IEEE

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NOVEMBER, 1997

Institute of Electrical & Electronics Engineers

Chicago Section Newsletter

Technical Programs

Chicago Section Business Meeting-All Welcome
Tuesday November 9 • 7:15 PM
DeVry DuPage Campus • 1221 N. Swift Road • Addison, IL

Visit the Chicago Section Home Page at http://ieee.fnal.gov

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SUBMITTAL DEADLINES
Dec. issue: Oct 21. Jan. issue: Nov 24.
Submit text of announcements electronically to the editor at scanfax@ieee.fnal.gov. Announcements submitted to this address will also appear on the Chicago section Web site. Announcements not submitted electronically are due 1 week earlier than the above deadlines and will not automatically be posted on the Web.
ADVERTISEMENTS: Contact business office.

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Electron Devices Society
presents

XILINX Methodology: Novel Techniques

Speaker: Michael Banak
Lucent Technologies, Bell Labs

Tuesday, November 18, 1997

About the topic

The emergence of the FPGA in the late 1980's has ushered-in a new era in logic design. Using these highly versatile devices, it is possible to breadboard an entire LSI system as though it was an MSI breadboard using off-the-shelf parts. More importantly, field-reprogrammability, using Flash-based EEPROM's and firmware upgrades, positions the designer to offer field-level feature upgrades and improvements into the future, and to accommodate last minute design tweaks with ease. And best of all, customized FPGA's now represent a modest price premium compared to custom ASIC's. But this power comes with the price of increased diligence and insight on the part of the designer. The multi-dimensional nature of an FPGA design under a particular FPGA manufacturer makes that vendor's system a design methodology unto itself. The user must be aware of the peculiarities, pitfalls and dizzying array of options offered by a particular vendor for his FPGA. This presentation will offer a variety of seemingly unrelated techniques available in the XILINX methodology, all which point to increasing performance and avoiding trouble. By the end of the discussion, everyone will come away with an idea or two worth using at once.

About the speaker

Michael Banak received his MSEE from the Illinois Institute of Technology in 1979. His background includes the design of Bipolar and CMOS IC's for Motorola's Automotive and Industrial Group and AT&T's Microelectronic Division. Mr. Banak is currently with Lucent Technologies in their Switching Performance and Architectural Planning Department. This presentation is based on his recent experiences designing XILINX FPGA's for Westell Technologies where he developed T1 Transmission Equipment.

Place
Lucent Technologies, Bell Labs
2000 N. Naperville Rd.,
Naperville, IL
Northwest corner of Warrenville and Naperville Roads

Time
7:00 p.m. Social/Refreshments
7:30 p.m. Presentation

For reservations
Call the IEEE Message Center at (800) 898-4333 by 1p.m. Monday, Nov. 17th.

For further information: Call Norm Phoenix at (847) 523-1078.

Fox Valley Subsection with the ACM/Uniforum presents

The Year 2000 (Y2K) Problem and Solutions

Speaker: James L. Baumann

Lucent Technologies

Wednesday, November 12, 1997

About the topic

The year 2000 (Y2K) problem occurs in a system whenever two digits are used to store the year. There are two main solutions to the the Y2K problem, but there are tradeoffs with each solution. This talk explains the stages of a typical Y2K project, as a system goes from awareness of the problem to the replacement of faulty Y2K components with Year 2000 tolerant components. The Y2K problem affects both the product and the production environment. This talk emphasizes the production environment.

About the speaker

Jim Baumann has been working on solving the Year 2000 problem in the development environments at Lucent Technologies for the past year. Prior to that he worked on software tools in those same environments. Jim's special interest is in the evolution of software development environments.
Jim is a member of IEEE and of the World Future Society. He has a MS degree in mathematics from the University of Nebraska at Omaha and a BS degree in physics from Creighton University. He has been working at Lucent since 1979.

Place	Time	
Lucent Technologies	6:00 p.m.	Networking Social
2000 N. Naperville Rd	7:00 p.m.	Dinner
Naperville, IL 60566	8:00 p.m.	Presentation

Directions

Lucent Technologies is located at the northwest corner of Warrenville and Naperville Roads. When you enter the building, company security will provide you with a visitor's badge and direct you to the meeting place.

Reservations

Dinner cost is $12 per person. Presentation is free. Please call the IEEE business office at 1-800-898-IEEE, no later than Monday, November 10th.

Notes: Our menu is: Appetizers - Vegetables and dip, & chicken wings; Entrees - Vegetable lasagna with white sauce, and braised sirloin tips with noodles; Dessert - cake with ice cream; and salad, bread and butter, soda, and coffee.

For more information: Contact David Schumacher at (630) 224-6471.

UIC University of Illinois at Chicago

Off-Campus Graduate Engineering Program

accommodating working adults
with evening classes at Chicago suburban locations

The University of Illinois at Chicago (UIC) is one of the top graduate research universities in the country. It annually awards approximately 200 PhD and 1,300 master's degrees. UIC is committed to serving the educational needs of the entire metropolitan area. The Off-Campus Graduate Engineering Program accommodates working adults by scheduling evening classes at suburban locations. These classes, offered one evening per week, are particularly suited to working students. Locations include Oakbrook and Schaumburg. Reasonable cost has long been the standard for Illinois residents at state-supported universities such as UIC.

The engineering faculty of more than 120 talented individuals are committed to ensuring that students who earn their degrees from UIC are well prepared to succeed in the field of engineering. The faculty are active researchers, attracting substantial funding support each year. As teachers, mentors, and advisors, they are generous with their knowledge and receptive to individual student needs.

Planning to take a graduate course this fall?
Please file an application for admission by November 1, 1997, for degree admission or November 15, 1997, for nondegree admission.

Spring Semester 1998:	**January 12 to May 8, 1998**
ME 408	*Intermediate Vibration Theory*
ME 413	*Dynamics of Mechanical Systems*
ME 422	*Heating, Ventilation and Air-Conditioning*
EECS 412	*Introduction to Filter Synthesis*
EECS 484	*Artificial Intelligence I*
EECS 530	*Statistical Communication Theory*
EECS 570	*Advanced Topics in Software Engineering*
CEMM 404	*Urban and Regional Transportation Methods*

This schedule is subject to change without notice.

For more information, contact the Coordinator, Off-Campus Engineering Programs (MC 160), 851 South Morgan Street, Room 818, Chicago, Illinois 60607-7050. Phone: 312/996-2311 Fax: 312/413-7950
E-mail: cmk-ob@uic.edu 9/97

Power Engineering Society *presents*

Glacial Lake Monitoring System Hydro Power Plant - Nepal

Speaker: Larry H. Valeriano
Harza Engineering Co.

Wednesday, November 12, 1997
Luncheon Presentation

About the topic:
Run-of-River hydro electric projects in the Himalayan mountain range are constantly threatened by catastrophic flood as a result of glacial lake outburst flood (GLOF). To minimize damages to hydroelectric plants a flood early warning system is provided. The greatest system design challenge lies in selecting a reliable power supply and communication systems.

About the speaker:
Larry H. Valeriano is a senior electrical engineer and has been with Harza Engineering Co. since 1981. He has 30 years experience in communication and control systems including 11 years as product manager for industrial and utility communication at RFL Industries, NJ. He has been an IEEE member since 1971.

Place:	**Time:**	
Chicago Bar Association	11:30 a.m.	Social
321 South Plymouth Court	12:00 N	Lunch
(near Jackson & Dearborn)	12:15 p.m.	Presentation
Chicago IL 606041		

Cost: Lunch tickets can be purchased in the lobby for $10.

For reservations:
Please call the IEEE Business Office at (800)898-IEEE to make your reservation.

Internet Workshop 97 *Call for Participation*

Illinois Institute of Technology
Chicago, Illinois
November 22, 1997 (Saturday)

1997 Internet Workshop on Web Applications and Development

Sponsors:
IEEE Communications Society - Chicago Chapter
Chinese Academic and Professional Association in Mid-America (CAPAMA)

In association with:
Illinois Institute of Technology

The intended audience of this workshop include both beginners who wish to connect and surf the Internet for personal applications such as news reading, e-mail, file transfer, travel arrangement, and job interview preparations, etc., and those who have computer use experience, but wish to learn how to develop web pages, and/or web applications. This one day workshop will provide both types of audiences, not only with a rich content, but also with hands on experiences. The following is a tentative program. The detailed program including speakers, presenters, and specific workshop location will be published at http://www.ieee.fnal.gov by October 15, 1997.

Time	Program	
09:30am - 09:50am	Open Ceremony	
09:50am - 10:50am	Keynote Speech	
	Track I	Track II
11:00am - 12:00pm	Introduction to the concepts of Internet and Internet applications	Architecture & Principles: The foundations of Internet
12:00pm - 01:00pm	Lunch	
01:00pm - 02:00pm	Connect to Internet	Introduction to HTML language
02:10pm - 3:15pm	Surfing Internet: hands-on exercises	Writing CGI and Java script
3:25pm - 4:30pm	Voice on Internet and Netscape 3.0 CoolTalk	Hands-on exercises using Microsoft FrontPage
4:30pm - 5:00pm	E-mail	File transfer & Internet security control

Registration fees are $95 ($135 after 11/8) for IEEE/CAPAMA members, faculty/students, and IIT staff, and $125 for non-members ($160 after 11/8). No refunds or cancellation after November 15. This charge covers one-day seminar, course material, hands-on exercises, lunch, and refreshments. For further information, please contact Dr. Paosheng Chang at (630) 979-2232 (e-Mail: pschang@lucent.com), or Dr. Weider Yu at (630) 224-4511 (e-Mail: wdyu@lucent.com). Send completed form below with payment to:

1997 Internet Workshop
c/o Janusz Hyziak
Motorola CIG
1501 Shure Drive, 1441/2
Arlington Heights, IL 60004

Tel: (847) 435-9986
Fax: (847) 435-9970

Name _____ Bus Phone _____

Email _____

Company/Organization _____ Rm/Mail Stop _____

Street Add. _____ City/State/ZIP _____

IEEE Member [ ] CAPAMA Member [ ] Faculty/Student [ ] IIT Staff [ ] Others [ ]

IEEE Member Number _____ Registration Fee _____

Make checks payable to:

IEEE Chicago Chapter of Communications Society

To register by credit, please complete the following information.

If your payment is jointly covered by another registrant, include primary registrant's name with the amount of registration fee. The primary registrant is required to attach a list of all names of registrants who are covered by the payment.

[ ] VISA [ ] Master Card [ ] American Express [ ] Check

Account Number _____ Expiration Date _____

Cardholder's Signature _____ Date _____

Direction to IIT Main Campus:

Public Transportation

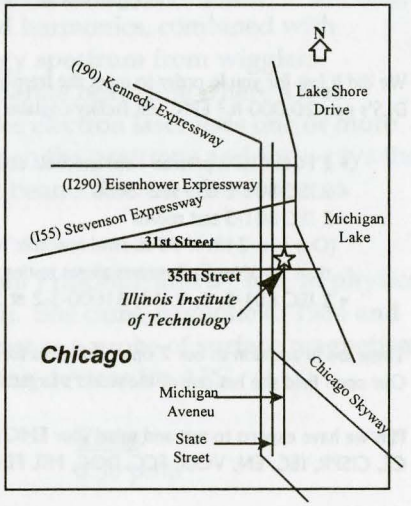
1. CTA Red Line (Howard-Dan Ryan) to Sox Stadium/35th Street station
2. CTA Green Line (Lake-Englewood-Jackson Park) train to 35th Street/Bronzeville station
3. CTA Bus lines with stops on State Street (#29 or #35) or Michigan Avenue

Automobile

From the North:
Dan Ryan Expressway east to 31st Street exit, continue south to 33rd Street, turn left (east) to just past State Street, visitor parking on right (southeast corner).

From the South:
Dan Ryan Expressway west to 35th Street exit, continue north to 33rd Street, turn right (east) to just past State Street, visitor parking on right (southeast corner).

From Lake Shore Drive:
Exit at 31st Street, go inland (west) to State Street, turn left (south) to 33rd Street, turn left and visitor parking is on the right (southeast corner).



Parking

Some visitor parking is available in lots at the southeast corner of 33rd and State streets and the northeast corner of 31st and State streets. By special arrangement, events parking is usually available in the fraternity lot at 33rd and Wabash and, for evening events, in the lot west of Hermann Hall. A few hourly spaces are available just south of the Commons Building and west of Hermann Hall. Street parking is also available. Please call the Department of Public Safety at 312.808.6300 if you need assistance in finding parking.

NPS/Magnetics Society

Insertion Devices at the Advanced Photon Source

Speaker: Liz Moog, Ph.D.

Advanced Photon Source, Argonne National Laboratory

Tuesday November 4, 1997

About the topic:

The Advanced Photon Source produces very intense beams of x-rays. Positrons circulate in a ring, producing radiation at the bending magnets that keep the particles going. The most intense beams are produced by undulators and wigglers. These are arrays of magnets and poles arranged to create a field that makes the positrons wiggle back and forth. The radiation from all of the wiggles forms an intense beam. Radiation from undulators is particularly useful because of its energy distribution. Interference effects between photons results in x-rays of a selected energy and its harmonics without too much heat from undesired wavelengths. Wigglers make the positrons wiggle more violently. Their harmonics are close together in energy compared to the range where most of the power is. Closely spaced harmonics, combined with broadening effects, result in a smooth energy spectrum from wigglers.

The newest addition to the APS is a separate beam line where a free electron laser will be built and tested. A free electron laser uses one or more undulators, but allows an interaction between the positrons and the x-rays they produce. This results in even more intense beams that are also coherent.

About the speaker

Liz Moog received an degree in physics from Princeton and a Ph.D. in physics from the University of Wisconsin - Madison. She came Argonne in 1984 and helped develop the magneto-optic Kerr effect as a probe of surface magnetism. Since 1990, she has been working on insertion devices for APS.

Place:
Argonne National Laboratory
9700 S. Cass Avenue/ Argonne, IL 60439

Time:
6:30 p.m.

Note: This talk will be followed by a tour of the Advanced Photon source

RESERVATIONS ARE REQUIRED Gate-passes are required to visit Argonne. Contact Sandra. G. Biedron at 630 252-1162 or send email to biedron@aps.anl.gov ASAP. You will need to provide your name, organization, telephone number and country of citizenship.

For more information: Francois Ostiguy, ostiguy@fnal.gov (630) 840-2231; Sandra G. Biedron, biedron@aps.anl.gov (630) 252-1162. Directions and further information will be on the IEEE Chicago Web site at http://www.fnal.gov.

IAS IEEE INDUSTRY APPLICATIONS SOCIETY

Circuit Breaker Selection And Application

Speaker: Charles Nochumson

Application Engineer
Cutler-Hammer

Wednesday, November 19, 1997
Dinner presentation

About the topic

An informative presentation discussing the major differences in features and application between molded case circuit breakers, insulated case circuit breakers and power circuit breakers. The discussion will include differences in ratings, mountings, operating mechanisms, trip units, accessories and testing and how to correctly apply the devices and features in an electrical distribution system.

About the speaker

Mr. Charles Nochumson brings to us 29 years of experience in electrical distribution and control applications. He is a co-author of an IEEE paper entitled "Transfer Considerations in Standby Generator Application". He also written articles on basic electrical distribution system design. Charles provides technical and application information on Cutler-Hammer products for consulting and design engineers. He is head of the committee that publishes the Cutler-Hammer Consulting Application Guide Catalog and Product Specification Guide.

Place	Time	
Como Inn	5:30 p.m.	Social
564 N. Milwaukee Avenue	6:00 p.m.	Dinner
Chicago, Illinois	7:00 p.m.	Presentation

Directions: The Como Inn is located on Milwaukee Avenue just off the expressway, on the east side of 90/94.

Cost: $20 includes the presentation and your choice of chicken or pasta for dinner.

Reservations: Please call the IEEE Business Office at (800) 898-IEEE with your entree preference.

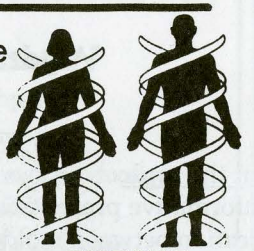
Note: Attendance at IEEE Technical Meetings is acceptable as one PDH (Professional Development Hour) per meeting, where continuing education is required for renewal of the P.E. License.

On October 30, 1997, the Biomedical Engineering Community will gather in Chicago

19th Annual International Conference

IEEE/EMB SOCIETY

Chicago USA



30 October to 2 November 1997

"Magnificent Milestones and Emerging Opportunities in Medical Engineering"

EMBS'97

Plan now to attend EMBS'97. The venue for the conference is the Chicago Marriott Downtown, located along Chicago's Magnificent Mile, in the middle of world class shopping, restaurants, and cultural events.

The technical sessions will include both poster and platform sessions. Posters will be prominently displayed in the Grand Ballroom, along with the Exhibits and Coffee Break Areas. Meeting topics include:

- Cardiovascular System
- Imaging/Image Processing
- Clinical Engineering
- Medical Informatics
- Neuromuscular Systems
- Physiological Systems
- Instrumentation, Sensors, Devices
- Signal Processing
- Electromagnetic Issues
- Developing Areas

A number of mini-symposia will be held in parallel with the technical sessions and over the lunch hours. In addition to the technical sessions, many pre-conference workshops are being planned, which will be held on October 28 and 29.

Students, please note there will be an IEEE/EMBS Whitaker Foundation Student Paper Competition, and an Undergraduate Student Design Competition.

Web Update: http://www.eecs.uic.edu/~embs97 **email: embs97@ieee.org**

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PAPER DEADLINE IS 1 MAY 1997

ENTER THE EMBS'97 PROMPTNESS PAYOFF - WIN VALUABLE PRIZES

Engineering in Medicine & Biology Society presents

1999 will not be a party: Overlooked ramifications of the millennium bug

Speaker: Connie Kelly, Ph.D.

Eagle Innovations, Inc.

Tuesday, November 18, 1997

About the topic:

The impact of the millennium bug on computers has been discussed in print, on the air, and over the Internet. However, there are two problems related to the millennium bug which have been largely overlooked.

The first is the use of 99 as a wildcard for year to indicate processes which should go on indefinitely, such as a standing order for supplies. This problem will have to be addressed even sooner than the millennium bug.

A more insidious problem has to do with the clocks in embedded chips. Many eight bit circuits and simple logic gates, such as those found in monitors, pumps, defibrillators, and other devices, treat a zero-compare as an INOP. When the year 2000 hits, they may not communicate maintenance schedules or send data correctly. In some cases, they may fail to initialize and shut down completely. This can have serious patient care implications and perhaps be life-threatening. Dr. Kelly will discuss these two problems, particularly as they relate to medical devices and systems.

About the speaker:

Dr. Kelly is currently Manager of Product Services and Development for Eagle Innovations, Inc., where she develops resilient adaptive interface systems for hospital computer systems. She has been involved in hospital computing for 25 years, and with the creation of medical communications standards for 15. She has worked on both the IEEE 1157 (MEDIX) and 1073 (Medical information Bus) standards. Dr. Kelly is the chair of the Chicago chapter of EMBS.

Place:
University of Illinois at Chicago
SEO Building, Room 1000
851 S. Morgan St. (NE corner of Morgan & Taylor)
Chicago, IL

Time:
7:30 p.m.

A brief EMBS chapter meeting will follow the presentation.

For reservations: Reservations are required, and space is limited. Call the Chicago section business office 800-898-IEEE by Monday November 17.

Directions: Park at the UIC guest lot at the northeast corner of Halstead & Taylor. Parking vouchers will be distributed at the meeting.

IEEE

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1919 Swift Drive
Oak Brook, IL 60521-1502

[redacted]