MULTIMEDIA REQUIREMENTS AND RESOURCES
FOR ELECTRICAL ENGINEERS
A LONG ISLAND SECTION SPONSORED SEMINAR

Who: Charles Rubenstein, Ph.D.; Director,
Pratt Institute CD-ROM Lab

Where: 6 PM - 9 PM at AIL Systems Inc.,
Commack Road - Deer Park

When: Wednesdays; April 12, April 19, April 26, and May 3, 1995

The seminar’s first session, “Introduction to Multimedia”, is a general purpose overview of what a minimum multimedia system consists of and how to upgrade your PC compatible to multimedia. Demonstrations of databases and multimedia titles of interest to engineers will be presented. (Also available as a single session.)

Session two will review and demonstrate more fully the technical differences between multimedia graphics, sound and animation elements and the CD-ROM disk standards that define minimum data transfer rates.

Session three will review and demonstrate the various steps and software tools needed to develop a plain ASCII text “electronic book”, a searchable text database, and a multimedia production.

Session four will highlight the use and licensing problems of full multimedia authoring tools and review the equipment needed for mastering and prototyping CD-ROMs in your own computer lab.

Charles Rubenstein earned his doctorate in 1980 from the then Polytechnic Institute of New York and an MS in Library and Information Science from Pratt Institute in 1993. He is a tenured associate professor of engineering and information science at Pratt where he teaches graduate classes in the technology of information storage and retrieval, online and CD-ROM production.

As Director of Pratt Institute’s CD-ROM Laboratory, Dr. Rubenstein is responsible for upgrading and maintaining the School of Information and Library Science (SILS) computer facilities at the Puck Building in Soho and at the main campus in Brooklyn. Each SILS PC is a stand-alone or networked workstation for text and multimedia information search and retrieval of CD-ROM databases. Several systems are also connected via modem to the internet and commercial database providers.

<table>
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<tr>
<th>Registration</th>
<th>Full Seminar</th>
<th>1st Session only</th>
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<tr>
<td>IEEE Members</td>
<td>$250</td>
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<td>Students and Unemployed IEEE Members</td>
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<td>Non-Members</td>
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(*Text: Microsoft Multimedia VIEWER HOW-TO CD;
The Waite Group, 1994, $40)

(**Non-Members that join IEEE at this seminar pay at the IEEE member rate.)

For registration, please contact Ed Palacio, 595-3807 by April 1, 1995. Only the first 26 applicants will be accepted.

ADVANCED DIGITAL TECHNOLOGIES

A new company focused on spread-spectrum, code-division multiple-access wireless technology has immediate openings for the following types of engineers:

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Donald Grieco, V.P. Engineering
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2001 Marcus Avenue, Suite 205
Lake Success, NY 11042

You may also fax to 516-488-8175
CHAIRMAN'S MESSAGE
by Ed Palacz

This month's Pulse covers a lot of activities that you should be interested in participating in. As you can see, we will be running a course on Multimedia Requirements and Resources for Electrical Engineers. I have been lucky enough to talk to Dr. Rabinstein (a Long Island Section member) into starting a course together for METSAC Sections and I'm pleased that we can run this course on Long Island. Only the first 26 applicants will be accepted, so sign up early to secure your spot.

I have recently been informed by Bob Hong, our Signal Processing Chapter Chairman, that we have been fortunate to get an IEEE distinguished lecturer, Dr. S.Y. Kong, to come to Long Island to speak on the application of "Neural Networks for Artificial Eyes" (restoration of sight to the blind). We are tentatively scheduling this talk for April 13th, at the Polytechnic Institute in Farmingdale. Please make sure that you take advantage of this event, as it is not often that we can get such a distinguished source to travel in for a talk. This is a special night that should not be missed. More information will appear in the April Pulse.

One of the most pleasant events run by this Section is the Annual Awards Banquet. Information concerning the where and when the and the when can be found in this issue, as well as information concerning the awards for their achievements. If you have that Sunday open, consider joining us for what could be a great a gala event.

The Long Island Section prides itself in running professional activities programs that directly benefit our members. One such program is run by our Employment Assistance Committee. I am happy to announce that our Executive Committee unanimously voted to provide advertisement space at a significant discount (40%) to any corporation that has job openings directly applicable to our membership. We are essentially charging for the line that you are printing, and making no profit on these types of advertisements. This offer is limited to this month.

I was pleased to see your response to our request for volunteers to give talks to our student branches. To date, nine speakers have been lined up, covering a multiplicity of topics, from how to become a consultant to wireless communications, from technical writing to principles of electronic countermeasures. We are still in need of working engineers who can serve as mentors to our Student Branches. Please contact Chahk Ibari if you can provide this important service.

Lastly, as I discussed a few issues ago, our Section is in dire need of new blood in our Chapters. The current Chapter Chairs have served for too long and are asking for replacement. We need people who want to assume leadership positions in our Computer, Antenna and Propagation, Microwave Theory and Techniques, Laser and Electro Optics, and Aerospace Electronic System Chapters. If you can give some of your time to this type of technical activity, you can significantly impact and benefit our membership. Please consider getting involved in your Society activities.

ANNUAL AWARDS BANQUET

The Long Island Section will hold its 1995 Awards Banquet on April 30, 1995, at the Huntington Hilton, between 12:30 and 5:00 p.m. The Banquet is held in honor of our 1995 Fellows, Section and Region 1 awards recipients. This affair is open to all members and guests, at a cost of $30.00 per person.

Al Lopez, the LI Section Awards Committee Chairman, announced this year's recipients for the following major LI Section awards. The recipients are:

- Groomwald Award: Stephen A. Barre

- For his efforts and accomplishments in unifying, developing and promoting Long Island technology.

- Charles J. Hirsch Memorial Award: Christopher P. Kaiteris

- For significant contributions to the development of an advanced electronic-scan multi-function adaptive radar system.

- Harold A. Wheeler Award: Dr. Jerome Swartz

- For outstanding management and technical leadership and to the contributions to the theory and practice of optoelectronics.

- Outstanding Young Electrical Engineer Award: Kenneth R. Apperle

- For the development and marketing of FCTG, a mailing of personal computers and video information.

- Outstanding Student Branch: The Polytechnic Institute-Farmingdale

- For outstanding work in fostering student membership and activities.

- Outstanding Corporate Sponsor: AIL Systems Inc.

- For outstanding commitment and support to the Long Island Section Activities.

If you are planning to attend, please send your check made out to the Long Island Section of the IEEE, by April 10th, to:

E. Palacz
2541 Hyacinth Street
Westbury, NY 11590

The PULSE of Long Island
2 March, 1995

LONG ISLAND IEEE CALENDAR

(March 1 - Fee Setting for Consultants, by Ed Dowdell, EDFEC Advisory Services - LI Consultants Network - 7:00 PM - LILCO Training Center, 121 Hoffman Lane, Hauppauge - for info, call Stewart Senator at (516) 654-1426.

MARCH 15 - Employment Assistance Committee - 7:00 PM - IEEE Office. For information, call Harvey at (516) 595-5608, or Tibb at (516) 595-5160 or 595-5170.

MARCH 16-20, APRIL 15, MAY 20, JUNE 17, 1995 - FCC Commercial License Exams - The Long Island Section - See article in this issue for further information.

MARCH 22 - "Speakesky Multi-band Multi-mode Radio" - Communications Society - A talk by Patrick Tilley - 6:00 PM - at Brookline Polytechnic in the auditorium (see article in this issue).

MARCH 25 - "Diawbling Problems With Smoke and Elderly Patients" - EMBS - A talk by Jonathan E. Aviv - 7:30 PM - Rockefeller University, Tower Building, Room 305, 1200 York Avenue, New York City. The entrance gate is on 66th Street, and free parking is provided. For further information, please call Joel Levitt at (718) 891-6400, or Andrew or Susan Bas at (516) 678-6550.

MARCH 28 - EXCOM meeting at 6:00 PM - IEEE office at AIL.

APRIL 12, APRIL 19, APRIL 26, MAY 3 - "Multimedia Requirements and Resources" - A Long Island Sponsored Seminar. For further information, see article in this issue.

APRIL 28 - Long Island Wireless Forum - The center for Advanced Technology in Telecommunications, Polytechnic University, Brooklyn, NY (see article in this issue).

APRIL 30 - Annual Awards Banquet - 1:30 PM to 5:00 PM - at the Huntington Hilton Hotel (see article in this issue).

JUNE 1 - Call for Papers - 1995 Wireless Communication Systems Symposium (Wireless Trends in the 21st Century). See article in this issue for deadlines and paper content. For further information, please call Donald Grieco, Technical Program Chair at (516) 773-1900 or Dr. Nader Bolourchi, General Chair at (516) 686-7863.

The PULSE of Long Island
3 March, 1995

PULSE Deadline for May
March 31

Report All Address Changes
To
The PULSE of Long Island
PHONE: (516) 681-0710
107 RIM LANE
HICKSVILLE, NY 11801-6147

PULSE DEADLINE

MARCH 31

The Consultants Network of LI maintains a referral service of Engineering, Computer, Managerial and Technical Professionals. Call or write for more information. There is no charge to the client for this service.

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THE DEXTER CORPORATION

FERRMI-A
PAC REPORTER
by Irwin Weisman

Last month I discussed the state of the Long Island econo-
y and some of my thoughts about what needs to be done
to fix it. At this writing it is too soon for me to have rece-
ved any comments on my last month's report. I would like to
hear from any readers if they have any suggestions or dis-
grading with me. I would like to report that the committee
to look into the state of the Long Island business and em-
ployment situation has met twice and we are making progress.
The emphasis in the early meetings is to see if we have a
basis for agreement on what the appropriate action to get Long Island back on the growth road.

You might ask why is IEEE involved in such a non-engi-
neering problem? My answer is that everyone is talking about
it but doing very little. Once we nail down what needs to be
done, what can be done, and set an order of priority we will
try to work with existing Long Island organizations to MAKE IT HAPPEN.

On the hope of the project lends itself to the type of project
view that members of the IEEE community can effec-
tively bring to bear. We intend to MAKE IT HAPPEN. The
entire range of interests in our society must be considered
and included. If any of you have contacts that might be
will ing to help us, contact the committee. In order to succeed, we
must include business, academia and politicians.

If you have not read about it anywhere else, Joel Snyder
(who lives in Plainview) is now Chairman of the United
Engineers and Electrical Consultants (UEEC) with the
member of IEEE. I know we can count on Joel to bring requests that
will help IEEE and the Long Island Section to the executive board.

I am no longer Chairman of the Alliance of IEEE
Consultants' Networks. Three years as Chairman of AIN
PPTF is enough and it was time for my vice chairman, Stu Levy, of Philadelphia to be Chairman. I still remain
a member and representative of the IEEE Consultants
Network of New York (ECNNY) and LORAL (Microware-Narda).

The Consultants' Network meets at 7:00 pm, the first
Wednesday of each month at the LILCO, J.W. Dry Training
Center at 131 Hoffman Lane South in Hauppauge. We have
very interesting speakers at most of our meetings, which are
open to the public. The subject of the March 1, 1995 meeting
will be fee setting. Our speaker will be Ed Dowdell, a retired
business executive (and first rate engineer). He will discuss
how companies reckon fees and apply them to bids and pro-
ject costs. We encourage you to attend.

The J.W. Dry Training Center can be reached by getting
off the eastbound L.I.E. at the Veterans Memorial Highway exit (# 57) and proceeding on the service road eastbound.
Here you will see the entrance to the Hoffman Lane
south (last street before Vets Hwy). Make a right and LILCO
is on the left about 1000 feet south. If the gate is closed and
no guard is there, push the button by the card reader, look
at the camera and speak to the guard.

STUDENT ACTIVITIES
As a reminder, the articles published under student activities are intended for information purposes only.

Student Branch - State University of New York (SUNY)
at Stony Brook

Hawaii: Robert Pang, and edited by John Byrne

In September, the Executive board of the IEEE student branch at SUNY Stony Brook met in one of our bi-weekly meetings. The main topic of discussion was how we were going to approach the student branch enrollment number. There were several ideas that were discussed throughout the meet-
ing. As the meeting progressed, we seemed to narrow down the idea of having students' membership to one thing: active membership.

Initially we had membership drives that consisted of handouts explaining what the IEEE is all about, and how being part of this professional society will benefit you. This method of membership enrollment has proven to be very effective. From this point, the members that are conceived may be directed into two categories: active and inactive. This is the point that we, the board members, feel is the turning point or, more familiarly, to engineers, the small diamond in our flow charts. At this point, it is up to the student branches to manipulate to a more desirable outcome. It is our goal as a student branch to become more active since active student branch membership numbers are several ways to facilitate our goal; some of them being regularly scheduled meetings, plant trips, discussions/forums, and services for our student members.

In our particular student branch, we hold meetings approximately once a month. This benefits both the board and the members. For example, ideas that come up during our monthly meetings are sometimes very useful. But when we unveil them at the general meetings, we sometimes find that they are not in the majority. Meetings allow us for a chance for prospective members to see and view our student branch.

Our next method of facilitating our goal is to have plant trips to local industry. This semester, we planned and execu-
ted a trip with the cooperation of LORAL (Microware-Narda), located in Hauppauge.

Trips such as these allow students to view the actual engineering process at work, and work coincidentally with our PSU students. We would love to have our local industry 

LORAL (Microware-Narda) and the following: Anthony Carragio, John Muzu, Henry Perez, Anthony Boehm, Bill Necchi. We have spoken three times to our students and informative to all that attended. We were also lucky to have our Long Island Section Student Activities Coordinator sitting in on one of our meetings. The speaker, Mr. Chakri, also prepared a wonderful presentation on Job options after grad-
uation. The input that I received after Chakri's presentation is a very helpful and probably the best.

An active IEEE student branch is vital to the student population as a tool that helps us make the transition from student to engineer. After that transition, those members will continue to be active IEEE members and will always be related with IEEE. Remember, an organization is only as strong as its members. The strength and motivation of our student members are the heart and soul of the industry from where our IEEE student branch is a success.
LONG ISLAND WIRELESS FORUM
Sponsored by the Center for Advanced Technology in Telecommunications, Polytechnic University, Brooklyn, New York, USA.

SCOPE
One hundred years ago, Marconi began his now famous series of radio transmission experiments. Within the last 10 years we have seen the production of cellular mobile radio telephones. In 1995, we will see the start of Personal Communication Services. These recent applications will generate an enormous surge in the development and commercialization of wireless technology that will result in universal access to the radio spectrum that Marconi first opened 100 years ago.

Long Island possesses the technology infrastructure to make major contributions in opening the radio spectrum to the public. We will discuss the attention of the Long Island community on future opportunities in wireless, Polytechnic University is sponsoring a day-long review of wireless activities on the Island. Representatives from various Long Island companies involved in wireless will discuss the technology developments now going on. Plan to spend Friday, April 28, 1995 at the Long Island Campus of Polytechnic University (Route 110 in Farmingdale). Meet your colleagues in wireless and catch the fever.

FORMAT
The forum will include a plenary speaker, and invited talks by speakers from Long Island industry and universities. A roundtable discussion of business opportunities will also be held.

REGISTRATION FEE
A registration fee of $80 will cover attendance, lunch and copies of the transparencies.

PARTICIPANTS
Long Island companies and Universities that will participate in the technical sessions and the pane discussion includes:

- Hazeline
- Advanced Digital Technology
- Symbol Technologies
- LNR
- Spectrum Information Technologies
- Telephones
- Frequency Electronics
- Interdigital
- SUNY at Stony Brook
- Polytechnic University

For further information, please contact:

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Leandros Tassalias, Assistant Professor of Electrical Engineering
Polytechnic University
2 MetroTech Center
Brooklyn, NY 11201 USA
Tel.: (718) 260-3511, Fax: (718) 260-3074

30 YEARS AGO
By Rod Lowman (Historian)
The Fellows Awards presentation held at the Garden City Hotel recognized four new Fellows of the IEEE from the Long Island Section. This acclaim was awarded to William F. Schoewe, Walter D. Longtin, John F. Ramsey for their contributions to the microwave fields and to Walter Lyons for his work in communications. Major developments in color TV had brought fellow recognition to local members. Microwave and communications were the “hot areas” of the day, while computers were not all-encompassing. Amazing how many of these things are. After 30 years, the hot areas are again microwave and communications. It seems likely that the next hot area will be a combination of them, perhaps with a 15 year return of the computer in the interactive HDTV coupled with a home communications center. If this turns out to be the case, just tell people you saw it first in The Pulse.

SPEAKEASY MULTI-BAND, MULTI-MODE RADIO
The Communications Society will host a talk by Patrick Tilley on Speakeasy Multi-Band Multi-Mode Radio on March 22, 1995, at 6:00 PM at Brooklyn Polytechnic. The Speakeasy tri-service program’s objective is a compact multi-band radio that is interoperable with a number of currently fielded radios, enabling networking, enabling connectivity and joint/combined communications interoperability. It features a flexible, open, modular-interchange architecture tailor made for various ground mobile and fixed operating environments and facilitates communication flexibility and functional expansion. Life cycle costs will be reduced by (1) maximizing module commonality, (2) enabling waveform adaptations (automated software download), and (3)eventually replacing the support costs multiple single-channel radio systems with that of a single system.

The Phase I concept exploration program is in the final stages of completion with the Phase II program scheduled to begin in fall 1995. Mr. Tilley received a BSEE degree in 1980 and an MSEEE degree in 1985 from the State University of New York at Stony Brook. Since 1980, he has been with Hazeline, a daughter of the Corporation of Greenlawn, NY, where he is a senior systems engineer within the Advanced Development Center. He is also the lead systems engineer for the Speakeasy multi-band multi-mode radio program. His past experience has included APL/PRI signal processing and systems, microwave landing systems, and distributed communications equipment for commercial power utilities.

EDITOR’S NOTE
As indicated in the Chairman’s message, we have a new policy regarding advertisement rates. As an inducement for employers to advertise in The Pulse, we are offering a 40% discount on employment advertisement listings for which our members apply. This is a great opportunity for companies to reach their targeted audience. If you have any questions about advertising in The Pulse, please let me know.
THE PATENT CORNER

by Victor M. Serby, P.E

The Patent Application

After it is determined that an invention falls into one of the statutory categories and it is not barred under 35 USC §102, or 35 USC §103 (obviousness), the next step toward obtaining a patent is the filing of a complete patent application. Q. What are the parts of a complete application?

A. A complete US patent application consists of:
   1) A specification including a claim; and
   2) An oath or declaration; and
   3) The prescribed filing fee; and
   4) Drawings (when necessary); and
   5) A Verified Statement (if the filing entity is claiming small entity status); and
   6) An abstract of the invention.

By statute (35 USC §112), "[t]he specification must contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is mostly connected, to make and use the same, and set forth the best mode contemplated by the inventor of carrying out his invention. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

A patent application may be rejected or an issued patent held invalid if the specification does not conform to the law. If those skilled in the art are not fully informed on how to make and use the invention, the application will be rejected for a non-enabling disclosure. Likewise an issued patent may so be held invalid. Patents have been held invalid when an inventor keeps his “best mode” secret, but discloses another mode in the patent application. This is because the patent system is predicated on the fact that the government will grant a monopoly for 17 years in exchange for a full (not partial) disclosure so that at the end of the monopoly period, the public may freely make, use and sell the invention. The patent rules dictate the exact format of the specification.

If a patent is thought of as property, an analogy exists between the claims and the metes and bounds for a parcel of real property. A parcel of real property may be known to everyone as 123 Main Street, but such a designation does not exactly define the property lines. The property's legal boundaries are listed as the metes and bounds on the deed and these can be used to differentiate an owner's land from the land of another. Similarly, while the text of the specification is analogous to an address, it is the claims which legally differentiate one invention from another. The message is clear. If the claims are drafted too broadly and encompass prior art, then they will be rejected or held invalid. If the claims are drafted too narrowly, then one who makes, uses or sells the invention stated in the specification may not be legally infringing the patent.

Future columns will further explore parts of a complete application. Unfortunately, the Patent Office, citing cost, is no longer providing public access to their online patent database (APS) at designated depository libraries. I therefore can no longer supply lists of LI inventors and companies that recently received patents. I will, therefore, devote future columns to substantive and procedural patent law.

Address questions, comments, or topic requests for this column to me at 255 Hewlett Neck Rd., Woodmere, NY 11598.

IEEE LONG ISLAND SECTION

1995 WIRELESS COMMUNICATIONS SYSTEM SYMPOSIUM

"WIRELESS TRENDS IN THE 21ST CENTURY"

NOVEMBER 28 & 29, 1995

CALL FOR PAPERS

The IEEE Long Island Section invites prospective authors to submit papers addressing topics of interest for presentation at the 1995 Wireless Communication Systems Symposium. The theme of this symposium reflects the most recent wireless trends all over the world.

Papers submitted for consideration should emphasize a system engineering prospective. The symposium will cover all aspects of wireless technology, including mobile radio, personal communication networks, wireless PBX, mobile data, wireless LANs, IVHS, and mobile satellite services. Examples of topics of interest include, but not limited to, the following categories:

- System Performance Methodologies
- Propagation Models
- Modulation and Coding
- Multiple Access Technologies
- Security and Privacy
- Antenna and RF Subsystems
- VLSI and ASIC Design
- Experimental Trials
- Network Signaling
- Services and Standards
- Intelligent Networks

Contributors should submit a 500-word abstract including authors’ names and affiliations. The summary should indicate which author is responsible for the symposium correspondence, and the address, telephone and facsimile number of that author.

Schedule

Notice of intent and abstract due: June 1, 1995
Notification of acceptance sent: July 15, 1995
Camera-ready paper due: October 1, 1995

Submission Addresses

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