

SCANFAX

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Volume 54, Issue 1



IEEE

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A publication of the
Institute of Electrical & Electronics Engineers
— Chicago Section —

Testing New Waters

Security technologies and the
Illinois science and technology
employment market

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— Chicago Section —

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CHICAGO SECTION EXECUTIVE COMMITTEE MEETING

Tuesday, January 8, 6:30 pm
DeVry DuPage, Room TBA, 1221 N. Swift Rd., Addison, IL
No Registration Needed

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Testing New Waters

Security technologies and the Illinois science and technology employment market

By Sandy Ryan

Since that fateful day of September 11, repercussions have echoed around the world, including the recent announcement of a United States recession. Many companies have experienced layoffs and tremendous changes in the way they do business. But all is not "doom and gloom" when it comes to the science and technology employment market according to Shaye Mandle, president of the Illinois Coalition.

"I don't think there isn't a region in the nation that hasn't been hit with today's economy," Mandle said. "However, here in Chicago, the problems in the technology industry have not affected our market the way it has in other places such as the Silicon Valley of California. We have had our share of layoffs, but there is a much larger diversification in this area within the high tech fields."

Mandle said development of security systems and products has brought new prominence to a different side of the science and technology industry.

"Between the economic package Congress is currently considering and security concerns, research spending is continuing to be ramped up. We are seeing a push to increase research and complete it quicker. All of a sudden there is going to be a lot more money for research in nano, bio and sensor technology. There will also be dollars forthcoming to insure the nation's food sources."

"Those are critical issues that fortunately we have not been affected by yet but unfortunately could be in the future. All that research is going to explode in the next few years and expand on major issues such as clean coal and Ethanol, how we

arm our soldiers and the technologies we give them to detect bio technologies to make their job safer and more effective."

Mandle said across the board, this equates to a unique opportunity for people to actually advance technical careers as new technologies are developed, existing technologies are tweaked or broader implementations are made to meet new demands.

"I think the advancement of technology and the jobs around it has increased since September 11 and our state has more potential to expand than most," Mandle said.

He advised people working in any technology field to be flexible when considering career choices or facing lay off situations by taking advantage of other educational opportunities that are not technically considered 'education.'

"I think it is easy for people in technical fields to think of themselves in a small aspect of terms. I think the opportunity of technical people to add value in different areas is really out there. We need more people with technical skills involved in marketing and business development for example. I think there are a lot of options out there right now if they are willing to look at dif-

ferent ideas and opportunities - even if they do something different than they ever thought they would be for a year or two—the experience gained would be invaluable."

The IC expects next year to be a good one for company start-ups and projects funding more companies in 2002 than in 2000 because of the tremendous amount of talent looking to start up companies in the

area. Mandle said initiatives have not slowed and 'we see it as a way to forge ahead and take advantage of the things we have to offer here and expand on them.'

"People need to manage their expectations regarding careers now. Tell everyone to keep their heads up, there are still good opportunities out there for good people." ■

WHAT IS THE ILLINOIS COALITION?

The Illinois Coalition (IC) offers anyone interested in technology a place to learn more about Illinois' science and technology economy and provides information regarding science and technology education, literacy and training; science and technology infrastructure; sector-based initiatives; technology entrepreneurship and maintains a data base of articles and publications regarding topics from employment to the latest in industry products, research and technologies.

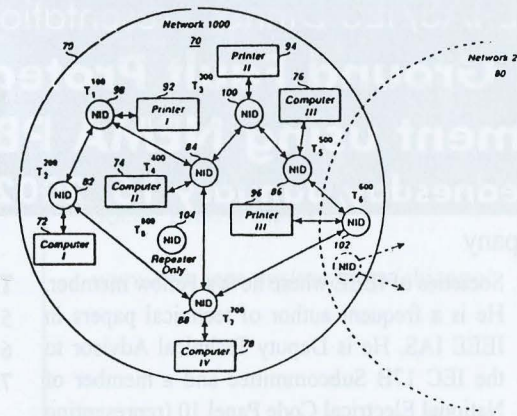
"We are a great place for engineers to get plugged into opportunities," said Shaye Mandle, IC president. "Whether it is security in a larger company or a way to be involved in a start up situation, we are the eyes and ears of the local technology community and throughout the state. If there is somebody looking to start a business and looking for funding, we are a great conduit to those resources. We are not a membership organization. We offer an online newsletter and events that provide networking opportunities for professionals and interested parties."

The IC is a not-for-profit, nonpartisan, private/public partnership of the state's top leaders from business, labor, government, education and research dedicated to strengthening Illinois' economy through science and technology. The IC was organized to directly impact the Illinois technology-

based economy. IC is a volunteer organization and is overseen by a board of directors made up of people from a variety of careers and positions related to the science and technology industry.

Committees work within their area of focus to develop statewide policy, positions, plans and programs that directly address the growth of Illinois science and technology-based economy. Permanent committees include Education, State and Federal Funding Priorities, Information Technology, Live Sciences, Advanced Manufacturing, Access to Capital and Entrepreneurship and Marketing and Development. Current 'ad-hoc' committees include Rare Isotope Accelerator, Fermi National Accelerator and Mobile/Wireless task committees.

The Coalition also works with many other industry associations, government entities, private enterprises and elected officials. From newsletters and statistics to a large on line research base and networking and education events, IC's website offers 'finger on the pulse' information about the Illinois science and technology industry. More information regarding the IC can be obtained by visiting www.ilcoalition.org.



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SOME FACTS ABOUT ILLINOIS' HIGH TECH WORKFORCE

- Over 200,000 people are employed in high tech industries in Illinois.
- Illinois ranks 4th in the nation in high tech employees.
- Illinois ranks 2nd in industry sector employment in communication equipment and electronic components and accessories.
- Illinois ranks 4th in the nation in number of high tech establishments.
- Illinois has nearly 17,000 high tech establishments representing a 5-year growth rate of 75%.

LUNCH MEETING

Chicago Chapter of the IEEE Power Engineering Society Medium Voltage Cable Design and Manufacture Wednesday, January 9, 2002

Jim Fitzgerald, Okonite Company

About the Topic:

Please join us for an exciting exchange on the topic of medium voltage cable. The presentation will cover design, manufacture, standards and specifications, and the requirements for these cables in the 2002 National Electrical Code.

About the Speaker:

Jim Fitzgerald is currently the Vice President of Application Engineering with the Okonite Company of Ramsey New Jersey. Jim received his BSEE degree from Manhattan College in New York City. He has held engineering positions with Potomac Electric Power Company in Washington DC, with Phelps Dodge Cable and

Wire Company and is presently with Okonite. His job responsibilities include cable design, standards and specifications, cable installation instructions and field engineering services for Okonite. He participates on Code Panel 7 of the National Electrical Code and is a member of the AREMA Committee 38, a standards organization for the Railroad Industry.

Location:

Chicago Bar Association
321 South Plymouth Court
(Near Jackson & Dearborn)
Chicago, IL 60604

Time:

11:30 AM Social
12:00 PM Lunch (optional)
12:15 PM Presentation
1:00 PM Adjourn

Reservations:

Lunch tickets can be purchased in the lobby bookstore (\$11.00). Please call the IEEE Business Office at (800) 898-IEEE or (630) 493-4333 to make your reservation.

For more information, please visit the Chicago Chapter IEEE PES web site:
www.ece.iit.edu/~flueck/chicago_pes/

EVENING MEETING

IEEE-IAS/IES Dinner Presentation Applying Ground Fault Protection for Equipment using NEMA PB 2.2 Wednesday, January 16, 2002

George D. Gregory, PE, Square D Company

About the Topic:

Ground fault protection is required by National Electrical Code 230.95 and 215.10. Facility designs must comply. There is more to ground fault protection than complying with the NEC. This talk provides an overview of why ground fault protection was developed, various protection schemes that can be used and examples of calculations. It also provides useful background for protection settings. NEMA PB 2.2 Application Guide for Ground Fault Protective Devices for Equipment is a document that can be useful to design engineers to supplement their knowledge and experience. It forms a basis for the discussion.

About the Speaker:

George Gregory is currently Manager, Industry Standards, with Square D. He is active in the Industry Applications and Power System Engineering

Societies of IEEE where he is a Fellow member. He is a frequent author of technical papers in IEEE IAS. He is Deputy Technical Advisor to the IEC 17B Subcommittee and a member of National Electrical Code Panel 10 (representing NEMA). He has been active with NEMA since 1981 and has contributed to PB 2.2. He is a registered PE in Illinois, Iowa and Puerto Rico. He has a BSEE & MSEE from Illinois Institute of Technology.

New Location:

Costa's (Greektown)
340 S. Halsted Street
Chicago, Illinois
Costa's is located in Greektown on the corner of Van Buren and Halsted. See www.iaschicago.com for detailed directions and a map.

Time:

5:30 PM Social
6:00 PM Dinner
7:00 PM Presentation

Cost:

Your cost includes the presentation and a four-course dinner with a choice of the main entry - Roast Lamb, Chicken, or Fish. (Vegetarian or special dietary meals available upon request). Cost is \$25 IEEE Member and \$30 non-member. Valet parking is included with your meal.

Reservations

Please call the IEEE Business Office at (800) 898-IEEE or (630) 493-4333 with your reservation. Please note any special meal requests at the time of the reservation. You can also make your reservations on line at www.iaschicago.com

EVENING MEETING

IEEE EMC Society Chicago Chapter EN 50191-The Latest in Safety Testing Protection Wednesday, January 16, 2002

Dwayne Davis, Associated Research, Inc., Technical Services Manager

Objectives:

EN 50191 is a new European Norme standard that explains how to set up and operate a safe electrical test workstation. EN 50191 was implemented in Europe on March 1, 2001. Any other national standards in Europe that contradict this standard have to be withdrawn by October 1, 2002.

About the Topic:

EN 50191 is about protection against electrical shock. This presentation will cover what the standard requires, and what methods can be employed to meet this new standard. EN 50191 covers virtually every aspect of setting up a safe work station.

About the Speaker:

For over 30 years Dwayne has been involved in the design, development and manufacture of many high voltage products. Dwayne has extensive field experience having done customer seminars and presentation at industry gatherings. In addition, Dwayne has published 11 articles on product safety testing. He is a recognized expert in the field of electrical safety testing and its application.

Location:

D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, IL 60090

Directions:

<http://www.ewh.ieee.org/soc/emcs/chicago/>

Time:

6:30 PM Social Hour
7:00 PM Meeting Start

Reservations:

Carla Robinson (U.S. Robotics)
Phone: 847-537-6400

ATTENTION

IEEE Chicago Section

Chapter Chairmen

Increase the attendance at your chapter meetings by including a meeting notice in SCANFAX.

INSTRUCTIONS

MEETING NOTICES, SCHEDULES

Step 1: Submit copy via e-mail to:

graphics@slackattack.com. Text should be sent in the body of the e-mail not as an attached file. Please include "notice" in the e-mail subject line.

Step 2: Fax a confirming hardcopy of the notice to: **608-222-0262**.

If e-mail is not an option, contact
Amy Pierquet or Beth Vander Grinten
at Slack Attack Communications,
608-222-7630.

IEEE EMC Society Chicago Chapter

Meeting dates are listed below. Please stay tuned to our web site for meeting topics, locations, and guest speakers.

NEW Meeting start time is 7:00 PM.
Social Time is 6:30 PM.

www.ewh.ieee.org/soc/emcs/chicago/

January 16, 2002 Chapter Meeting
February 20, 2002 Chapter Meeting
March 26, 2002 Chapter Meeting
April 17, 2002 Chapter Meeting
May 21, 2002 Mini-Symposium

"The Fundamentals of EMC" with Clayton R. Paul

A Tutorial and Exhibition • Wednesday, March 13, 2002
The Four Points by Sheraton Milwaukee Airport Hotel

Dr. Paul is the author of the renowned EMC textbooks: Introduction to Electromagnetic Compatibility and Analysis of Multi-Conductor Transmission Lines. Registration fees start at \$100 for IEEE members if postmarked by January 13, 2002. Registration fees include one copy of the technical program, continental breakfast, lunch, morning and afternoon refreshments,

and a reception/book signing with Dr. Paul following the tutorial. For more information, please contact: Janet O'Neil, Exhibits, at 425-868-2558, j.n.oneil@ieee.org, or Teresa White, Registration, 262-375-4400, twhite@lsr.com. An advance program/registration form is available on the IEEE Milwaukee Section website at: www.ewh.ieee.org/r4/milwaukee/

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EVENING MEETING

Chicago/Rockford IEEE Consultants' Network Meeting "Time to Fly Solo" Open Discussion Monday, January 28, 2002

In addition to networking and sharing leads and referrals, there is usually a guest speaker. On January 28, instead of a speaker, we plan to have an open discussion on "Time to Fly Solo?" based on the article by Dr. Stuart G. Welsh in the Summer 2001 edition of The Bent of Tau Beta Pi.

"Is Your Job Security Fading? Is the corporate bureaucracy getting you down? Are you increasingly concerned about how much you work and how little you earn? How about how hard you work and how little you learn? Are you tired of talk about pay for performance? Are you stagnating intellectually? Do you want autonomy? Do you increasingly think, 'I could do it better?' Are you retired but still 'have the itch'?"

Then maybe now is the time to 'fly solo' to go out on your own - to start a sole proprietor, individual practitioner, or free-lance consulting business that builds on your experience and vision.

'Going out on your own' as a consulting engineer is a major undertaking. As part of your 'go or no go' decision, you should consider many factors. Four of the most important ones are: reasons to consider flying solo, characteristics of successful sole proprietors, marketing and the possibility of failure."

Meetings are held on the last Monday of odd-numbered months. Preceding the meeting, we will be getting together for our group dinner. You are invited to join us for the optional informal dinner. We order individually from the menu.

Location:

Dinner: Bakers Square
270 E. Northwest Highway and
North Court, just south of the library.

Meeting: Palatine Public Library
700 North Court, Palatine, IL
847-358-1216.

Time:

6:15 PM Dinner
7:30-9:00 PM Meeting

Reservations:

Reservations are not required. There is no charge for attendance at the meeting. Members and non-members are invited to both the meeting and the optional dinner.

Information:

Information about the network can be obtained by e-mail: g.l.blank@ieee.org and at our web site <http://www.drblank.com/coaction.htm> See you on January 28, 2002, and bring other consultants and those who are interested in learning about consulting.



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EVENING MEETING

Chicago Chapter of Electronics in Medicine and Biology Monthly Meeting Monday, January 28, 2002

Still waiting for Y2K problems?

Holding back to see if there are any additions to HIPAA?

Waiting to see what direction Congress takes on cloning?

NO? Then why aren't you an active member of the Chicago Chapter of Electronics in Medicine and Biology? We are currently meeting at DeVry Institute from 7-9 PM on the fourth Monday of

the month. We are trying to put together a professional development program for both regular members and our substantial student population and need your help.

You say DeVry isn't convenient? Offer to host a meeting at your facility or research another location.

Don't like the topics which have been covered in recent meetings? Offer to present a paper or get a speaker on a topic you do like.

You prefer to watch Monday night football? Come up with another day!

Out of excuses yet? Contact Connie Kelly, EMB chair, to find out what you can do to help enliven the Chicago EMB Society. Mark your calendar for the fourth Monday of the month. The field of medical electronics is moving too fast to not to participate.

Connie Kelly
ckelly@iee.org 847-297-6610

FOR ADVERTISING INFORMATION CONTACT:

Beth Vander Grinten
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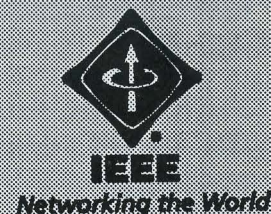
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THE MARKET SERVED

SCANFAX magazine is the official publication of the Institute of Electrical and Electronics Engineers (IEEE) Chicago Section. Those in the Chicago area who are influential in the electrical, electronics, and computer industry receive SCANFAX each month (except July and August). It provides a forum for manufacturers, consultants, sales representatives, universities, and colleges to exchange ideas and information.

READERSHIP

Approximately 7,000 professionals are members of IEEE Chicago Section. These members represent more than 200 companies in the Chicago area. You can reach this targeted audience with your advertisement in SCANFAX.

From the size and attractive masthead to the full color cover and additional information provided, we intend to make SCANFAX even more of an essential handbook for IEEE Chicago Section members.

MECHANICAL REQUIREMENTS

SUBMISSION REQUIREMENTS (Traditional): Camera-ready reflective art (100 line screen) or negative film (right-reading, emulsion down, not to exceed 150 line screen). It is suggested that any ads containing halftone photos or screens be supplied as negative film. Provide print proof with all film (matchprint for 4/c process ads required).

SUBMISSION REQUIREMENTS (Electronic): Platform: Macintosh (preferred) or Windows. Disk Format: 3-1/2, Zip (100MB), or CD. File Format: Quark Xpress (or Illustrator if saved as .eps). **Unsupported Formats:** Due to software limitations for production efficiency, we are **NOT** able to accept the following programs: PageMaker, WordPerfect, Microsoft Word, Microsoft Publisher, Harvard Graphics, PowerPoint, Excel, Corel Draw. **Electronic Ad Submission Checklist:** Verify ad dimensions. Don't use color if ad is black-only. Copy all materials to disk (include all placed graphics, scans, logos). Include all fonts on disk. Provide laser print of ad.

NOTE: ANY ADS NOT SUPPLIED CAMERA-READY COULD INCUR ADDITIONAL CHARGES. We prefer that 4-color ads be submitted as negative film with match print. If a four-color ad can only be sent on disk, there will be an output charge as our printer requires film and matchprints for all four-color ads.

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AD SIZE	1X	5X	10X
Back Cover, 4/c	\$1,600	\$1,400	\$1,215
IBC or IFC, 4/c	1,310	1,140	1,020
Full Page	890	770	665
1/2 Page	650	560	490
1/3 Page	505	435	380
1/4 Page	375	315	270
1/6 Page	260	230	205
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One color (PMS) plus black \$150
Four color inside pages \$300

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Vertical 2-3/8" x 9-7/8"

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1/6 Page Horizontal 4-7/8" x 2-3/8"
Vertical 2-3/8" x 4-7/8"

EMPLOYMENT OPPORTUNITY ADS

\$260 for two consecutive issues. Minimum 50 words, maximum 80 words. Send type written copy including mailing address, phone number and check payable to SCANFAX Magazine, P.O. Box 6096, Madison, WI 53716.

PROFESSIONAL CARDS

Include your business in the "Professional Card" section of each issue of SCANFAX throughout the year, for the low cost of \$315.00 (includes production). Dimensions of a Professional Card are 3-5/8" wide x 7/8" high. Your advertisement can include your logo, slogan and key information about your business. Ads will be listed alphabetically. Sign up today!

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ADVERTISING SCHEDULE*

2002 January Issue	Circuits and Devices
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	Nov. 26, 2001
February Issue	Industrial Applications
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	Dec. 25, 2001
March Issue	Communications Technology
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	Jan. 25, 2002
April Issue	Electromagnetics and Radiation
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	Feb. 25, 2002
May Issue	Engineering and Human Environment
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	March 25, 2002
June Issue	Education/Universities
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	April 25, 2002
September Issue	Energy and Power Engineering
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	July 25, 2002
October Issue	Computers
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	Aug. 26, 2002
November Issue	Signals and Applications
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	Sept. 25, 2002
December Issue	Systems and Control
EDITORIAL FOCUS:	
SPACE RESERVATIONS AND CAMERA READY	
MATERIALS DUE:	Oct. 25, 2002

Engineers Week 2002: Turning Ideas Into Reality

Illinois Institute of Technology's Daniel F. and Ada L. Rice Campus will again showcase the interactive and diverse world of engineering in its 18th annual DuPage Area Engineers Week program on February 22 and 23, 2001.

The Saturday event, which will be open from 12:30 to 5 pm, features interactive displays and presentations. There will be some new areas represented, such as bio-hazards and structural engineering, as well as old favorites like the Rube Goldberg contest and SciTech. These displays and presentations are targeted to middle- and high-school students and their families.

On Friday evening, we will hold our Speakers' Forum, which is aimed at an adult audience, including our own students. Our speaker will be announced soon, so keep an eye on our web site for that information. This year, we are adding an informal box supper prior to the Forum; details of that event, including cost and reservation information, will also be appearing soon on the web.

The DuPage Area Engineers Week program is held in conjunction with National Engineers

Week, February 17-23. The DuPage program, initiated by IIT's west suburban Rice Campus, is a joint effort among professional engineering societies, the two area national laboratories, businesses, educational institutions, and community organizations.

Education to Careers, a state initiative dedicated to providing students the opportunity to interact with various professionals and to get a better feel about what career might be right for them, is again

working with IIT. This certainly aids our objective of communicating what engineering is and what engineers do; attracting young people to careers in engineering, science and technology; and increasing the scientific literacy of the community.

IIT's Rice Campus is located at 201 East Loop Road, Wheaton. For more information on the DuPage program, visit the program's web site at www.rice.iit.edu/engineersweek or call 630/682-6040. ■



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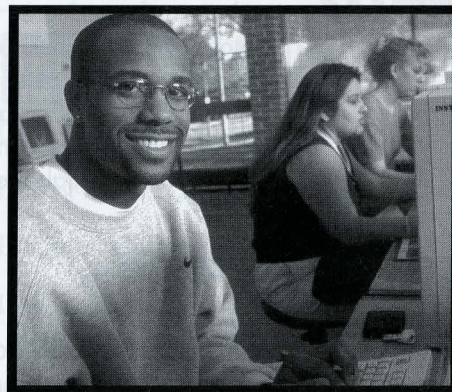
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