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INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

BUSINESS OPPORTUNITIES IN THE NEW WORLD OF INFORMATION MANAGEMENT

The Computer Society will host a presentation describing business opportunities in the new world of information management on May 22, 1996, 6:30 PM in the auditorium at Polytechnic University, Route 110, in Farmingdale. The presenter will be Mr. Yogesh Gupta, Senior Vice President, Product Strategy at Computer Associates (CA). Today, more than ever, businesses need to process and display information in original ways, satisfy customer demand, lower costs and provide the flexibility to respond to the most daunting business challenges. The influx of Internet-use and multimedia applications brings to the table many business opportunities along with more challenges. High-speed communication is setting a new standard for computing and object technology is the vehicle that enables this dynamic world to happen.

The Internet/Intranet is a phenomenon that is radically changing the universal way of thinking. Organizations are shifting their business paradigms to leverage the Internet. This enables the business to decrease the costs of finding buyers and sellers, expand markets geometrically and facilitate just-in-time production and payments. Utilizing the Intranet, businesses can help streamline business activity, flatten the organization and empower the employees through more effective information exchange.

Multimedia applications are a powerful way to convey information through video, sound, graphics, photographs and more. These effects are appealing to the non-technologists, therefore, it opens the door for new opportunities and reaches people never before possible. Deploying these multimedia applications and universal interfaces provides the ability to process transactions and secure electronic commerce.

To exploit such business opportunities, the technology forging these advancements is object orientation. Providing the infrastructure that supports the storage and transports objects across distributive environments is crucial to succeed in this new information management world.

At Computer Associates, Mr. Gupta is responsible for identifying client requirements and monitoring industry trends. This entails both identifying paradigm shifts in technology that improve client abilities to run their businesses, and shaping CA solutions to optimize client benefit and demand.

Over the past 14 years, Mr. Gupta has amassed considerable experience in the development and strategic planning of open systems and client/server technology, and has been instrumental in the successful evolution of CA as the leading provider of distributed computing solutions. Mr. Gupta holds both electrical engineering and graduate computer science degrees and is a keen industry observer.

LI SECTION AND AIL PRESENT DISTINGUISHED LECTURE

AIL and the LI Section host the second Distinguished Lecture in its series to bring internationally known speakers to Long Island. This lecture will be presented by Dr. Mohammad S. Obaidat of the Department of Electrical Engineering, City University of New York at 4:45 pm on May 14th in AIL's main auditorium, Commack Road, Deer Park. This second lecture in the series will be presented in conjunction with the LI Computer Society Chapter. This talk presents methodologies for evaluating the performance of single and multiprocessor Reduced Instruction Set Computer (RISC) systems under uniform and non-uniform traffic conditions. The uniprocessor RISC model considers all interactions among various units in the CPU for a wide spectrum of applications and conditions. The instruction flow of each instruction is modeled and data dependencies and stalls in the different pipelines are considered and treated. The single processor model is employed in the crossbar and delta-based multiprocessor models. Benchmark programs are characterized by their input/output, probability of blocked request, and mean waiting time. Other metrics can easily be derived from these indices. Different simulation experiments have been performed to predict the behavior of the system if certain parameters or conditions are varied for both the single and multiprocessor cases. The application of the methodologies will be demonstrated with some case studies. Dr. Obaidat is an Associate Professor in the Department of Electrical Engineering at the City College of the City University of New York. He received his M.S.E.E. and Ph.D. in Computer Engineering from Ohio State University. His research interests are: performance evaluation of computer systems and networks, high performance computing/computers, parallel computing, neural networks and pattern recognition, computer networking, and instrumentation and measurement. He has received extensive research funding and has published about 100 refereed technical articles. Dr. Obaidat is an Associate Editor of the IEEE Transactions on System, Man, and Cybernetics, The Society for Computer Simulation's monthly journal SIMULATION, and Journal of Computers and Electrical Engineering. Dr. Obaidat is on the editorial board of IEEE Transactions on Instrumentation and Measurement and ACM Applied Computing Review. He served as a guest editor for the SIMULATION journal on High Performance Computing/Computers and another on High Speed Networking. Dr. Obaidat was the Technical Program Chair of the 1995 IEEE International Conference on Electronics, Circuits and Systems (ICECS '95) and will be the program Chair of the 1996 IEEE international Phoenix Conference on Computers and Communications (IPCCC '96).

The meeting is open and free of charge to the public; however, since the lecture will be at AIL, please let us know if you will attend so we can properly notify AIL security to expedite admittance. To obtain further information on this distinguished lecture or to join the speaker for a post talk dinner, call Tom Campbell at 516-757-3008 or Ed Palacio at 516-595-3807.

CHAIRMAN'S MESSAGE

by Tom Campbell

The second Joint AIL Long Island Section Distinguished Lecture Series will feature Dr. Mohammad S. Obaidat from City College. He will present a paper *Methodologies for Evaluating the Performance of RISC Single and Multiple-Processor Systems* at AIL on May 14th, 1996 at 4:45 PM. Further information is provided in a separate article in this issue of *The Pulse*. The April Issue of *The Pulse* was a joint issue with the four other METSAC sections. We need to have feedback from our membership on their reaction to the effectiveness of this issue. There are a number of logistic problems which are easily overcome associated with this publication and distribution. Did you find this issue interesting? Were you interested in activities in other sections? There probably is a financial driver to have the Section cooperate with the other sections in having an area-wide publication. What is your reaction?

The Section has several positions which need to be filled to maintain an active program. We need a Pulse Editor, a Pulse Business Manager, a Student Branch Coordinator, a Facilities Committee Chairman, an AES Chapter Chairman, and a Signal Processor Chapter Chairman. Ken Mas has been Pulse Editor for the past several years. Due to family expansion, Ken does not feel he can be effective in this position after the June issue. The Pulse Editor is a critical position in operating the Section and is crucial to the health of the Section. The Pulse is the major communication tool to keep members informed of our program and aware of important IEEE issues. *The Pulse* Business Manager is also very important and we have not had a business manager for almost a year. Publishing the Pulse can be cost neutral or a source of revenue. It has not had the attention needed to generate a revenue stream. Advertising rates are inadequate and market potential needs to be understood and rates adjusted accordingly. It is necessary for the financial health of the Section that we have a practical, aggressive, probably sales oriented individual to come forward and assure the business side of the Pulse is run properly. A facilities committee is needed to investigate several types of facilities that can house various fund raising activities. This task can be accomplished in approximately 200 hours spread over eight to nine months. The committee will produce a matrix of a dozen facilities including hotels, universities, companies, high schools and libraries which we can use for our multifaceted program. The list will prioritize the top three or four facilities in each category. The standard facilities agreement needs to be reviewed with these providers to assure that when a fund raiser has been identified we can negotiate rather rapidly for these facilities. The ongoing committee activity will be to negotiate actual agreements to use the facility for an actual event. ELECTRO 96 will take place in New Jersey this year. Several of Long Island's members have been very active in setting and reorienting the technical program. The Section has been aggressively pursuing a course to make ELECTRO an electrical and electronic engineers market place for ideas and products. We hope you will take advantage of this show and attend the technical sessions and floor exhibits. **Please note that the May Consultant's meeting will be held on May 8th at 7:00 PM off L.I.E., Exit 57 at the LILCO Training Center. A discussion of our favorite hardware and software tools will be held.**

COMMUNICATIONS SOCIETY HOSTS TALK ON WIRELESS LANS

The Communications Society is presenting a talk on "*Wireless LANs: Standards and Future Directions*" by Dr. Richard LaMaire of the IBM T. J. Watson Research Center, on Monday, May 13, 1996 at 6:00 PM in the auditorium of the Polytechnic University Farmingdale Center.

The field of wireless Local Area Networks (LANs) is expanding as a result of advances in digital communications, portable computers, and semiconductor technology. In this talk, several types of emerging standards that impact wireless LAN systems will be discussed. The talk begins with a description of two influential physical and data link layer standards, the IEEE 802.11 standard and the European HIPERLAN standard. Following this, some developments concerning the U.S. Personal Communication Services (PCS) bands, future spectrum allocations, and wireless ATM systems are briefly examined. After describing these physical and link layer developments, the focus is on the network layer. Extensions that are being made to the widely-used Internet Protocol (IP) to deal with mobility (wired or wireless) are discussed. The talk concludes with speculation on future directions for wireless LAN systems. Richard O. LaMaire received a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology in 1987. He is a Research Staff Member at the IBM T. J. Watson Research Center. For the past eight years, he has conducted research in the communications area focusing initially on wired Local Area Networks (LANs) and for the last four years on wireless LANs and personal communication networks. Dr. LaMaire is currently serving as a feature editor for the "*IEEE Personal Communications*" magazine. His interests include wireless communications systems (particularly medium access control protocols and other data link layer protocols), scheduling and switching algorithms, and communications system design.

All are invited to have dinner with the speaker after the talk. For further information call Joe Mazzochi at (516) 692-7770.

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LOCAL IEEE OFFERS PROGRAMMING SEMINAR

A seminar on the C/C++ programming language and the Microsoft Visual C++ programming environment will be offered in July, 1996. Assuming some knowledge of any programming language, the sessions aim to provide an introduction to the leading programming language and its application to Microsoft Windows. The instruction will be evenly divided between the common features of C, the central concepts of C++, and Microsoft's program generator and compiler, Visual C++.

The intent of this seminar is to provide an overview in each area sufficient to enable an individual to learn more through a compiler's manuals, reading programs, and writing programs. There is a direct attempt to produce accomplished programmers of the language. Coverage ranges from introductory to moderate difficulty in each area.

For those with some background in another language, to C and overview of remaining material will be helpful in starting to learn C. An individual with some C background will benefit both from review of C and an introduction to C++. Those with some background in C++ will find ample material in Visual C++ to justify attending the seminar.

The seminar is aimed at individuals entering a programming-related course of study in the fall, individuals contemplating a change of employment requiring an acquaintance with the programming languages, and those seeking to move into new employment responsibilities. The seminar is open to the public and will be priced at \$350 for early registrants (June 8 deadline). A first-time associate membership in the IEEE is included. Registration will be accepted in the order received subject to a limit of 50.

Members of the IEEE (except Affiliate grade) whose dues are paid for the current year receive a \$100 discount from the public price. A further discount \$50 is provided to student and life members.

The sessions will be offered on Tuesday and Thursday evenings starting July 16 and ending August 1, 6-9 PM, for a total of six three-hour sessions. The tentative location is the SUNY Farmingdale Conference Center in Farmingdale. Details will be confirmed by letter following registration. Refreshments will be provided immediately prior to the sessions.

First offered in March 1996, the seminars sold out before the registration period ended. The session attracted people ranging from undergraduate to professor, those with minimal programming background to experienced programmers in other languages, unemployed to full-time employed. One company sent eight employees. Course material was designed with a broad range of audiences in mind.

Further information on the seminar is available from Walt Whipple, e-mail: w.whipple@ieee.org, (516) 738-3114, Four Deera Lane, Farmingville, NY 11738-2296.

The PULSE of Long Island

30 YEARS AGO

by Rod Lowman, Historian

The 1966 *Pulse* printed a history of the first 10 years of the LI Section that had been prepared by Dave Dettinger, the Section Chairman for that 10th year. Dave's history started with the time in 1947 when Jim Sheppard of the New York Section recognized that with the rapid progression of electronic companies on Long Island we needed technical support locally. Working with a colleague at Sperry, Eric Isbister, and joined by Harold Wheeler, who just recently opened his own laboratories, they formed a committee, set up a program of papers and, presto, Long Island became the first subsection of the IRE.

The program rapidly expanded and in the spring of 1953, Long Island became a full section of the IRE due mainly to the unflagging efforts of Charlie Hirsch who was the chairman of the subsection at the time. The 1952-53 year also saw the first issue of *The Pulse of Long Island* initiated by Jim Craib to replace postcard meeting announcements and the first lecture series on transistors. For the first year or so, membership included everyone living on Long Island until the IRE realized that with the rapid exodus of industry to suburban Long Island, the membership would soon be larger than the parent section and the membership was redefined at the New York City line.

In 1953-54, the first full year as a section, the annual Fellows Awards Presentations began. This was expanded two years later to include newly elected overseas Fellows. This felicitous gesture was suggested by one of our members, Art Loughren, who was President of the IRE at the time. This continued for a number of years until the overseas sections became large enough to hold their own presentations.

In 1954-55 the first two Professional Group Charters were started - the PGMITT and PGL. Also, the preliminary work on the start of the Student Affairs Committee was done. The next years material for the 30 Years Ago was assured when Charles Dean of Hazeltine was appointed as the first historian for the section followed a few years later by Gregg Stephenson. With the build-up of the electronics industry on the Island, membership expanded rapidly so that after only 10 years there were 3,232 members.

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LI SECTION TO HOST AN INTERNET HOME PAGE WORKSHOP

This is a second announcement of a Home, Home on the Web workshop presented by Dr. Charles Rubenstein of Pratt Institute. It will be held on two successive days, June 28-29, 1996 6:00 to 9:00 PM at AIL Commack Road, Deer Park, NY. The Registration fee (shown below) includes all course materials. Please note that registration needs to be done by mail so we can notify AIL security of attendees.

Abstract

This workshop is designed to introduce participants to the Internet and the basics of HTML as applied to creating a simple World Wide Web home page. No prior Internet experience is required, however, it is expected the participants will have working knowledge of DOS and Windows 3.1. To be able to access the internet, participants need to have use of, at the minimum: a 386 IBM PC-compatible computer operating with MS-DOS 5.0 and Microsoft Windows 3.1, with 4 megabytes of RAM and 4 megabytes of free hard disk space, and a 9600 baud modem.

Outline

Brief history of the World Wide Web, basic on-line setup and use of local (and/or NETCOM) Internet provider services, basic browser and e-mail capabilities, basic Netscape Navigator download and setup techniques, basic HTML language and web page examples, using an HTML editor, and live site visits and evaluation to illustrate home/web page construction techniques will be discussed.

Home Page Wrangler

Dr. Charles Rubenstein has a Ph.D. from the Polytechnic University and is currently an Associate Professor of Engineering and Information Science at Pratt Institute's School of Information and

Library Science. As part of his Networks graduate course at Pratt Institute, he provides seminars and workshops on e-mail for a variety of organizations. He recently presented Internet seminars in Morocco, Africa, as part of a USIA Grant, and since 1994, he has been active in the IEEE as Region 1's (Northeastern United States) e-mail coordinator. He presented an overview of the Internet as a featured speaker at the Providence Section Annual Meeting. Last spring Dr. Rubenstein provided a successful seminar series on "Multimedia Resources and Requirements for Electrical Engineers" to members of the Long Island Section. For information, call Tom Campbell at 516-757-3008.

Registration and Fee Schedule

Circle or check fee, complete this form and send it with your payment to: IEEE Long Island Section Home on the Web PO Box 36, Greenlawn, New York 11740-0036

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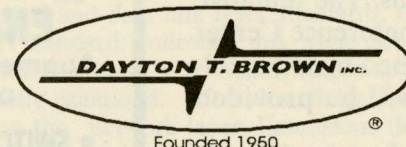
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IEEE-LONG ISLAND SECTION

MEETING

CRUISING ON THE INFORMATION HIGHWAY

FULL DAY SEMINAR: 9:00 AM TO 4:00 PM

SATURDAY MAY 4, 1996

Sheraton Long Island, 1100 Vanderbilt Motor Parkway, Smithtown, New York

Cruise Director: Dr. CHARLES RUBENSTEIN (Pratt Institute)

8:15 am Registration and Continental Breakfast
9:00 am classes, 10:15 coffee/tea/soda, 12:00 Lunch,
1:00 pm classes 2:15 coffee/tea/soda

Overview the past, present and future of the Internet. What are BBS, E-mail, and World Wide Web entrances to the National Information Superhighway? Who are the providers of Access to the Internet? General information on PC hardware (a PC-compatible with a Modem) and software requirements for getting on-line with NETCOM's NetCruiser browser software. On-line PC demonstration of the NetCruiser browser, explanation of typical modem software setups and testing, BBS, e-mail, text and graphical WEB Internet access.

Installing NetCruiser and Netscape Navigator browser software. Using basic Internet Tools; Telnet, FTP and Gopher. Other Internet browsers and special software; Lynx, Cello, Mosaic, CGI-BIN, VRML, Java, etc. Getting an e-mail address, IEEE aliases and resources. Engineering, technical and businesses resources on the Internet and how to find them, entertainment on the Internet, on-line commercial ventures, on-line malls and sales.

INFORMATION: ☎ TOM CAMPBELL (516)-757-3008

Registration and Fee Schedule

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Included free with all registrations is breakfast, coffee breaks, lunch and the following tools and services which will assure that you find an easy ramp onto the Internet; NETCOM's NetCruiser™ browser, internet registration, one month service, David Peal's text "Access the Internet!", course notes, and shareware (an over \$125.00 value).

AES CHAPTER TO HOST PHOTO-VOLTAIC ENERGY CAPACITY PROGRAM

The IEEE LIS AES Chapter will host a technical presentation and discussion on Photovoltaic Energy Capacity by Dr. Richard Perez from The University at Albany. This meeting will present information about Photovoltaic's effective energy capacity as a possible renewable energy resource. His studies indicate that Long Island is one of the prime areas for implementing photovoltaic technology. The meeting will be held on Thursday, May 16, 1996 at 6:00 PM at Polytechnic University Auditorium, Farmingdale Campus. The meeting is open and free of charge to the public.

Dr. Perez will discuss the following topics:

- Effective Load Carrying Capacity (ELCC)
- Minimum energy Storage Buffer
- Matching utilities peak loads with photovoltaics capacity
- Satellite derived insolation data for solar energy systems
- Relationship between load shape and ELCC

He will present data from the satellite mapping program that has been underway for several years. Load matching capability of photovoltaic (PV) power generation was evaluated for a

large sample of US utilities and sub-utilities (feeders, large customers). Load matching is an important parameter because of its impact on the value (both financial and technical) of PV. Estimating load matching capability requires access to site/time specific PV output data. Here, that data was obtained via system simulation, based on satellite remote sensing. The mapping data shows: (1) the overall magnitude of the local solar energy resource is not highly correlated with load matching and (2) key characteristics of the considered load are strongly correlated with load matching. Indeed, some of the best load matching cases are found in regions not traditionally associated with solar energy development (e.g., the US heartland, and the Eastern Seaboard) often bettering results obtained for "traditional" solar energy regions such as Florida and the Southwest.

A general audience participation discussion will take place with regard to the future of photovoltaic as an alternate energy source on Long Island. Audience views about their concerns and expectations from this technology will be most welcome.

Dr. Perez is currently associated with the Atmospheric Sciences Research Center at the University of Albany. Dr. Perez has authored or co-authored more than 5 papers on this subject. The Solar Resource-Utility Load Matching Assessment Project was funded by National Renewable Energy Laboratory, Boulder, Colorado. More than 30 utilities in the United States participated in this project.

To obtain information, call Tom Campbell at 516-757-3008.

PROFESSIONAL ACTIVITIES REPORT - May 1, 1996

by Irwin Weitman, P.E.

Many American families can not afford to send their bright children to a good technical college without lowering their family's standard of living. Yet, bright foreign students can come here without lowering their standard of living, go to our good technical colleges and get Government aid because they don't have their own funds. (Our standard of living is higher than their homeland.) It seems to me that there is something wrong with this arrangement!

From reports in the newspapers, IEEE surveys and the experience of our own Employment Assistance Committee, the unemployment rate among engineers is somewhat less than 2% and perhaps under 1% for IEEE members. This does not address the underemployed who now earn less than they did before the recession. Many have turned to temporary assignments, job shops and consulting.

When the Consultants' Network of Long Island was started more than 10 years ago, a very small percentage of engineers were not employees and, therefore, there was very little interest in the non-employee endeavors. Times have changed and a significant percentage of technical work is being OUTSOURCED. This means that an engineer has to consider how to deal with this in regard to his or her career.

Obviously, getting a job is a primary need. The most productive source of work for the consultants is networking. Long ago our Network was approached by Job Shops who requested our database with the intent of helping our members and themselves. After much discussion it was decided that we should not provide them with our database. One of the reasons was that it might prevent the consultant from obtaining work from a company that had certain contractual agreements with the Job Shop or agency. Many companies are very strict in their own internal record keeping in regard to recording the identity of all prospects submitted by agencies and Job Shops. This is to prevent legal conflicts where two agencies claim to have submitted the same prospect. The individual consulting engineer should be wary about letting a third party act as his or her agent. This could prevent him or her from getting a job with a particular company at some future time. Most things are not as simple as they seem on the surface.

LI SECTION TO HOST TALK ON ANALOG/MIXED SIGNAL IC DESIGN

The Long Island IEEE Section is presenting a talk on "New Challenges in Analog/Mixed-Signal IC Design and Simulation" by Dr. Michael M. Green of the Department of Electrical Engineering at SUNY Stony Brook, on Thursday, May 30, 1996 at 6:00 PM in the auditorium of the Polytechnic University Farmingdale Center.

The field of analog IC design has seen a major resurgence in recent years, especially in applications that operate at radio frequencies. New challenges in analog design are constantly arising due to constraints set by the digital circuitry that must be shared with the analog portion on a typical chip. Especially critical is the design of analog structures suited for low-voltage operation; virtually everyone involved in the design of integrated circuits is aware of the strong push to operate at ever-decreasing supply voltages. Many IC companies are already manufacturing circuits that operate at 3.3V for low-voltage/low-power operation such as laptop computers. In the not-too-distant future operation at even lower supply voltages, perhaps down to 1V, will be required. Accompanying these design challenges will be an increased reliance on accurate and dependable circuit simulation tools.

In this talk, a number of new analog design techniques that allow enhanced manufacturability (e.g., smaller chip area, lower power dissipation, improved insensitivity to electrical parameter variations) while retaining or even enhancing the circuit's performance parameters (e.g., sufficient dynamic range and bandwidth) will be presented. Many of these techniques are particularly well-suited for low-voltage design. A novel method for enhanced circuit simulation using continuation methods will also be discussed. Michael Green received the BS degree in electrical engineering from University of California, Berkeley in 1984 and his MS and Ph.D. degrees in electrical engineering from the University of California, Los Angeles in 1988 and 1991, respectively. From 1984 to 1987 he was a design engineer in National Semiconductor's audio integrated circuit design group. He is currently an assistant professor of electrical engineering at State University of New York at Stony Brook.

All are invited to have dinner with the speaker after the talk. For further information, call Don Grieco at (516) 488-8171 (ext.18).

SIGNAL PROCESSING CHAPTER TO HOST TALK ON HYBRID TECHNIQUES FOR THE 21ST CENTURY

The Signal Processing Chapter will host a talk on Hybrid Techniques (e.g. neural networks with wavelets) for some very important critical applications of the 21st century. This talk will be given on Wednesday, May 15, 6:30 PM at the Polytechnic University Auditorium, Route 110, Farmingdale. The applications to be discussed are extremely demanding in processing requirements. Quite often, one approach such as either neural networks or wavelets alone would not be able to supply the necessary solution for an application. The Hybrid Techniques combines two or more algorithms such as neural networks and wavelets to work as a unit in a synergistic fashion.

The applications to be covered for illustration briefly are Air Force research of projected weapon systems recently announced (e.g. Unmanned Mach 12-15 fighter aircraft) and earthquake damage minimization research. The speed of the unmanned fighter and its opponent requires techniques which are not commonly utilized at the present time. Also, without a pilot, the fighter can perform at sustained turn rates of 15-20g. Other requirements are the data and image compression requirements necessary between the unmanned aircraft and the ground based or mother aircraft based pilot. The Hybrid Techniques are able to provide compression ratios far superior to approaches being applied at the present time. The unmanned aircraft or unmanned aerial vehicle

(UAV) is one essential element of the forthcoming U.S. weapon system. "It's the ultimate push-button war, and it's technically achievable," according to an ARPA expert. Of course, there are many other applications (e.g. Advanced Lunar Prospector and Mars Pathfinder).

In the past decade, the earthquake disasters have been so massive that even the Japanese who pride themselves on being able to minimize the damage of earthquake that they realize how inadequate they are. The 7.2 magnitude quake that struck Kobe, Japan, at 5:45 AM on January 17, 1995 killed more than 5,500 people and caused more than \$100 billion in property damage. Earthquakes continue to occur quite frequently. One of my Ph.D. student's research addresses some critical problems on earthquakes applying wavelets with extension to Hybrid Techniques. Part of the talk will cover this briefly.

The speaker, Robert Hong, Chair of the Signal Processing Chapter and former Chair of A.I./ANN Technical Committee and Computer Society, was Director of Systems Software and Technical Advisor of Artificial Intelligence at Grumman Corp. (Aircraft Systems). He was also Adjunct Professor at SUNY, Stony Brook and Polytechnic University and is also Ph.D. thesis advisor at other universities. Bob has also been chairman of numerous sessions in conferences in the U.S. and has been invited to present papers and conduct tutorials in many countries. He is president of Creative Autonomous Systems and writing books for a well-known publisher. Bob has devoted considerable research in the application of artificial intelligence and neural networks to unmanned commercial, military aircraft, and spacecraft. For further information, please call Robert Hong at (516) 921-4446.

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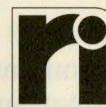
- FCC, Canadian, Australian, European Community CE Mark
- Military - MIL-STD-461, A, B, C, D
- Automotive - SAE, European Community
- Aircraft - RTCA DO-160
- Rail/Transit - GE, EMD, UMTA

ENVIRONMENTAL SIMULATION SERVICES:

- Military, International (IEC)
- Shock, Vibration, Temperature, Temperature/Humidity, Altitude, Rain, Salt Spray, Acceleration, Sun

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EMPLOYMENT ASSISTANCE COMMITTEE

by Walt Whipple, Ph.D.

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4 Deera Lane, Farmingville NY 11738-2296

Jobskills Database- Those members wishing to be included in the jobskills database for the purpose of receiving mailings and potential match with employer requirements must re-register each year. Those not updated between January 1 and May 18, 1996, will be purged from the database. Contact Walt Whipple for forms and send to the address above.

Meetings- Victor George, Vice Chair for Programs of the Employment Assistance Committee, arranges speakers for the monthly meeting on the third Wednesday of the month. Refreshments at 6:30 PM, speaker at 7:00 PM at Polytechnic University on Rt. 110, Farmingdale, unless otherwise arranged. Recent speakers were from Periphonics, Telephonics, and Veeco Instruments. Speakers describe their companies and employment opportunities as well as discussing the job search process from their point of view. All field questions and discuss positions in detail. The ability to get speakers is directly related to the turnout at meetings. Remember, these meetings are open to the public as well as members and are not just for the unemployed.

Employment outlook- Unemployment for engineers is running 2-3 percent in most reports while IEEE member unemployment is about half of that. Locally, only about 10 jobskills registrants indicated that they are unemployed- a rate of about 0.2 %. IEEE members make the best of a bad situation by temping, part-time work, move into other fields, and otherwise keep themselves out of the unemployment scene. Underemployment is far more difficult to measure and characterize, but is rapidly becoming the most important concern to the Section. Most would include in this category those not employed in an engineering capacity as well as those employed in engineering whose current position is lower than the highest position they have held in the last 10

years. It would include those who retired before age 65 who are still seeking employment. Members in these categories should feel free to register with the jobskills database and otherwise participate in the employment assistance activities.

Educational Assessment- The IEEE is sponsoring (with NSF support) an educational assessment forum in Minneapolis, April 9-10. Attendance is by invitation and includes educational assessment professionals in world class companies and others invited to participate. Walt Whipple will attend to describe Employment Assistance Activities in the Long Island Section. Watch the June 1 Pulse for a report.

For Employers and Search Firms- A monthly mailing is made to all those listed in the jobskills database announcing the next meeting. For a nominal price, your information sheet may be included in this mailing, special mailings are possible. Wider exposure is given through the Section's monthly *Pulse* and other special mailings can be coordinated with the Section chairman.

Meetings are open to the public and those with jobs available are especially welcome. Even if you are unable to attend, you may provide job listings to be picked up at the meeting. Contact the committee chairman.

The committee will match registrants against the requirements for specific openings as time permits. Contact information is provided to members who appear to qualify. This service is primarily for positions that are not advertised and that are to be filled at a professional level. Few matches can be expected for entry level openings.

New Chairman- As with other Long Island Section positions, a new chairman will succeed Walt Whipple on the Employment Assistance Committee. Victor George has shown through perseverance, dedication, and results that he is the right person to take over for the next year and will be nominated to the Section executive committee for the important role in the Section. Look for his articles in *The Pulse* starting with the September issue.

Editor's note: I received a phone call from a member who wishes to donate his old textbooks, but has been unable to find any takers. If anyone knows of a service or a university which would accept these books, please let me know, and I will publish it in the next issue.

ELECTRO'96 SESSIONS PROVIDE INFORMATION FOR MANAGERS

Four General Track sessions at ELECTRO'96 will provide timely information for managers who need to stay abreast of new trends in project management and technology.

Session G6, Outsourcing Technical and Engineering Services (Wednesday, 5/1/96, 1:00PM - 2:30PM), will describe ways that managers can save money and bring products to market faster by outsourcing part or all of a project. The session will be led by Peter Buitenkant and will contain presentations by a group of experienced consultants. The session will describe the various types of technical and engineering services that can be subcontracted or outsourced. Strategies will be discussed for deciding whether to perform a task in or out of house. Time and money considerations will be discussed, as will techniques for managing and interfacing with consulting teams.

Session G7, Outsourcing - A Simulation and Case Study (Wednesday, 5/1/96, 3:00PM - 4:30PM), will walk the participants through a case study of outsourcing the design and development of an electronic product. The session will be led by consultant Yehuda Rosenstock, and will describe the various steps in the path of managing the outsourcing of an automotive aftermarket product. The simulation will start from the initial concept, and then will describe the various design and qualification processes needed to bring the product into production.

Outsourcing of technical services is becoming more and more a necessity as companies run leaner and more efficiently. Certain skills that are needed for a project's success may not always be available in-house. Today's management teams must be capable of outsourcing tasks and projects on short notice. These sessions provide invaluable information that is necessary to ensure the success of these projects.

Sessions G9 & G10, Walking Through an Application with Visual C++ (Thursday, 5/2/96, 10 AM - 1:30PM), will introduce and demonstrate to attendees the Visual C++ development environment and related tools. These sessions, presented by Dr. Walter Whipple, will provide tutorial information that managers and engineers can use to consider whether Visual C++ should be used for future projects. Session G9 will be an introduction, and Session G10 will show how to incorporate C++ code.