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Official Publication of the Chicago Section • Institute of Electrical & Electronics Engineers • February 1994



TIME SENSITIVE MATERIAL

CALENDAR OF EVENTS

For reservations please call IEEE Office at 1-800-898-4333 before the stated deadline
The meeting details are stated in their relevant announcements inside

February 8 Tuesday	Chicago Section	Executive Committee	DeVry-DuPage 1221 N. Swift Rd. Addison, Il.	Food Service: optional Meeting: 7:15 PM
February 9 Wednesday	Power Engineering Society	UPS Technology and Configurations	Chicago Bar Association 321 S. Plymouth Court Chicago, Il.	Social: 11:30 AM Lunch: noon Meeting 12:30 PM
February 23 Wednesday	Fox Valley Subsection/ Medicine & Biology Society	Engineering Advances in Surgical Techniques	Jerry Sharko's 2225 Ogden Ave. Lisle, Il.	Social: 6:00 PM Dinner: 7:00 PM Meeting: 8:00 PM
February 23 Wednesday	EMC Society	European Community EMC Up-date	AT&T Bell Laboratories 2000 N. Naperville Rd. Naperville, Il.	Social: 7:15 PM Meeting: 7:30 PM
March 8 Tuesday	Chicago Section	Executive Committee	DeVry-DuPage 1221 N. Swift Rd. Addison, Il.	Food Service: optional Meeting: 7:15 PM

IEEE MEETING NOTICE

CHICAGO CHAPTER - IEEE EMC SOCIETY

DATE: WEDNESDAY - FEBRUARY 23, 1994
Refreshments 7:15 P.M.
Meeting 7:30 P.M.

LOCATION: AT&T BELL LABORATORIES
2000 N. NAPERVILLE ROAD
NAPERVILLE, ILLINOIS

SPEAKER: BOB HOFMANN
AT&T BELL LABORATORIES

TOPIC: EUROPEAN COMMUNITY EMC UP-DATE

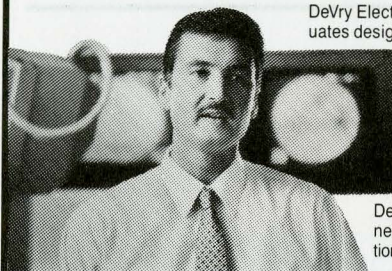
Bob will share with us where he feels the European Community EMC requirements are at as of February 1994. He has had the opportunity to attend many of the decision making and information meetings held in Europe. There will be time for questions and answers afterwards.

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MAR	JAN 26	FEB 15
APR	FEB 25	MAR 15
MAY	MAR 25	APR 15
JUNE	APR 28	MAY 15

THESE ARE FIRM DEADLINES FOR ADS AND COPY!!!

A message from President Bill Clinton

December 2, 1993

As business people, government officials, students, and scholars gather together to celebrate National Engineers Week 1994, we all recognize the integral role that engineers play in shaping this country's future.

The end of the Cold War and the opening of trade opportunities around the world have helped to bring within our reach a new era of cooperation and development. With renewed energy, this generation of thinkers and builders must continue to fulfill its primary mission of "Turning Ideas Into Reality" if America is to maintain a leading role among nations.

Already, our engineers are working to face the major technological challenges of our time -- from rebuilding towns devastated by natural disasters to designing an information superhighway that will speed our country into the twenty-first century. They are encouraging our young math and science students to realize the practical power of their knowledge. As we strive to meet the health care needs of all our citizens, engineers are helping to ensure that America provides the highest quality health care services available anywhere in the world.

Indeed, America's engineers have much to celebrate. As we look toward the dawn of this new era, the innovative spirit of our nation's engineers leads the way to a brighter future for all of us.

Bill Clinton



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SUBSECTION

Joint with Medicine and Biology Society

Surgical Laser Systems
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Applications of Robotics
3D Imaging Systems
Video-Laparoscopic Camera Systems
Electro-surgery Systems

Engineering Advances in Surgical Techniques

Presented by Mr. Britton Berek of the American Hospital Association

Wednesday, February 23, 1994

Despite eminent changes on the horizon, health care continues to find increasing applications for engineering systems and technology. One area of extremely rapid growth is the application of technology in surgical procedures.

New surgical techniques, like Minimally Invasive Surgery (sometimes referred to as "band-aid" or "nintendo" surgery) have the potential to reduce surgical trauma, minimize infection, and reduce patients' hospital stays; thus reducing the economic impact and illness. This technique is possible through the use of miniature CCD cameras, video display systems, and specialized dissecting equipment.

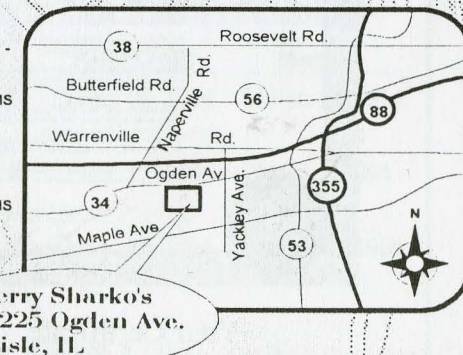
This presentation will overview Minimally Invasive Surgery and related technologies now found in the contemporary operating theater.

Britton Berek is an Engineering Specialist with the American Hospital Association (AHA). He researches medical technologies for the American Society for Hospital Engineering and the Health Technology Assessment sections of the AHA. Mr. Berek is also chair of the Clinical Engineering Committee of IEEE's Engineering in Medicine and Biology Society.

6:00 PM	Social Hour
7:00 PM	Dinner / \$15.00*
	London Broil Entree with Caesar Salad, Rolls, Coffee, and Dessert Dietary and Vegetarian Meals can be requested when making your reservation
	* Includes Complimentary Cocktails 6:30 to 7:00 PM
8:00 PM	Presentation / Free

Make Your Reservation Today!
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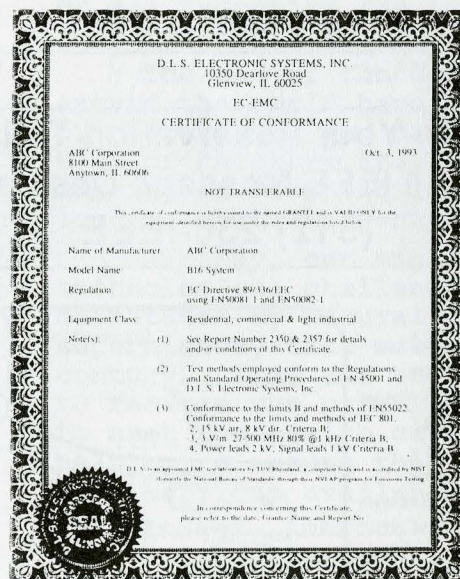
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3. Meet the immunity requirements of EN55082-1 or the specific Product Standard for your device.
4. Reports are issued by D.L.S. Electronic Systems, Inc.
5. D.L.S. will also issue a Certificate of Conformance which lists the requirements you have met.
6. Manufacturer and importer (legal representative in Europe) must issue a Declaration of Conformity and each must sign it. This should be a simple procedure since you can show the importer the Certificate of Conformance along with D.L.S.'s Certificate of Appointment. (Note: if multiple importers are being used, it is recommended they each have a Declaration of Conformity on file.)
7. Manufacturer must put the CE mark on the product with the year tested (the year is required).
8. Market the product in all of Europe.

Note: There are some national deviations in a few countries, such as ergonomics for monitors and keyboards in Germany which must be met before marketing in these specific countries.

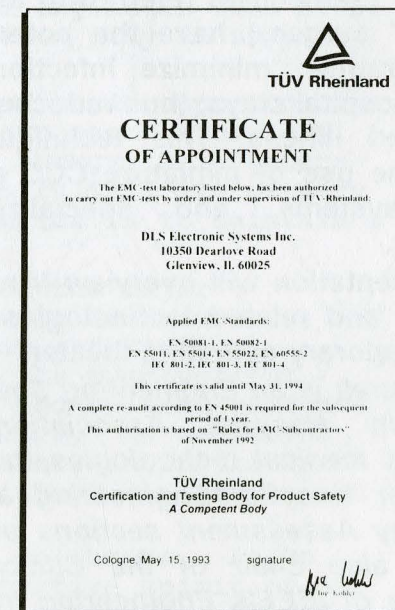
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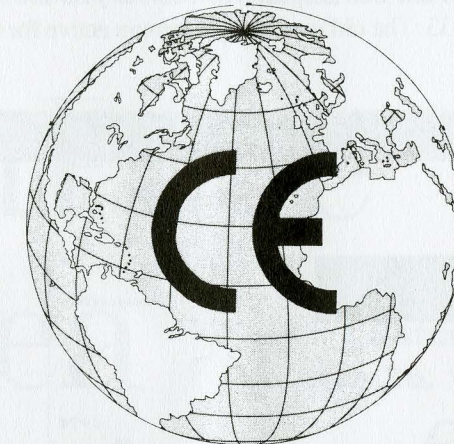
our Certificate



EUROPEAN SAFETY-EMC & MEDICAL SEMINARS



Two one-day seminars are scheduled to help manufacturers and exporters comply with the new European Community (EC) directives, standards and regulations. TÜV Rheinland and D.L.S. Electronic Systems, Inc. will present information on European Product Safety, EMC and Medical Directives.



Who should attend:

- Product Safety and EMC Engineers
- Design Engineers and Managers
- Reliability and Standard Personnel
- Marketing Managers
- Test Engineers and Technicians
- R&D Engineers and Managers
- Manufacturing Personnel

SEMINAR 1: "Introduction to European Product Safety and EMC"

This introductory seminar will give attendees a basic understanding of the European Community (EC) directives that cover product safety and EMC regulations. The goal of this seminar is to provide participants with a general understanding of the applicable EC laws, directives and standards, in addition to the impact of each on products manufactured for Europe.

The first half of the day will focus on the basics of product safety, especially for Information Technology Equipment (ITE). The second half of the day will concentrate on EMC, covering ITE, medical equipment, appliances, telecom and the Generic standards. Questions are encouraged throughout the day as experts will be available to address specific issues.

Topics

- EC Laws and Directives Overview
- Certification vs Self-Declaration
- Risk of Non-Compliance
- Safety and EMC Authorities
- Test Labs, Competent & Notified Bodies
- Safety Design Tips
- Product Marking and the "CE" Marking
- Test Standards and Applicability
- EMC and Product Safety Standards
- Questions and Answers

SEMINAR 2: "Introduction to New European Medical Directives"

This one-day seminar will cover the new European Community (EC) Medical Directives: Active Implants (AIMD), Medical Devices (MDD) and In-Vitro Diagnostic Devices (IVD).

An explanation of the scope of these new directives and their impact on U.S. manufacturers will be given and the differences from current national regulations will be discussed. The seminar will also explore the EC directives' requirements for product safety, quality assurance and electromagnetic compatibility (EMC).

Topics

- Current and Future Regulatory Situation
- EC Medical Directives: MDD, AIMD and IVD
- The Role of Notified Bodies
- The Modular System for Conformity Assessment
- Meeting Essential Requirements through Standards
- EMC Requirements in Brief
- Quality Assurance — ISO 9000
- The "CE" Marking & Declaration of Conformity
- Questions and Answers

To REGISTER CALL (708) 699-0310 or FAX THIS FORM to (708) 699-6898

NOTE: Course attendance is limited, pre-register by phone or fax to guarantee registration.

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Signature _____ Date _____

	Safety-EMC	Medical
Milwaukee, WI	☐ Feb. 22, 1994	☐ Feb. 23, 1994
Northbrook, IL	☐ Mar. 1, 1994	☐ Mar. 2, 1994
Kalamazoo, MI	☐ Mar. 15, 1994	☐ Mar. 16, 1994

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TENTH ANNUAL

DuPage Area Engineers' Week

In conjunction with the 1994 National Engineers' Week program and theme "Engineers: Turning Ideas into Reality"

COMMUNITY FORUM

Thursday, February 24, 1994
7:30 p.m., Fermilab
Kirk & Pine Streets, Batavia

Dr. Leon Lederman
A Community Forum on
Science & Technology

AND

Saturday, February 26, 1994
12 p.m. to 4 p.m.

- Dozens of Interactive Presentations and Activities
- Exciting Contests, Awards, Displays

Daniel F. and Ada L. Rice Campus
Illinois Institute of Technology
201 East Loop Road, Wheaton

Program is open to the public at no charge. Pre-registration required, call 708/682-6020

Sponsored by professional engineering societies and other professional organizations

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McCormick Place - Chicago, Illinois

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Look in future editions of SCANFAX for more details.

VOLUNTEERS NEEDED!

Here's your chance to get involved in the premier event of the electric power industry right here in Chicago!

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We need approximately 100 volunteers per day during the week of the conference (April 10 -15, 1994). Assignments range from staffing ticket booths to monitoring the technical session meeting rooms.

If you can volunteer for 1 or more days, please contact Dale LaGessee at 708-786-7187.

Please post

TENTH

ANNUAL

DuPage Area Engineers' Week

Saturday,
February 26, 1994

12 p.m. to
4 p.m.

In conjunction with the 1994 National Engineers' Week program and theme "Engineers: Turning Ideas into Reality"

FEATURING

- Hands-on Demonstrations
Linking Today's Creative Technology
with Math and Science
- Fun Contests, Awards, Displays
- Exciting Presentations

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In Memory Of David A. Roberson

IEEE United States Activities volunteers and staff note with sadness the passing of David A. Roberson, P.E., valued contributor to IEEE and IEEE United States Activities, on October 15, 1993. He was serving as IEEE-USA's 1993-94 Government Activities Council Chairman. Throughout his career he volunteered his services to numerous IEEE functions and activities.

In 1982, Roberson retired as Manager of the Utilities Branch of Arnold Engineering Development Center, the Air Force's largest wind tunnel testing complex. He was a registered professional engineer in New York, Florida, and Tennessee. We will miss his steady hand, his abiding sense of fairness, his down-home good humor, and the warm personal friendship he extended to so many.

Future City Competition Needs Volunteers

Registration has begun for the second annual National Engineers Week (NEW) Future City Competition. Local contests will be held in Atlanta, Chicago, Dallas, Detroit, Milwaukee, Los Angeles, and Washington, D.C. National finals will occur during NEW '94, February 20-26.

Teams of seventh- and eighth-grade students will design and build models of futuristic urban centers using computer software. Working with teachers and local engineers, the students will create cities of the year 2010 that are energy-efficient, cost-effective, and environment- and people-friendly.

Schools may recruit their own volunteer engineer or may be assigned one by the local contest coordinator. If you are interested in volunteering as an engineering consultant, contact Chris Currie at the IEEE-USA Office in Washington, D.C.

IEEE-USA Wins Award for Future City Competition

IEEE United States Activities has won a place on the Associations Advance America Honor Roll for developing the first National Engineers Week (NEW) Future City Competition. Sponsored by the American Society of Association Executives (ASAE), the Honor Roll recognizes outstanding association programs that help make America a better place to live. Future City participants have credited the program with motivating students to study math and science and helping them understand complex urban systems.

IEEE-USA conceived and helped coordinate the competition, which challenged teams of middle school students to design and model computer-simulated cities for the 21st century, with the help of teachers and volunteer engineers. Two hundred schools participated nationwide, and the national champions from Tilden Middle School in Rockville, Maryland, met with President Clinton to describe their futuristic cities.

IEEE was the lead society of NEW '93, working in conjunction with 60 scientific and technical organizations. IEEE-USA's award was presented by ASAE during its annual convention in Minneapolis, Minnesota.

USAB Calls For Award Nominations

The Awards and Recognition Committee of IEEE's United States Activities Board is seeking nominations for a new Electrotechnology Transfer Award. Introduced this year by IEEE-USA's Defense Research and Development Policy Committee, the award honors individuals contributing to the successful transfer of Federal or state advanced electrical, electronic, or computer technologies to the commercial sector. Both government and civilian employees are eligible for this award. Selection will be based on the nominee's direct involvement in the application or transfer aspects of the technology in its original form or in a broader application than originally envisioned in the research.

Since 1992, USAB has also honored individuals with the Harry Diamond Memorial Award for distinguished technical contributions in the field of electrotechnology while in U.S. Government service. Recipients of both awards receive an engraved plaque presented by IEEE's Vice President for Professional Activities.

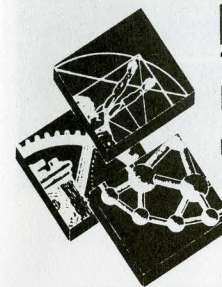
Nominations for the Electrotechnology Transfer Award and the Harry Diamond Memorial Award, as well as other USAB awards, should be submitted by March 30, 1994. Contact the IEEE-USA Office in Washington, D.C., for information and nomination forms.

Pension Portability Legislation Would Help Ease Gender Gap

IEEE-USA is supporting the *Pension Portability Improvement Act*, H.R. 1874. This legislation would also help reduce the "pension gender gap" by lowering pension vesting requirements from five to three years.

Although engineers have longer average employment tenures than most American workers, the gap between men and women engineers is even greater. According to a recent survey by the Society of Women Engineers, the typical female engineer accrues 4.4 years of continuous service per employer—two years less than male engineers. Mary-Ann M. Boyce, Chair of IEEE-USA's Pensions Committee, said this disparity means that women engineers are much more likely than men to leave their current positions without retirement provisions.

The American Nurses Association, representing 200,000 nurses in 50 states, recently joined IEEE-USA in support of H.R. 1874. Ninety-seven percent of nurses are female and typically change jobs every three years, leaving them disadvantaged by the current pension system.



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Engineers Week: Chicago '94 Luncheon
"ENGINEERING THE WORLD OF TOMORROW"

DATE: Thursday, February 24, 1994

LOCATION: Congress Hotel
520 South Michigan Avenue
Chicago, Illinois

TIME: Reception 11:30 A.M.; Luncheon 12:00 Noon; Program 12:30 P.M.

MASTER OF CEREMONIES: To be announced

PROGRAM: *"TELECOMMUNICATIONS IN THE 21ST CENTURY"*

SPEAKER: Mr. Joel Engel, Vice-President, Technology, **AMERITECH**

SPECIAL GUESTS: To be announced

The IEEE is one of many participating engineering societies.

Numerous engineering societies and organizations are participating in this event which includes lunch, speakers and fellowship, honoring the essential role of the engineering profession. Key representatives from various government agencies have been invited including the City of Chicago, Cook County, RTA, Metra, Pace, CTA, IDOT, ISTHA, CDB, IEPA, CATS, NIPC and MWRDGC.

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Name _____ Title/Position _____

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NO. OF TICKETS _____ @ \$25.00 = _____ (Tables of Ten Can be Reserved)

STUDENT RATE _____ @ \$15.00

Indicate Remittance Enclosed _____ or Please Invoice _____ (Additional \$5.00 charge for Invoicing)

No shows WILL be Billed unless Cancellation is received prior to Tuesday, February 22, 1994, 10:00 A.M.

ADDRESS ALL QUESTIONS ABOUT THIS EVENT TO ISPE (312) / 332-0107

Seating is on a first come, first served basis.

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12/93

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James A. Watson, Editor—Georgia C. Stelluto, Associate Editor

USAB Chairman Urges Congressional Action

United States Activities Board (USAB) Chairman Charles K. Alexander recently sent letters to Members of Congress and the Administration on behalf of IEEE-USA's Technology Policy Council (TPC). The letters expressed IEEE-USA's views on the National Information Infrastructure (NII), bioengineering research, the National Science Foundation's (NSF) proposed name change, the *Omnibus Budget Reconciliation Act of 1993*, and Government research and development (R&D) projects.

Alexander wrote to Senator Ernest F. Hollings (D-South Carolina), chair of the Committee on Commerce, Science, and Transportation, providing Hollings with information on IEEE's recent NII conference. He urged the Senator to conduct further hearings on related legislation.

Alexander also wrote to Dr. Jay Moskowitz, deputy director for science policy and technology transfer at the National Institutes of Health (NIH). The letter offered TPC's support and assistance to NIH in conducting a bioengineering implementation study as outlined in the *NIH Reauthorization Act of 1993*.

Further, Alexander replied to Representatives George E. Brown, Jr. (D-California) and Rick Boucher (D-Virginia) about NSF's name change proposal. IEEE-USA supports the name change, which would incorporate engineering explicitly, as the "National Science and Engineering Foundation." He noted that engineering R&D can be highlighted as a distinct but complementary activity to scientific research, without deemphasizing its importance, and that the name change would reflect this balance.

On behalf of IEEE-USA, Alexander opposed the proposed elimination of the deduction for lobbying expenses contained in the *Omnibus Budget Reconciliation Act of 1993*. In a letter to Representative Dan Rostenkowski (D-Illinois) he wrote that compliance with the proposed Act would be extremely costly and time consuming.

A letter was also sent under Chairman Alexander's signature to John H. Gibbons, Assistant to the President for Science and Technology, expressing TPC's support for initiation of an FY 1996 budget cross-cut on electrotechnology. The letter urged Government agencies to provide information on existing electronics R&D projects to help determine where Federal R&D expansion is possible and where deficiencies exist.

IEEE Members Receive National Honors

IEEE congratulates members Alfred F. Cho, Amos E. Joel, Jr., William H. Joyce, George Kozmetsky, and Kenneth H. Olsen, all recipients of the National Medals of Science or Technology. Presented by President Clinton in a White House ceremony on September 30, 1993, the medals are the nation's highest recognition for distinguished

contributions to scientific discovery and technological innovation. IEEE joins the President in celebrating the ingenuity, heroism, and accomplishment of these five distinguished members.

An IEEE Fellow, Alfred Cho of AT&T Bell Laboratories was honored with the National Medal of Science for his pioneering work in developing molecular beam epitaxy. Revolutionizing thin film growth, Cho's efforts made possible anatomically accurate structures for electronic and optoelectronic devices.

A former director of Bell Telephone Laboratories and an IEEE Fellow, Amos Joel received the National Medal of Technology for his vision, inventiveness, and perseverance in introducing technological advances in telecommunications. His work in switching has had a major impact on the evolution of the telecommunications industry nationally and internationally.

William Joyce, president of Union Carbide Corporation, received a Technology Medal for his vision, entrepreneurial talents, and business leadership in creating and commercializing a process that revolutionized the production of plastics.

George Kozmetsky, director of the Icz Institute at the University of Texas-Austin, received a Technology Medal for his role in commercializing various technologies by establishing and developing more than one hundred technology-based companies that employ tens of thousands of people and export more than one billion dollars' worth of products worldwide.

Kenneth Olsen was similarly recognized for his contributions to the development and use of computer technology and for his entrepreneurial contributions to American business. An IEEE Fellow, Olsen is also the founder, president, and chief executive officer of Digital Equipment Corporation.

IEEE-USA Supports Patent Law Reform

David M. Ostfeld, Vice Chairman of IEEE-USA's Intellectual Property Committee, testified recently before the U.S. Patent and Trademark Office. Ostfeld stressed that the United States must coordinate its patent filing system with worldwide standards to lower costs for U.S. inventors and increase U.S. competitiveness.

Ostfeld also emphasized that the U.S. patent system must convert from first-to-invent to first-to-file, since nearly every other country in the world maintains such an arrangement. He further recommended that patent regulations allow filing of a preliminary application meeting technical standards, which could be drafted by a layperson without patent counsel assistance. Ostfeld argued that an introductory filing could make patent procedures easier and less costly for independent inventors and small businesses.

POWER ENGINEERING SOCIETY



SPEAKER:

Mr. Darrell Dacke
UPS Specialist
Custom Power Inc.

TOPIC:

UPS Technology and Configurations

ABSTRACT:

As electronic technology is the dominating means of providing efficient control for most every complex industrial process, "Uninterruptible Power" is essential for the associated control power. While the basic theory of UPS systems has remained constant over the most recent years, advances in electronics offer more reliable and high performing systems demanded in rugged industrial applications. These advances, as well as UPS configurations for industry, will be discussed.

BACKGROUND:

Mr. Dacke has been with Custom Power Inc. in Houston for over 17 years. His experience has been in power conversion technology as it applies to continuous power systems. Other involvements have been product development, manufacturing, and marketing specifically in the industrial environment.

PLACE:

Chicago Bar Association
321 S. Plymouth Court
(near Jackson and Dearborn)
Purchase lunch tickets in lobby (\$7.50)

DATE:

February 9, 1994

TIME:

11:30 Social 12:00 Lunch 12:30 Presentation

Reservation must be made by noon, Monday, February 7, 1994 by calling 312-236-4333. Please leave name(s) and company name.



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IEEE RECOGNITION DINNER — 1994

DATE: SATURDAY, APRIL 30 1994
PLACE: AYALON BANQUETS
1905 EAST HIGGINS ROAD (AT BUSSE ROAD),
ELK GROVE VILLAGE, IL

TIME: 6:00 PM — COCKTAILS & HORSD'OEUVRES
7:00 PM — DINNER, FOLLOWED BY PROGRAM

TICKETS: DONATION — \$30.00 PER PERSON

PRESENTATION OF AWARDS BY THE CHICAGO SECTION

1994 IEEE Fellow Awards

Dr. John R. Cooper	Consultant
Dr. Walton J. Kitchen	Motorola, Inc.
Dr. Joseph C. Osterhout	Joslyn Manufacturing and Supply Company
Dr. Theodore S. Rzeszewski	Matsushita TV Company

1994 Student Awards

(Names to be announced)

1994 Student Advisor Awards

1994 Section Awards to Industry

Contemporary Control Systems, Inc.
Cherry Electric Company
United-Chemicon

THE SOCIAL SCENE

ENTERTAINMENT Ken Mate — noted raconteur, humorist, impersonator

DANCING Frank "K" and Company — a tuneful orchestra, with their truly smooth rhythms to suit your personal dancing pleasure

1994 RECOGNITION DINNER COMMITTEE MEMBERS:

Chairman	— Frank Lakowski
Vice Chairman	— John Waters, Waters Associates, Consultants
Secretary	— Norbert R. Orszula, PE
Treasurer	— John Waters, Waters Associates, Consultants
Arrangements	— Gene Golemo, Motorola, Inc.
Publicity	— Joseph Feitler, J. Feitler & Associates, Inc.
Entertainment	— Ray Schulenberg
Tickets	— Joseph Feitler, J. Feitler & Associates, Inc.
Solicitations Chairman	— Sheldon Isenberg, Northrop Corporation, DSD (Chairman)
	— Narisa Chu, C&W Systems, Ltd

PLEASE ORDER YOUR TICKETS (at \$30 per person)

- bymail — Joe Feitler, Box 5072, River Forest, IL 60305 (no later than April 22, 1994)
- by phone — Joe Feitler: (708) 383-8773 (no later than April 25, 1994)
- Please tell us about your groups — We will have tables seating 10 people
- You may request a fish or vegetarian dinner no later than April 25, 1994