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INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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.

Registration	Full Seminar	1st Session only (No Text*)
IEEE Members	\$250	\$75
Students and Unemployed IEEE Members	\$200	\$50
Non-Members	\$350(**)	\$100

(*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.

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CHAIRMAN'S MESSAGE

by Ed Palacio

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. Rubenstein (a Long Island Section member) into putting this 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 guarantee a 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. Kung 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 the when can be found in this issue, as well as information concerning the awardees for their achievements. If you have that Sunday open, consider joining us for what continues to be a great affair.

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 the corporation our cost and making no profit on these types of advertisements. One such advertisement is included 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 Chakib Jaber 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 1:30 and 5:00 PM. The Banquet is held in honor of our 1995 Fellows, Section and Region 1 awards recipients. This affair is open to all members and one guest, at a cost of \$10.00 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:

Gruenwald 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 unattended electronic-scan multi-function adaptive radar systems."

Harold A. Wheeler Award: Dr. Jerome Swartz

"For outstanding management and technical leadership and for the contributions to the theory and practice of electro-optics."

Outstanding Young Electrical Engineer Award: Kenneth R. Aupperle

"For the development and marketing of PC/TC, a melding 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."

The Long Island Section extends its congratulations to all of our awards recipients.

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. Palacio
2541 Hyacinth Street
Westbury, NY 11590

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Address All Correspondence to:

PULSE EDITOR
Kenneth Mas
195 N. Wisconsin Avenue
N. Massapequa, NY 11758
(H) (516) 293-1683 (O) (212) 290-4285

TYPESETTING & MAILING

MSF Electronics
107 Rim Lane
Hicksville, NY 11801
(H, O & FAX) (516) 681-0710

The **PULSE** of Long Island is published monthly except July and August by the Institute of Electrical and Electronics Engineers, Inc. Headquarters: 345 East 47th Street, New York, NY 10017-2394. \$1.00 per member per year (included in annual dues) for each member of the Long Island Section. Second class postage paid at New York, NY, and at additional mailing offices. Postmaster send address changes to IEEE PULSE, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. (USPS 450-540).

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

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LONG ISLAND IEEE CALENDAR

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

MARCH 1 — *Fee Setting for Consultants*, by Ed Dowdell, EFDEC Advisory Services - LI Consultants Network - 7:00 PM - LILCO Training Center, 131 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 Tish at (516) 595-5160 or 595-5170.

MARCH 18, 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 — "Speakeasy Multi-band Multi-mode Radio" - Communications Society - A talk by Patrick Tilley - 6:00 PM - at Brooklyn Polytechnic in the auditorium (see article in this issue).

MARCH 25 — "Swallowing Problems With Stroke 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) 891-6460, or Andrew or Susan Baxt at (516) 678-6563.

MARCH 27 — EXCOM meeting at 6:00 PM - IEEE office at AIL.

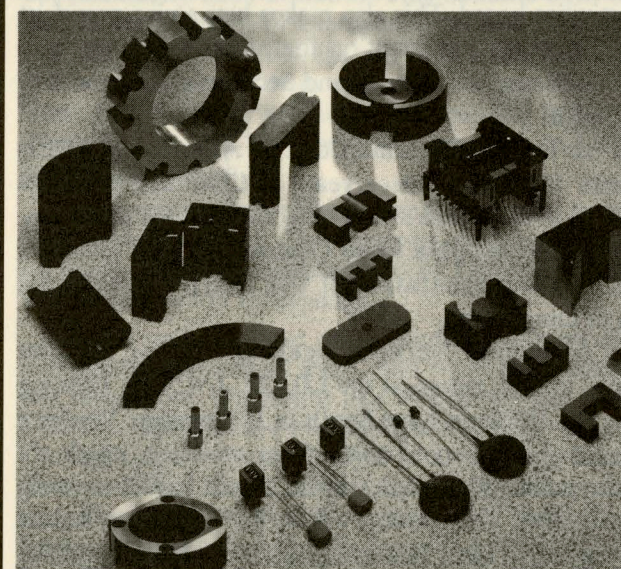
APRIL 12, APRIL 19, APRIL 26, MAY 3 — "Multimedia Requirements and Resources" - A Long Island Sponsored Seminar. For further information, see article in this issue.

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.

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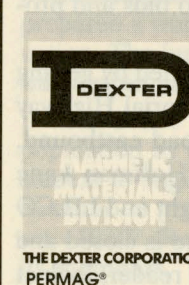
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EMPLOYMENT ASSISTANCE COMMITTEE IEEE RESOURCES

By Harvey Altstadter

In addition to our local EAC effort, our national parent organization provides some good resources for the job hunter. I have spoken of the job listings that I download from the Internet and circulate at our meetings. These listings come from the IEEE - USA Job Listing Service which is available from the Internet. For those of us who have access to Internet E-MAIL, either directly or through an online service such as Compuserve or America Online, the files can be retrieved at: info.ieeeusa.jobs.r01@ieee.org. If you want the listings for another part of the country, change the r01 to the appropriate region number. At our January meeting we passed around the listings for Regions 1 and 2. These listings comprised a total of 90 pages. Use of this service is FREE.

The IEEE also provides access to a low cost job referral service, Job Bank USA. There is a \$48.40 charge for the computerized resume matching service. To enroll, call 1-800-296-1872.

Three books are available from the IEEE. The first is "EMPLOYMENT GUIDE for Engineers and Scientists." The usual member price is \$14.95, but this two-volume set is available FREE to unemployed IEEE members. A student edition is also available. Unemployed members may call 1-202-785-0017, others call 1-800-678-IEEE (order #UH1883). The second book, which should be of interest to recent graduates is "MANAGING YOUR FIRST YEARS IN INDUSTRY: The Essential Guide to Career Transition and Success." The member price for this book is \$17.50, it can be ordered by calling 1-800-678-IEEE (order #PP3707). The third book is a collection of papers from the IEEE-USA's careers and PACE conferences. This book is called "CAREER ADVICE FOR ENGINEERS IN THE 1990s," and is available at the member price of \$4.95. Order UH1974 from 1-800-678-IEEE.

Although not related to the job search, the IEEE does provide a 50% dues reduction for renewing members who have become unemployed by involuntary termination. Call 1-800-678-IEEE.

At our January meeting we viewed the first half of an IEEE supplied video tape called "How to Get a Better Job Quicker." The material covered so far goes a long way to reinforce the material provided on the SkillStalker video we viewed a few meetings back. We will complete this video at our next meeting, and then continue to view the SkillStalker series of videos over the next few meetings. This material has provoked a good deal of interesting discussion, and is worth seeing.

If you have not yet joined our Skills Inventory Database, please get in touch with us. The job matching service is available to current and recent local IEEE members. We also have IEEE membership applications if you or your friends should need them.

EAC meetings are held on the third Wednesday of each month at the IEEE offices at AIL in Deer Park. Won't you join us at our next meeting on Wednesday, March 15, 1995 at 7:00 PM. **Our meetings are open to all, but you will not be allowed into the AIL building unless you register in advance.** Call Harvey at (516) 595-5608 to register and for directions or for information about becoming a member of our skills database. For information about joining the IEEE, call Tish at (516) 595-5160 or 5170.

PACE REPORTER

by Irwin Weitman

Last month I discussed the state of the Long Island economy 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 received any comments on my last month's report. I would like to hear from any readers (if there are any) agreeing or disagreeing with me. I would like to report that the committee to look into the state of the Long Island business and employment situation has met twice and we are making progress. The emphasis in the early meetings is to see if we have a basis for mutual agreement on what we believe is the appropriate action to get Long Island back on the growth road.

You might ask why is IEEE involved in such a non-engineering 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.

The scope of the project lends itself to the type of project view that many members of the IEEE community can effectively 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 willing to help us, contact me. For our efforts 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 States Activities board. This also makes him a vice president 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 of IEEE.

I am no longer Chairman of the Alliance of IEEE Consultants' Networks. Three years as Chairman of AICN and 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 Long Island.

The Consultants' Network meets at 7:00 PM, the first Wednesday of each month at the LILCO, J.W. Dey 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 project costs. We encourage you to attend.

The J.W. Dey 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. Hertz-Pensky is on the Southwest corner of 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

Written by Robert Pang, and edited by John Byrns.

In September, the Executive board of the IEEE student branch at SUNY at Stony Brook met in one of our bi-weekly meetings. The main topic of discussion was how we were going to increase our student member enrollment. There were several ideas that were discussed throughout the meeting. As the meeting progressed, we seemed to narrow down the issue of increasing student 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 familiar to engineers, the small diamond in our flow charts. At this point, it is up to the student branches to manipulate a more desirable outcome. It is our goal as a student branch to become more active since active student branches lead to active members. There 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 weekly board meetings are sometimes very promising. But when we unveil them at the general meetings, we sometimes find that they are not in the majority favor. Meetings also give 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 executed a trip with the cooperation of LORAL (Microwave-Narda), located in Hauppauge.

Trips such as these allow students to view the actual engineering process at work, and work coincidentally with our education. We would like to express our gratitude to LORAL (Microwave-Narda) and the following: Anthony Carnagio, John Mruz, Henry Perez, Anthony Boemio, Bill Newbauer, and John Crawford for making our trip successful and informative to all that attended. We were also lucky to have our Long Island Section Student Activities Coordinator himself as one of our many guest speakers. Mr. Chakib Jaber prepared a wonderful presentation on Job options after graduation. The input that I received after Chakib's presentation was very emphatically positive.

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 grow both in their careers and their relationship with IEEE. Remember, an organization is only as strong as its members. The strength and motivation of our student members and those helpful members from industry are why our IEEE student branch is a success.

FEDERAL COMMUNICATIONS COMMISSION COMMERCIAL LICENSE EXAMINATIONS

Exams for FCC commercial licenses are being offered by the Long Island Section as a service to its members and the LI technical community as a whole. The costs associated with these licenses are solely for administrative fees required in the process.

Exams for the following licenses are now available:

CLASS	ELEMENTS REQUIRED
Marine Radio Operator Permit	1
General Radio Telephone License	1,3
Global Maritime Distress & Safety System Operator	1,7
Global Maritime Distress & Safety System Maintainer	1,3,9
Ship Radar Endorsement	1,3,8

Radiotelegraph operator exams (elements 5 & 6) are now available. Extra Class Amateur Radio Operators will be given credit for the CW (Morse code) requirement. CW exams at 16 and 20 wpm are expected to be available in the future.

There is presently no FCC fee for the General Radiotelephone License, which is a lifetime license. All exams require a \$35 administrating fee. In addition, term renewable licenses now require a \$7 per year FCC fee.

Exams are scheduled to be given on Long Island at: NEW YORK INSTITUTE OF TECHNOLOGY, CENTRAL ISLIP CAMPUS, Building 66, Room 105, at 1:00 pm on the following Saturdays: March 18, 1995, April 16, 1995, May 20, 1995 and June 17, 1995. For study material, registering for exams, or any other exam information contact:

Bob Wexelbaum, W2ILP

Chief Commercial Examiner and Test Center Manager
Phone: (516) 499-2214

These exams are given by the authority of a Commercial Operator License Examination Manager (COLEM) who is officially authorized to coordinate FCC exams. Our COLEM is:

National Radio Examiners Division The W5YI Group, Inc. P.O. Box 565206, Dallas, Texas 75356-5206

In addition, Mr. Wexelbaum will also administer FCC amateur radio exams for all classes of Ham licenses, in conjunction with the Grumman Amateur Radio Club. These exams are given at a different time and location. Call or write to Mr. Wexelbaum if you are interested.

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Contact L. Zuckerman

THE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY (NY/North J/LI Chapter)

The Engineering in Medicine and Biology Society (NY/North Jersey/LI Chapter) will present: "Swallowing Problems With Stroke and Elderly Patients: Measurement and Management New Methods," a talk by Jonathan E. Aviv, M.D., on Thursday, March 25, 1995, 7:30 PM at Rockefeller University, Tower Building, Room 305, 1200 York Avenue in New York City.

Through contact with Columbia Presbyterian Medical Center (CPMC) neurologists, Dr. Aviv became cognizant of difficulties in the management of post-stroke swallowing problems. There was a large gap in the understanding of pharyngeal and laryngeal sensation. To define and quantify these sensory deficits, Dr. Aviv developed a new, non-invasive method and device that allows in-office evaluation and documentation of the sensory apparatus. The technique is based on brief air-pulse stimulation of a specific area of the hypopharynx in order to measure pharyngeal and laryngeal sensation.

After completing his undergraduate and medical education at Columbia University, Dr. Aviv obtained residency training in Otolaryngology, followed by a clinical fellowship in microvascular head and neck reconstruction, both at the Mount Sinai Medical Center in New York City. During that fellowship, he became interested in reconstructing defects of the tongue and pharynx using sensate free tissue transfer techniques.

In July 1991, Dr. Aviv joined the CPMC faculty as Assistant Professor of Otolaryngology. He was subsequently

appointed Director of that department's Division of Microvascular and Microneural Surgery and Director of Residency Education. In 1993, he was appointed an Irving Scholar. Dr. Aviv is the author or co-author of 28 publications and abstracts and has given 29 presentations to professional societies.

For more information, please call Joel Levitt at (718) 891-6460, or Andrew or Susan Baxt at (516) 678-6563.

ASME, IEEE AND AIAA TO HOST JOINT MEETING ON THE INFORMATION SUPERHIGHWAY

ASME, IEEE and AIAA are planning a joint technical dinner meeting on March 22, 1995, beginning 6:00 PM, at Antun's (located on the north side of Old Country Road, just west of Newbridge Road). The speaker will be Ted May, Director of New Business at Cablevision, Woodbury, New York. Mr. May will speak about the Information Superhighway. This topic is very appropriate considering the recent interest by the telecommunication corporations in the cable market, as well as the Internet. The cost is \$19.00 per person, and the agenda is as follows:

6:00 PM Cash Bar;

7:00 PM Dinner (Chef's choice-three entree's, meat, chicken, or fish)

8:00 PM Presentation

If you are planning to attend, please contact Ed Palacio, at (516) 595-3807 by March 15, 1995.

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 introduction 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. In order to focus 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 include:

- Hazeltine
- AIL
- LNR
- Telephonics
- Interdigital
- Polytechnic University
- Advanced Digital Technology
- Symbol Technologies
- Spectrum Information Technologies
- Frequency Electronics
- SUNY at Stony Brook

For further information, please contact:

Peter Voltz, Associate Professor of Electrical Engineering, Polytechnic University
Route 110
Farmingdale, NY 11735 USA
Tel.: (516) 755-4215, Fax: (516) 755-4404

Leandros Tassioulas, Assistant Professor of Electrical Engineering Polytechnic University
6 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 T. Cooke, Winfield E. Fromm and 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 cyclical many of these things are. After 30 years, the hot areas are again microwaves and communications. It seems likely that the next hot area will be a combination — a 50 year return of the TV combined 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 Soiciety 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 rich connectivity and joint/combined communications interoperability. It features a flexible, open, modular-byfunction architecture tailorable for various ground/surface deployments and facilitates technology evolution and functional expansion. Life cycle costs will be reduced by (1) maximizing module commonality, (2) enabling waveform additions (automated software download), and (3)eventually replacing the support costs of multiple single-waveform radios/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 fiscal 1995.

Mr. Tilley received a BSEE degree in 1980 and an MSEE degree in 1985 from the State University of New York at Stony Brook. Since 1980, he has been with Hazeltine Corporation of Greenlawn, NY, where he is a senior systems engineer within the Advanced Development Center. He is the lead systems engineer for the Speakeasy multi-band multi-mode radio program. His past experience has included AJ/LPI 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 qualify. 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.

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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 perspective. 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

Dr. Nader Bolourchi
General Chair
New York Institute of Technology
School of Engineering & Technology
Old Westbury, NY 11568
Phone (516) 686-7863
Fax (516) 625-5801
E-mail: nbolourchi@acl.nyit.edu

Dr. Kourosh Parsa
Technical Program Co-Chair
NYNEX Science & Tech. Inc. Room 2DS
500 Westchester Avenue
White Plains, NY 10604
Phone (914) 644-2157
Fax (914) 644-2963
E-mail: kxp1@nynexst.com

For further information, please call Donald Grieco at (516) 773-1900, or Dr. Nader Bolourchi at (516) 686-7863.