461B/462B. MIL-E-6051D system-level test procedure and industrial/commercial installations are also included.

FOR REGISTRATION AND MORE INFORMATION, CONTACT:
DON WHITE CONSULTANTS, INC. DEPT. ADV-09
The International Training Centre, State Route 625
(Phone) 703-347-0030 P.O. Box D, Gainesville, Virginia 22065 U.S.A. (Telex) 89-9165 DWCIGAIV

EMC Applications of Spread Spectrum Techniques

Los Angeles, Ca. April 29-May 2, 1980
Three Days Price: \$535
Fourth Day (optional) \$130

What happens when an interfering signal (either deliberate or unintentional) appears in your band, at your assigned frequency? This course describes the methods available for suppressing such interference of any kind, no matter what its frequency, bandwidth, or format. The methods described include those applicable to either wideband or narrowband signals, and to either digital or analog information. Though sometimes unconventional, the techniques covered are the only ways to reduce or nullify the effects of inband interference, and are being applied today in all types of systems that require reliable, low error information transmission in a hostile environment.

Table of Courses

Course Title	Course Location	Los Angeles, California	Amsterdam, Netherlands	Washington, D.C.	San Francisco, California	Helsinki, Finland	London, England	Stockholm, Sweden	San Diego, California	Frankfurt, Germany	Osaka, Japan
EMC - Design and Measurement for Control of EMI		March 10-14						June 9-13		July 21-25	
Introduction to EMI/RFI/EMC			March 25-27								
Grounding and Shielding			March 18-20		June 17-19	April 22-24			Sept. 16-18		
TEMPEST Design, Control and Testing				May 8-9							
EMI Control in Electronic Data Processing Equipment							May 12-16		July 14-18		
Digital Modulation, Coding and Signal-Processing Techniques									July 8-10		
EMI Transient Analysis and Control					April 15-17						
MIL-STD-462 and System-Level EMI Testing and Procedures				June 9-13							
Spread Spectrum Systems and Interference Rejection Techniques		April 29-May 2									

—Adv—

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1979-80 CHICAGO SECTION ORGANIZATION UPDATE

The following changes/additions should be made on your 1979-80 Chicago Section Organization Roster:

- 1) Charles Brigham has resigned as Chairman of the Special Events Committee; no replacement, as yet;
- 2) new Chairman for G6 Vehicular Technology: Richard Schnedorf (#1181718)
FAA MDW/FAS
6200 South Cicero Avenue
Chicago 60638
(Bus.) 767-2125
(Res.) 366-6564
- 3) add the following new Society:

Electron Device
Cliff Torbert, Chairman
Honeywell, Inc.
1500 West Dundee Road
Arlington Heights 60004
(Bus.) 870-5365

WILL BURYING NUCLEAR WASTE BURY US ALL?

It's enough to strike fear in anyone's heart. Nuclear waste, by-product of every reactor in the world, radioactive for tens of thousands of years, lying there like some malevolent genie in a bottle waiting to be let loose.

That's what the future of commercial nuclear power hinges on. What do we do with the waste? Where on earth is it safe? Can burying it really keep it from coming back to kill us?

No matter what you've heard, there are answers. Solutions exist. Now.

One is reprocessing. Dissolving spent fuel rods in a strong acid, then separating out the plutonium and leftover uranium for reuse. It leaves just four percent of the total to bury. And in six hundred years, that four percent won't contain any more radioactivity than all the uranium ore mined to make the fuel in the first place.

Now, if six hundred years still sounds like an eternity, consider the process called vitrification. In plain English, that means immobilizing the waste. Actually turning it into a piece of solid glass. Inert, chemically stable glass, enclosed in a steel jacket an inch thick and buried.

Really buried. A good two thousand feet down in a bone-dry salt bed or granite formation whose very existence means it hasn't been disturbed by groundwater or an earthquake in at least ten million years. And in all probability, won't be for millions more.

But what if? If there were a quake. If the shifting earth drowned the site in a river of water. If the steel jacket ripped apart. If the glass inside were exposed to the current for ages to come. If somehow, in some inexplicable way, though glass is highly insoluble in water, it still managed to dissolve. And the water, though separated from the surface by two thousand feet of rock and soil, still managed to find a way up.

If all that happened, against all odds, the very volume of water would dilute the dissolved waste even further. And the slow flow (groundwater travels less than a hundred yards a year) would give the

radioactivity remaining more than enough time to decay to about the same level as the background radiation we're exposed to all the time.

None of that is a pipedream. It's fact. Documented fact. Spelled out again and again in countless government reports and independent studies. Proven again and again in exhaustive tests and pilot projects (in England, France, Germany, Sweden and Canada, as well as Kansas, Nevada and Washington State). And almost universally accepted by the scientific and technical community worldwide.

What's more, there are literally thousands of square miles of salt beds and granite formations under America, and only a few square miles could easily hold every ounce of high-level waste generated by all our nuclear power plants put together. Not to mention the eighty million gallons stored up in the thirty-five years our country has been making atomic weapons.

The only problem we haven't solved yet is how to get the show on the road. We can't reprocess because the government won't okay it. Despite the knowledge that every pound of plutonium we salvage not only leaves one less to bury, but also can produce as much energy as seven hundred fifty tons of coal or one hundred thirty thousand gallons of oil.

And we can't bury what we've already got, even though doing it safely doesn't depend on reprocessing, because Congress gave the government a monopoly on permanent storage back in 1970. And despite the weight of affirmative evidence, it hasn't acted yet.

The problem is, if all seventy-two nuclear power plants in the United States vanished tomorrow, nuclear waste wouldn't. There's still a lot sitting around, but less than one percent of it is from power plants. Remember, years of nuclear weapons production have amassed eighty million gallons, and there's more coming.

Isn't it time we laid the problem to rest?



Commonwealth Edison

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Thomas Dunsheath, Director, Northwest Technical Center Inc., Glenview, Illinois announced an expanded series of adult professional courses and workshops in Microprocessor Technology, starting in mid March. Customized in-plant seminars and training courses for technical personnel are also available. The firm is a consulting engineering organization, specializing in microcomputer and interface design applications.

Mr. Dunsheath, PE, is a 30-year IEEE member.

For a brochure, phone Tom at 724-8536 after January 28.

-adv-

MAC '80 TO BE HELD ON MAY 3

Following its tradition of providing in-depth coverage of important topics in audio and acoustics, the topic for the 1980 Midwest Acoustics Conference (MAC), will be "Microphone Techniques for Recording and Broadcasting." The Conference will be held at Hermann Hall, Illinois Institute of Technology in Chicago on Saturday - May 3 from 9:00 AM to 5:30 PM.

Topics to be discussed will include: Human Perception of Audio Images; Microphone Techniques for the Creation of Audio Illusions; Classical Music Recording; Live Orchestral Broadcasting; Film Sound Recording; Contemporary Multitrack Recording; and a look at future trends. Among featured speakers will be: John Woram, Editor of dB, The Sound Engineering magazine, Mitch Heller of radio station WFMT; free-lance Recording Producer, Judith Sherman; Dr. Arthur Benade of Case-Western Reserve University; Louis Abbagnaro of the CBS Technical Center; and Dr. Mead Killion of Industrial Research Products, Inc.

Several manufacturers of state-of-the art transducers, instrumentation and equipment will be exhibiting and demonstrating their products in addition to the formal presentations planned.

For additional program and exhibitor information, contact Tony Tutins, Knowles Electronics, Inc., 3100 North Mannheim Road, Franklin Park 60131, (455-3600).

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