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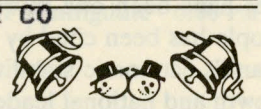
The Pulse of Long Island

(USPS 450-540)

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

HAPPY NEW YEAR



EMPLOYMENT ASSISTANCE COMMITTEE

by Walt Whipple

w.whipple@ieee.org, (516) 563-2400 x3114, FAX 244-4618
4 Deera Lane, Farmingville NY 11738-2296

Meetings in 1996 will follow the theme set in the fall of 1995. They will focus on phases of the job search from networking through final negotiations. December's meeting was a resume workshop at Polytechnic University, Farmingdale. Interspersed in the regular meetings will be speakers from local firms who can speak of the process from the perspective of the employer.

The January 17 and February 21 meetings be at Polytechnic University, Farmingdale. These meetings will focus on the telephone interview and the actual interview. The March 20 meeting will be at Symbol Technologies, Inc., and feature Carole DeMayo, the recruiter for engineers. Essentially, the meetings are an extended job search seminar. All meetings are at 7:00 PM unless otherwise noted.

On February 24, the section will offer a six-week seminar on the C and C++ languages of particular interest to those seeking to obtain or change jobs. It is aimed at those with some knowledge of a programming language such as Basic or Fortran who need to come up to speed on C/C++ and modern windowed environments. A special discount is provided for unemployed members registered in the EAC Job Skills database in 1995. Be sure to register by check before the early registration deadline, January 31. More information appears elsewhere in this issue of *The Pulse*.

In May, the committee tentatively plans to offer a one day (Saturday) job search/career transitions seminar with a working lunch. Spouses will be encouraged to attend because getting a job and managing the upheaval associated with a change is a team effort requiring support of the spouse. Walt Whipple will lead the job search portion and Don Herres of Region 1 will lead the Managing Career Transitions portion. A speaker is sought for the working lunch. There will be a nominal fee for this event.

Planning for EAC activities takes place at a monthly committee meeting in Farmingville. Contact Walt Whipple if you are interested in participating.

Each month, a postcard is mailed to those registered in the EAC Job Skills Database with late-breaking information on that month's meeting. Contact Walt Whipple for a registration form if you wish to receive these notices.

30 YEARS AGO

by Rod Lowman, Historian

The fall lecture series featured six lectures on oceanography, which included Introduction to *Oceanography and Deep Submergence, Physical Oceanography, Undersea Communications and Navigation, Unmanned Deep Sea Vehicles, Manned Deep Sea Vehicles, and Oceanographic Measurements.* And to cap the whole field for both engineers and spouses (wives, as it was printed in those long-ago times before political correctness became an issue), the Section held a dinner meeting at the Salisbury Country Club at which Rear Admiral E.C. Stephan spoke on *Oceanography, and Ocean Engineering-Promise, Progress and Problems.*

Before he retired from the U.S. Navy two years before, Admiral Stephan was head of the U.S. Naval Oceanographic Office. He was named vice president of Ocean Systems, a subsidiary of Union Carbide Corp. and was selected as chairman of the Nassau-Suffolk Regional Planning Board's oceanographic committee, which had been established to explore the possibilities of making Long Island a base for oceanographic research and industrial development.

Was the committee successful in making Long Island a home for oceanographic work? As you will recall from last month's article, it is often difficult to determine, as so much of the advanced work done on Long Island could not be discussed. One of the speakers in the lecture series was Dr. Joseph Chadwick at then Sperry Gyroscope. It is quite conceivable that he and radar experts at Sperry may have designed the satellite radar that measured the ocean height all over the world from which the Navy recently computed a complete new map of the ocean floor.

The Navy measured the ocean height to determine the gravity at every point in the ocean in order to correctly aim submarine-launched missiles. On the basis of these measurements, the Navy was able to compute the contours of land under the sea and make a complete new map of the ocean floor under all the oceans, which was released last month. Admiral Stephan may have been more successful than he realized at the time. And the Section again demonstrated its recognition of important areas which enlighten its members.

CHAIRMAN'S MESSAGE

by Tom Campbell

HAPPY NEW YEAR

I take this opportunity to wish everybody a happy, prosperous and challenging New Year.

IEEE Precollege Educational Program

In my Region I Summer 1995 Report under the Section's education activities, I had the following two statements: "The IEEE does not have any specific interest in high school education and has never developed programs to push sections to be involved in high school education" and "...has never developed programs to push sections to be involved in elementary school education." Under the auspices of the United States Activities Bureau, the IEEE decided it has an interest in influencing the precollege technical activities and curricula and sanctioned and initiated the Precollege Education Committee.

John Pierro's leadership and Charlie Richardson's activities have been essential to the Long Island Section involvement in several activities at the precollege level. These activities have been one more instance of our Section's leadership. Educating our young people has been cited by our Economic Development Group as a major issue for Long Island's economic stability. Quality education is essential to our long term economic growth and national leadership. I believe technical and scientific education of our young people is an activity in which the Long Island Section should be active.

Participation in these activities requires members to volunteer. The engineering community should provide the talents and expertise to assist local school boards and teachers in assuring excellent technical programs at high school and middle school levels. If you are interested in education issues and especially technical education, please contact John Pierro at 516-595-3767 or myself at 516-757-3008.

Sincerely,
Thomas A. Campbell
Chairman

ELECTRIC VEHICLE DESIGN

The IEEE LI AES Chapter will host a technical presentation and discussion on Electric Vehicle Design Projects by Professor Peter Voltz and students from Polytechnic University. This meeting will present information about new electric vehicle technology projects and laboratory facilities at Poly's Long Island Campus. The meeting will be held on Thursday, January 18, 1996 at 6:00 PM at Polytechnic University, Farmingdale Campus in room 115. The meeting is open and free of charge to the public.

Professor Voltz and his students will discuss the following topics:

- Electric Vehicle laboratory historical overview
- KA1000 electric car technical description
- KA1000 measured Tour De Sol performance data
- Students' experiences at the Tour De Sol
- Future electric vehicle modeling and simulation activities

This presentation will review the Electric Vehicle (EV) Laboratory at Polytechnic, including discussion of how and why the lab was begun, what student projects are currently under way, and what future directions the lab might take. A technical description of the KA1000 Polytechnic electric car will be presented, including basic components and systems and major factors impacting performance. Measured performance data will be presented from the 1995 American Tour De Sol in which the Polytechnic EV team participated, and students involved in the lab will be present to answer any questions about their experiences at the rally. Polytechnic's computer modeling and performance simulation efforts will be discussed. These important activities are currently being developed to allow for optimization of updated versions of the KA1000 and future cars to be designed by the lab.

The EV Lab is a recent addition to the ensemble of project labs available to Polytechnic students. It currently serves as a focal point for approximately ten students (from Sophomore to Senior level) who are actively engaged in projects related to electric vehicle technology.

A general audience participation discussion will take place with regard to the future of electric vehicles on Long Island. Audiences' views about their concerns and expectations from this technology will be most welcome.

Peter Voltz received the bachelors, Masters and Ph.D. degrees in Electrical Engineering from Polytechnic University in 1980, 1981 and 1987, respectively. From 1981 through 1985 he was employed by Hazeltine Corporation, Greenlawn, New York. He was involved in the design, analysis and simulation of bandwidth efficient and spread spectrum radio systems. His specific responsibilities included adaptive equalization and wave shaping techniques for advanced modems, and LPI/LPE systems.

Professor Voltz has been a faculty member at Polytechnic University since the fall of 1987. His research interests have included the study of adaptive algorithms and their convergence behavior, parameter identification techniques in controlled Markov Chains, and source localization in the underwater environment. Recently, Professor Voltz has assumed the role of advisor to the EV Laboratory. To obtain information, call Tom Campbell at 516-757-3008.

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The opinions expressed in this newsletter are those of the authors, and no endorsement by the Institute, its officials, or its members is implied.

Report All Address Changes
To
The PULSE of Long Island
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107 RIM LANE
HICKSVILLE, NY 11801-6147

PULSE Deadline
for **March**
is
January 31

LONG ISLAND IEEE CALENDAR

(No membership requirements, no registration, no fees at meeting unless otherwise noted. IEEE Office is in the AIL Main Building on Commack Road, Deer Park, LIE Exit 52)

JANUARY 3 — ***Networking*** **- LI Consultants Network - 7:00 PM - Tony Parisi of Philips Semiconductor will give a talk entitled '*Semiconductor Technology for the '90s and Beyond.*" - LILCO Training Center, 131 Hoffman Lane, Hauppauge, Exit 57 off the LIE. For info, call Peter Buitenkant at (516) 491-3414.**

JANUARY 10 — ***Internet Workshop*** **- Hosted by Long Island Section - An internet workshop to be given by Dr. Charles Rubenstein of Pratt Institute - 6:00 to 9:00 PM at AIL. (Fee required), For further information, please call Tom Campbell at (516) 757-3008.**

JANUARY 17 — Employment Assistance Committee Meeting - 7:00 PM - Polytechnic University, Farmingdale campus - see article in this issue.

JANUARY 18 — ***Electric Vehicle Design Projects*** **- AES Society - Room 115, Polytechnic University, Farmingdale - 6:00 PM - see article on page 2.**

JANUARY 29 — EXCOM meeting at 6:00 PM - IEEE office at AIL.

FEBRUARY 7 — ***Networking*** **- LI Consultants Network - 7:00 PM - Richard Strickland of Loral - Narda will give a talk entitled "*Electromagneticm'Radiation, Myth versus Reality.*" - LILCO Training Center, 131 Hoffman Lane, Hauppauge, Exit 57 off of the LIE. For info, call Peter Buitenkant at (516) 491-3414.**

FEBRUARY 20 — Engineering Week Celebration in New York City. See article in this issue.

FEBRUARY 24 - MARCH 30 — C/C++/GUI Course starts. (Fee required) - See page 6 article.

Weber Research Institute

WRI INTERNATIONAL SYMPOSIUM

on

DIRECTIONS FOR THE NEXT GENERATION OF MMIC DEVICES AND SYSTEMS

September 11-13, 1996, New York City

FIRST CALL FOR PAPERS

Microwave and millimeter-wave integrated circuits are becoming increasingly important in modern military and commercial communication systems. Current trends are towards low-cost, high-density, multilevel, and multifunctional integration, covering millimeter and submillimeter wave regions. The integration of diverse subfunctions, such as light-wave devices, superconductor circuits, digital circuits and ferrite devices, together with conventional microwave or millimeter-wave devices, circuits and antennas, would allow implementation of large systems on a single chip. Research on advanced device concepts, 3-D interconnects, high-performance packaging methods, advanced CAD-tools, measurement and testing techniques, as well as material and fabrication technologies, are being directed to meet the new challenges.

Continuing on our Weber Research Institute's series of symposia, we will host an international symposium on the recent developments and new research directions for the next generation of microwave and millimeter wave integrated circuits and systems. It will be organized as a 3-day symposium, running in a single-session format of regular papers, poster presentations and panel discussions. The symposium will be held in our CATT Auditorium located at the Metrotech Center, Brooklyn, New York. Hotel accommodations will be available in the Manhattan area, conveniently connected to the conference site by subways. The extended versions of the papers will be published as a bound volume by Plenum Press, New York.

The topics of interest cover various aspects of the following suggested areas:

- Components and Devices
- Novel Transmission Media
- Printed Antennas and Phased Arrays
- Multilevel Integration
- Interconnects and Packaging
- Multifunctional Integration
- Fabrication Technology
- Measuremet, Testing and Reliability
- Application Systems
- CAD Tools and Environment
- Analytical/Computational Techniques
- Guided Wave Effects and EM-Theory

TIME TABLE: • Final Call For Papers: **February 1995.** • Submission of One-page Summary: **March 30, 1996.** • Notification of Acceptance: **May 30, 1996.** • Extended Manuscript for Publication: At the Conference Registration.

ORGANIZERS: Prof. A. Oliner, Honorary Chairman, Prof. N. K. Das and H. L. Bertoni, General Chairs. Send two copies of one-page abstracts addressed to Prof. Nirod K. Das, 1996 WRI Symposium, Polytechnic University, Route 110, Farmingdale, NY 11735. For further information contact at Tel: (516) 755-4228, Fax: (516) 755-4404, E-mail: ndas@prism.poly.edu.

Sponsor: Weber Research Institute, Polytechnic University, New York

Technical Co-Sponsors: IEEE Microwave Theory and Techniques Society, IEEE Antennas and Propagation Society, in Cooperation with the IEEE Long Island and New York Metropolitan Sections

PROFESSIONAL ACTIVITIES REPORT - January 1, 1996

by Irwin Weitman, P.E.

For as long as I can remember I have heard some people say engineering is a profession. I have been around for a long time and can honestly say it's a "virtual profession." That is, we would like it to be a profession and some things about it are similar to a profession. For the most part, we are highly trained and educated and because of this, I would certainly like engineering to really be a profession.

What can we do to promote this outcome. It's time for IEEE to promote the elimination of the "Industrial Exemption." The Industrial Exemption exempts corporations from the requirement that where public safety is involved a state licensed Professional Engineer shall be responsible for certifying the documents defining the particular construction involved. Historically, this dates to an era when the majority of possible design errors related to buildings, bridges, electrical distribution systems presented a potential threat to the public safety. Today, there are potentially many more threats. We can not expect self policing by the companies until there is accountability. The only threat to the companies is legal action by injured parties and we know from the newspapers how some companies buy their way out of these difficulties.

You might ask me what is good about the Industrial Exemption? I don't know! It seems to me that it only gives corporate interests more power at the expense of the public safety. Although I don't know of any specific case of corporate wealth whitewashing injuries in an engineering situation, it is clear that the power of money can take precedence over public safety. We all have read about the recent case where tobacco industry money squashed publicity on the dangers of tobacco. Governments respond only to a public outcry so little can be expected until the public acts.

As a working engineer would your livelihood be jeopardized or enhanced by the elimination of the industrial exemption? My answer is ENHANCED! My reasons are simply these:

1. There would have to be a method of "Grandfathering" implementation or the manufacturing industries would grind to a halt. The working engineer would not be out of a job.

2. All engineers would not have to be licensed or certified, but at least one engineer would be required to certify that a product design is safe. If there are many engineering specialties involved in the product, then that many certified engineers would be required. Assurance that the product is manufactured to the specification is another matter and has to be dealt with. The fact that different states have different registration and safety requirements is true, but most state registration authorities use the same national examination. It would appear that a federal law would have to be passed to deal with the matter of interstate commerce. Keep in mind that the European community has accepted manufacturing the standard practice of ISO-9000 and we are adhering to that specification by necessity.

3. The power of other departments or management to overrule the certifying engineer would be reduced. (Remember the "Challenger.") Since the certifying engineers license would be on the line, he/she would be extremely careful about certifying an unsafe product and of course no one else would have the authority.

4. At present, any company can apply the title of engineer to a non-degreed person without regard to qualifications. This assures that the degreed engineers who worked long and hard to educate themselves, may not receive the respect deserved by their efforts.

5. In terms of education and preparation for their careers, engineers are virtual professionals. Obviously, just having a degree with no experience is insufficient credentials for being given the responsibility of approving the safety of products. Years of experience and showing the quality of the engineers work product should be required. This is the basis of Professional Registration. (Similar to a Medical Doctors residency.) The compensation and respect afforded engineers would be increased.

There is no doubt in my mind that eventually Engineering would become a profession instead of being just a "Virtual Profession."

Now we come to the hard part. What can we do about this?

SPEAK UP!

VOLUNTEERS NEEDED FOR UPCOMING 1996 LONG ISLAND JUNIOR SOLAR SPRINT (LIJSS) COMPETITION

The Institute of Electrical and Electronics Engineers (IEEE), Long Island Section, is committed to supporting the study of science and mathematics and promoting awareness of the important role that engineers play in every facet of our society. The IEEE is the largest engineering society in the world with over 320,000 members worldwide. Locally there are over 3,500 members.

The LIJSS competition is a wonderful, exciting way for the Section through its participation and support, to accomplish these goals. The competition exposes students in grades 6 through 8 to the technology of photovoltaics. The students get the opportunity to construct their own miniature solar powered race car designed around a standard DC motor and photovoltaic panel that they purchase for a very nominal amount. They then race their cars against cars of students from other schools in the New York area. In 1995 the competition was held at Polytechnic in Farmingdale on a 60 foot outdoor track. Cash prizes and certificates were awarded. There were over 80 entrants.

In 1995, the IEEE Long Island Section provided support to LIJSS through its members serving as mentors in the schools to assist in the design and construction of the cars. At race time members then helped in registration and race coordination. The Section also provided the cash prizes which the kids loved!

In 1996, the IEEE Long Island Section again plans to participate in this exciting, educational competition.

We are requesting volunteers to serve as mentors in their local schools. The amount of time you typically give is a only few hours over the life of the project. The project typically starts in January and concludes in June.

Please, call John Pierro at AIL Systems, (516) 595-3767 and give your name, daytime phone number, and the name of the local school that you wish to support.

IEEE Long Island Section

C/C++/GUI Seminar

February 24-March 30, 1996

Overview

In this seminar, you will gain a familiarity with the leading programming methodology in commercial (and many military) applications. The seminar progresses from description of syntax and semantics to demonstrations of the use of three interrelated topics: the C programming language, the C++ programming language, and graphical user interfaces. The intent is to provide enough background to enable attendees to conceive applications and make use of development tool documentation to develop those applications. Attendees will need to learn and practice the required skills on an actual project that is beyond the scope of this seminar.

Who Should Attend

The seminar benefits engineers and programmers who have some programming background, perhaps with Basic or Fortran, who need to use C/C++/GUI technology. Those with little exposure to C, C++, or GUIs should attend. Managers who must make decisions about software development should attend. Computer Scientists and working programmers with GUI experience should probably not attend.

Key Benefits

- Learn the vocabulary and elementary techniques of C, C++, and a GUI generator
- Sample some advanced techniques needed for actual programming
- Understand enough of the technology to learn the rest on a subsequent project or detailed programming course
- Understand what the tool will do for you and what you will have to do for yourself
- Learn about programming for a modern windowing environment

Content

C Language: Data and Control; Preprocessor Commands; Programs

C++ Language: Encapsulation and Classes; Inheritance and Polymorphism; Overloading and Templates.

Graphical User Interfaces: Application Program Interfaces; Program Generators; Designing Dialogs; Adding Class References; Fleshing out the Skeleton.

Further Information

Contact Walt Whipple via E_Mail at w.whipple@ieee.org or (516)563-2400x3114 (voice mail activates a pager). A reminder containing travel directions will be sent to all registrants about February 17. Refunds of fees paid will not be available unless the seminar is cancelled.

Instructors

Chris Early, M.S.C.S., P.E., Proprietor of Early Electronics

Mr. Early is an active, full-time consultant in hardware and software on Long Island. Mr. Early plans to teach the C Language portion of the seminar.

James La Tourrette, Professor Emeritus, EE/CS, Polytechnic University, Farmingdale NY.

Professor La Tourrette is an expert on C and C++ programming and is an active consultant on custom software development in a variety of languages and systems. Prof. La Tourrette plans to teach the C++ Language portion of the seminar.

Walter L. Whipple, Ph.D., P.E., Chairman, Employment Assistance Committee, IEEE Long Island Section and EQA Engineer, Symbol Technologies.

Dr. Whipple is a specialist in embedded systems and programming languages. He has developed graphical user interfaces both as a consultant and as an employee that combine the ease of use of message-based programs with the demands of real-time response. Dr. Whipple plans to teach the GUI portion of the seminar as well as coordinating the program.

Location and Times

The seminar will be given at New York Institute of Technology, Central Islip. It will meet Saturday mornings 9-12 noon unless weather prevents holding a session; in that case a session will be held Monday, April 1, 6-9 p.m. A light refreshment will be provided immediately prior to each session.

Registration

Make checks payable to IEEE Long Island Section and mail to Walt Whipple, 4 Deera Lane, Farmingville NY 11738-2296. Include mailing address, phone number, FAX number, and internet address. The seminar fee is:

Payment		IEEE members[2]		
Date	Public[1]	member	student/life[3]	unemployed[4]
Jan 31	$300	$200	$125	$100
Feb 14	$350	$250	$175	$150
Feb 24[5]	$500	$400	$325	$300

Notes:

[1] Includes one year IEEE Associate Member dues for those who submit an application at the seminar.

[2] 1996 membership card required at first session. Not applicable to Affiliate members.

[3] Includes undergraduate students of NYIT with current ID.

[4] Must be registered in EAC Job Skills database by December 31, 1995.

[5] Includes registration/payment at the first session.

SAFELY RECLAIM OLD ELECTROLYTICS

by: John Dunn
181 Marion Avenue Merrick, NY 11566
Tel.: (516) 378-2149

Old aluminum electrolytic capacitors that have been unused for a very long time require that any re-application of DC voltage take place very slowly. Or else! In other words, you have to apply a very low DC voltage at first and then very gradually raise the applied voltage until you finally arrive at the device's voltage rating.

An adjustable DC power supply and series resistor can be used for this, *if* you just happen have on hand a power supply capable of suitable output voltage. However, maybe you *don't* have such a power supply handy since many electrolytics for off-line switch mode supplies are rated at multiple hundreds of volts.

A better set-up for electrolytic re-formation is the circuit shown in *Figure 1* in which C2 is the capacitor undergoing treatment.

The value of capacitor C1 is made very, very, very small compared to the value of C2. The result is a very, very, very slow rise time of the voltage across C2 when input voltage is applied from the variable autotransformer. For example, if C2 is 14,000 uF and C1 is only 0.1 uF, the voltage across C2 will rise with a time constant of approximately *fifteen minutes*.

The really nice thing about this slowness is, you don't need quick reflexes to guard against capacitor voltage overshoot. Every few minutes or so, you inch the autotransformer up slightly and let the capacitor voltage climb slowly and safely.

Also, from a personal safety standpoint, if C2 should fail and short itself out, there is no risk of excessive input line current since the line frequency impedance of C1 is very high.

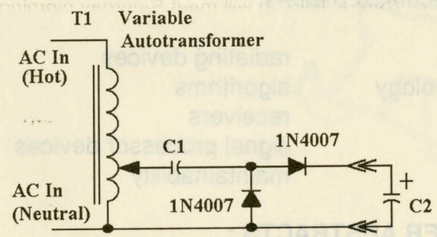

Figure 1: Aluminum Electrolytic Re-formation Set-Up

STUDENT LAB EQUIPMENT

The Long Island IEEE Section is asking for the assistance of Long Island companies in donating equipment for distribution to the IEEE Student Branches.

Talk to most engineers and they will tell you that they got started in electrical engineering by experimenting with small circuits on their own. Today's students are at a disadvantage because they do not have easy access to the equipment they need. Designing, building, and testing circuits is an important part of the development of a good engineer. It teaches the practical considerations that an engineer has to keep in mind when working on his/her designs. Today's students do not have that option.

This is why we need companies to donate equipment, which would otherwise be unused, to the Long Island IEEE. Having lab equipment available to IEEE Student Branches will help give students the hands-on experience they need when they have the time or the desire. It would help students working on design projects, as well as extracurricular projects run by IEEE Student Branches.

Today's students will be tomorrow's engineers. Companies have the opportunity to invest in the future of engineers by simply donating equipment to the IEEE. Unused equipment is a worthwhile investment for good engineers tomorrow.

With this program, equipment will be donated to the following schools: Polytechnic University (Farmingdale Branch), SUNY at Stony Brook and Hofstra University. For more information, or to make donations, please contact: Chakib Jaber, Long Island Section Student Activities Coordinator by phone at 516-272-5774 or by E-mail at cjaber@li.net

ENGINEERS WEEK CELEBRATION

sponsored by

Metropolitan Engineering Societies Council

Reservations Required
$25 Advance Fee (Post marked by February 7, 1996)
Date: Tuesday, February 20, 1996
Time: Buffet, 5:30-7:00 PM; Program, 7:00-9:00 PM
Where: United Engineering Center, 345 East 47th St., New York, NY
Title of talk: "*The Role of the Engineer as a Leader in This Century and Beyond*"
Keynote speaker's name: Eugene Fasullo, Chief Engineer (Ret.) of The Port Authority of NY & NJ
Registration: Advance fee $25 per person (if post marked by February 7, 1996), $35 per person if mailed after February 7.

Please mail your check, made payable to "Metropolitan Engineering Societies Council", with the form below to:
Fred Ebel, M&M Protection Consultants
1166 Avenue of the Americas, 37th Floor
New York, NY 10036

February 20, 1996 Engineer's Week Celebration
Fee Enclosed _____ Tel. #_____
First name_____ Last name_____
Company_____
Street_____
Room_____
City_____ State_____ Zip_____

For additional information, contact j.p.barbera@ieee.org

ELECTRO '96

ELECTRONIC CONVENTION AND ELECTRONIC PRODUCTS EXHIBITION

Garden State Convention Center, Somerset, New Jersey

CALL FOR TUTORIALS, PANELS OR TECHNICAL PAPERS

April 30 through May 2, 1996

The IEEE, ERA, Region 1, METSAC, and CNEC are sponsoring **ELECTRO '96**. The Technical Program's objective is to disseminate theoretical, technological, and practical knowledge in five current fields of activity. In addition to the technical field, we hope to have a full day of business presentations. The program is designed to cover a broad range of topics of interest to the engineering and scientific community. These sessions will have more impact because they will mirror the technology center exhibits on the floor show. This show will provide participants an excellent opportunity to discuss state of the art advances in technology and current market products.

FIBER OPTICS, WIRELESS TECHNOLOGY, TELECOMMUNICATIONS, BIOMEDICAL, DIGITAL SIGNAL PROCESSING, BUSINESS ISSUES

The complexity of todays and tomorrows systems and products require sophisticated methods, materials, techniques, modeling and simulation programs. Commercial application impose completely different environments in which equipments must operate. Evolving technologies provide the design engineer fascinating flexibility to improve systems and product performance. The technical program committee is looking for tutorials, panel discussions and technical presentations in the following areas for each of the five technical themes:

system architecture	system modeling	radiating devices
Signal processor architecture	microwave technology	algorithms
operating environment	software	receivers
Integrated circuit technology	diagnostics	signal processor devices
self test	reliability	maintainability

☆

TUTORIAL, PANEL, SESSION PROPOSALS OR PAPER ABSTRACTS :

Technical abstracts should be limited to 300 words including the paper's title and stressing results, conclusion, significance of the work and be accompanied by full name(s) of the author(s), with affiliation(s), contact telephone and fax number(s). Papers that miss deadlines may be dropped from the program.

January 15, 1996	Mail abstract to Electro '96, Eduardo Palacio 2541 Hyacinth Street, Westbury, New York, 11590
February 1, 1996	Corresponding author will receive notice of acceptance or rejection
April 1, 1996	6 page camera ready manuscript, brief biography and author's black and white photo

INFORMATION:

Eduardo Palacio 516-595-3807 or Fax 516-595-5366 or eMail Palacio@itmv02.ail

John Pierro 516-595-3767 516-595-4368