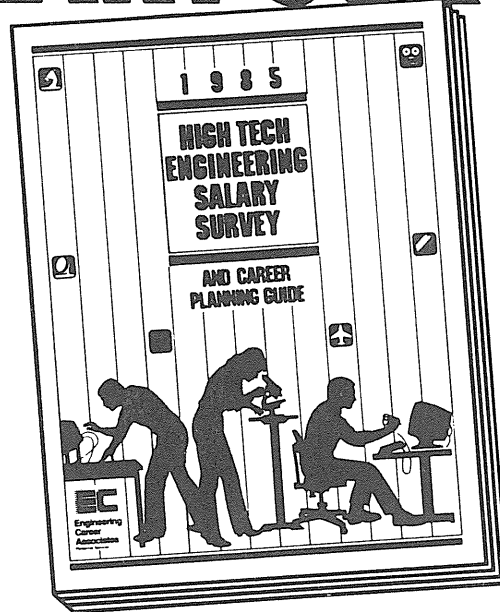


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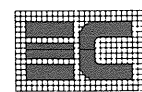
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The IEEE

# Newsletter

PUBLICATION OF THE NORTH JERSEY SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

APRIL, 1985  
Volume 31, Number 10

Publication No: USPS 580-500

"The IEEE Newsletter" is published monthly except June by the North Jersey Section of The Institute of Electrical and Electronics Engineers, Inc., a nonprofit scientific society dedicated to the advancement of electrical and electronic engineering and the allied arts and sciences. Headquarters: 345 E. 47 Street, New York, N.Y. 10017. Sent automatically and without additional cost to each member of the North Jersey Section. Printed in U.S.A. Second-class postage paid at New York, N.Y. and at additional mailing offices.

#### NEWSLETTER STAFF

Editor . . . . . M.M. Perugini  
Business Manager . . . . . A.M. Beattie

Deadline for receipt of material is the 1st of the month preceding the month of publication. All communications concerning editorial and business matters, including advertising, should be addressed to: The Newsletter, c/o Girard Associates, Inc., 6 Robert Terrace, Mt. Arlington, N.J. 07856. (201) 398-5524.

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REPORT ALL ADDRESS CHANGES TO:  
IEEE Service Center  
445 Hoes Lane  
Piscataway, N. J. 08854  
(201) 981-0060

It is not necessary to inform the North Jersey Section when you change your mailing address. The NEWSLETTER and other section mailings use a list provided by IEEE's national headquarters in New York. This means the Section has no need to maintain a mailing list or addressing plates. Section membership records are changed when Headquarters notifies us.

#### SECTION OFFICERS

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## Section Member Honored By IEEE

Dan Botez, a Randolph, New Jersey engineer with Lytel Incorporated in Somerville, N.J. was honored recently as a Centennial Young Engineer by the IEEE. Cited by the IEEE Quantum Electronics and Applications Society, Botez received a "Centennial Key to the Future" from IEEE 1984 President Richard J. Gowen. The "Keys to the Future" were presented to 34 individuals representing the Institute's 33 technical societies. Each recipient was identified as an individual in the early stages of his/her career "who best demonstrates sound understanding of the evolving technologies" in the individual's

chosen field and whose "progress shows the greatest promise for applying these technologies to the development of new industrial products and systems for the improvement of society."

The keys were laser cut from a three-inch silicon disc composed of 256k metal oxide semiconductor (MOS) material.

Botez received the BS, MS, and Phd degrees in Electrical Engineering from the University of California at Berkeley in 1971, 1972, and 1976, respectively. Born in Bucharest, Romania, Dr. Botez is currently Director of Device Development at Lytel. He has published 65 technical papers, one book, and holds 10 patents, and has invented and developed two diode-laser products.

## Developing NJ Hudson River Waterfront

The May 21, 1985 meeting of the North Jersey Section's IEEE Power Engineering Society Chapter will feature a presentation on the planned development of probably the most valuable real estate in the United States today--the New Jersey Hudson River Waterfront.

Once a thriving industrial center, this region has in recent years become the site of abandoned rail yards and underutilized factories. Now, private developers, the Port Authority of New York and New Jersey, the City of Jersey City and the State of New Jersey are planning to spend billions of dollars on the rebirth of this area. The total scope of potential development is mind-boggling.

Mr. Stephen Kukan, Manager - Area Development, PSE&G, will highlight specific planned development along this

18-mile strip of land covering some 2300 acres from the George Washington Bridge to Bayonne, Mr. Kukan will provide insight into the overall impact on the local economy and stature of this waterfront region.

This presentation will be particularly interesting to anyone who has ever resided in, been employed in, or is just interested in this Waterfront, its history or its strategic position.

### ALL WELCOME

Attendance at the meeting is free, and open to all interested parties. Further information will be provided in May's Newsletter.

**Time:** 4 PM, Tuesday, May 21, 1985.  
**Place:** Public Service Electric & Gas Co., 80 Park Plaza, Newark, N.J. - Second Floor Conference Area.  
**Further Information:** Dennis Sobieski (201) 430-6698.

ESC 7  
B12  
NJ 07656

1241264 SM  
RICHARD F TAX  
ST HAWTHORNE ST  
PARK RIDGE

## Microwave Technology: Solid State Future

Dr. Glenn R. Thoren of Raytheon Company will cover "Advanced Millimeter-Wave Technology: Solid State Systems of The Future", at the April 24, 1985 meeting of the North Jersey MTT/AP Chapter. All, including nonmembers of IEEE are welcome. Admission to the lecture is free.

### About The Talk

Millimeter wave technology is a subject of accelerating interest, and one of the most exciting arenas of development is the solid state source. The heart of the millimeter wave transmitter's power stage is the IMPATT diode. Until recently only silicon IMPATTs have been available at W-Band frequencies around 95 GHz. Now GaAs is about to become a contender. New theories have made the realization of GaAs IMPATTs at W-Band a reality. Up to 1 watt of CW power at efficiencies of 15 to 20 percent may be realized at 95 GHz. Part of this presentation will detail the new GaAs IMPATT theory and experimental results and the status of solid state sources for millimeter wave transmitters.

Beyond the source itself is the transmitter network including the lower power amplifier stages and the Gunn diode LO or VCO. The transmitter then becomes part of the millimeter wave system which may be configured to fit within missile or submunitions as small as five inches in diameter or less or many other platforms where small size and weight are great benefits.

Millimeter wave solid state sources have led to many new applications for systems between 30 and 300 GHz. Active missile seekers, active and passive radiometers, RPV battlefield surveillance, secure communications systems, satellite to satellite data links, and weather tracking monitoring are but a few applications

\*\*\*\*\*

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suited to the small, lightweight, narrow beamwidth and high resolution characteristics of portable millimeter wave systems.

The advent of many new systems applications depends on the availability to integrate the transmitter and receiver components in small assemblies that are reliable and reproducible in very large quantities. Production runs as high as 500,000 units are being considered for some applications. With such great quantities new production techniques and automated assembly and testing will be needed. This presentation will also discuss how millimeter wave systems may evolve into sophisticated components mass producible at low cost.

### About The Speaker

Dr. Thoren has been with Raytheon since 1971 and with the Missile Microwave and Antenna Department of the Missile Guidance Laboratory and the Antenna/Microwave Department of the Radar Systems Laboratory since 1973. He has directed millimeter wave technology and development programs as Manager of the Millimeter Wave Transmitters and Systems Section of the Antenna/Microwave Department and has directed the development of solid state transmitters and other millimeter wave systems as Manager of the Power Generation Design Section of the Millimeter Wave Systems Department. Dr. Thoren is currently on the Technical Staff of the Radar Systems Laboratory.

Dr. Thoren has designed, developed and supervised research on many state-of-the-art IMPATT diode power combiners. He has characterized and analyzed both silicon and GaAs IMPATTs up to 40 GHz and discovered the Delayed Secondary Avalanche (DSA) Phenomena in millimeter wave IMPATTs during PhD studies at Cornell University where he was sponsored by a Raytheon Fellowship.

Dr. Thoren holds a Bachelors of Science and Masters of Applied and Engineering Physics from Cornell University and a PhD in Electrical Engineering also from Cornell.

He holds four patents for advanced solid state power circuits and has published and presented many papers on solid state power sources and millimeter wave technology.

**Time:** 7:45 PM, Wednesday, April 24, 1985.

**Place:** ITT Avionics, Nutley, N.J.

**Pre-Meeting Dinner:** 6 PM, Ramada Inn, Clifton, N.J. For Reservation call: Dick Snyder (201) 492-1207 or W. Schmidt (201) 284-2255.

## PCs Work Together By Sharing Supermicro

At the April 24, 1985 meeting of the North Jersey Chapter of the Computer/Communications Chapters, Dale W. Malik of AT&T Information Systems will discuss several aspects of the AT&T family of computer products

### About The Talk

Mr. Malik will describe the 3B2 computer, a 32-bit table-top multiuser supermicro-computer with UNIX System V software and the PC Interface comprising a hardware/software combination that interconnects several MS-DOS-based personal computers with a 3B2 to allow sharing of 3B2 files and peripheral devices such as line printers and disk drives. He will detail developmental tools and applications software including languages, database management systems, office software, and general and industry-specific applications. Other products such as the other 3B computers, the AT&T PC6300 personal computer, and terminals will be discussed.

Mr. Malik will address, and answer questions the audience may have about the products and their applications.

### About The Speaker

Mr. Malik received the BEE and MEE from Manhattan College. He joined AT&T Bell Laboratories where he designed the disk I/O system for the backend application processor used with the System 85 PBX to provide services such as message desk and system management. He is now with AT&T Information Systems Technical Marketing Center where he has been supporting customers of PC6300 and 3B computers and networking products.

### ALL WELCOME

IEEE membership is not required to attend. Refreshments will be served.

**Time:** 8 PM, Wednesday, April 24, 1985.

**Place:** Jersey Central Power and Light, Rt. 24, Madison Ave. at Punch Bowl Rd., Morristown, N.J.

**For Directions Or Optional Dinner Reservations:** Dick Aiken (201) 898-6986, George Pick (201) 884-6040.

## Engineering Workstations

### A PANEL OF REVOLUTIONARY LEADERS

"A unique group of probably the best speakers on this subject in the world; they have never appeared together before and may never do so again." If you have any interest in this subject, you shouldn't miss this seminar.

A revolution in electronic design methods is altering forever the way we design. Increasing product complexity and ever shorter product market lifetimes, present a terrible design dilemma which is being met by engineering workstations.

The evolution in semiconductor technology that has allowed us to keep pushing the limits of system complexity has also reduced the cost of computing power thus allowing us to build affordable engineering workstations to manage the design of even more complex systems.

Electro '85 opens one day after the New York Metropolitan IEEE Council presents the most prestigious panel of Engineering Workstations revolutionary leaders. David Stamm, VP Engineering Daisy Systems; Stephen Swerling, VP Engineering, Mentor Graphics; Thomas McWilliams, VP Valid Logic, winner of 1984 IEEE McDowell Award for his work on Structured Computer Aided Logic Design; and Bruce Gladstone, President, FutureNet provide an unusual spectrum of views on this revolutionary topic. Andrew S. Rappaport, President, The Technology Research Group, with Justin E. Harlow, Fairchild; Cecelia Jankowski, Grumman Aerospace; and Kathy DeCasale, Harris GSSD will report their perspective as typical engineering workstation users.

Concluding with a panel discussion responding to audience questions, this tutorial is presented for the benefit of those who have not yet joined the engineering workstation revolution. It should help answer the question: "What CAD tools will be used by the survivors of this design revolution?"

This seminar is co-sponsored with the IEEE Maine Computer Society Chapter and organized by John Andrews, Chairman, who will act as moderator.

## Fiber Optic Applications in Electrical Power Systems

The content will include a systematic treatment of fiber optics (components, waveguides and cable connectors), various modulation techniques, economics and applications in communications, measurement and control. The tutorial will conclude by covering what's next and how to get started in implementing the technology.

*The speaker is:*

D.C. Erickson, Bonneville Power Administration, Portland

*The topics are:*

FIBER OPTIC BASICS

VARIOUS MODULATION TECHNIQUES USED IN PRACTICE

ECONOMICS OF LIGHT WAVE OVER CONVENTIONAL COMMUNICATION METHODS

GENERAL INTRODUCTION TO FIBER OPTIC APPLICATIONS


COMMUNICATION APPLICATIONS

MEASUREMENT APPLICATIONS

CONTROL APPLICATIONS

WHAT'S NEXT AND HOW TO GET STARTED

The coordinator for this course is Len Rubenstein, Stone & Webster

	<input type="checkbox"/> Artificial Intelligence <input type="checkbox"/> Computers and the FCC <input type="checkbox"/> Engineering Workstations <input type="checkbox"/> Entrepreneurship <input type="checkbox"/> Fiber Optic Applications <input type="checkbox"/> Speech Recognition/Synthesis	<table border="1"> <thead> <tr> <th>IEEE/ERA Member</th> <th>Non-Member</th> </tr> </thead> <tbody> <tr> <td>\$165</td> <td>\$205</td> </tr> <tr> <td>\$170</td> <td>\$210</td> </tr> <tr> <td>\$175</td> <td>\$215</td> </tr> <tr> <td>\$150</td> <td>\$190</td> </tr> <tr> <td>\$155</td> <td>\$195</td> </tr> <tr> <td>\$160</td> <td>\$200</td> </tr> </tbody> </table>	IEEE/ERA Member	Non-Member	\$165	\$205	\$170	\$210	\$175	\$215	\$150	\$190	\$155	\$195	\$160	\$200	These prices are for advance registration received <b>BEFORE</b> April 11. <b>AFTER</b> April 11 add \$50 to the price of the tutorial.
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**MET**

## Six Tutorials Featured at Electro/85 and Mini/Micro

The IEEE Metropolitan Sections Activities Council (METSAC) and Electro/85 will cosponsor six special-fee tutorials on Monday, April 22 from 9:00 am until 5:00 pm in the Sheraton Centre Hotel Ballrooms in New York City.

Registration for these tutorials must be accomplished with the coupon at the end of this article. Included in each tutorial fee are course materials, lunch and Electro/85 registration which is also valid for Mini/Micro Northeast. We urge you to register early to insure that there will be room for you.

### Artificial Intelligence (AI)

This course is designed for computer software specialists, engineers and technical managers who are, or will be, responsible for AI applications. It will cover fundamentals of AI with special emphasis on building expert or knowledge-based systems (ES or KBS). Therom proving, learning approaches, and AI languages will be covered. Important applications and AI's future direction will be discussed.

Specifically the content is: Overview of AI. Introduction to ES. Basic concepts for building ES. Architecture for small and large search space. Heuristic search. Learning systems. Introduction to AI programming languages, LISP, and Prolog. Knowledge-based building tools. AI or LISP processors. Automated reasoning concepts and applications. Applications of ES for robotics, automation, management, space, military, CAE, CAT, and automated programming.

#### The speakers are:

Professor Robert Hong (Tutorial Coordinator) is Technical Advisor to Grumman's Director of Systems Engineering, and teaches graduate AI/Robotics courses at PINY. He is Chairman of AI/Robotics for Long island IEEE, and was a member of the AI Study Group for OSD/IDA.

Larry T. Wos, PhD, is a Senior Mathematician of Argonne National Laboratory. He is President of the Association of Automated Reasoning, and is co-author of the book entitled *Automatic Reasoning — Introduction and Applications*.

Diane Tosh is Supervisor of AI for Melpar, E-Systems. She is Chairman of AI/Robotics and Deputy Chairman of Computer Society for IEEE, Washington, DC.

Charles Bobelis is a Senior Engineer with Grumman Aerospace Corporation, participating in AI. He is Deputy Chairman of AI/Robotics for Long Island IEEE.

### The FCC Closes In On Computer Manufacturers

More than any other federal agency, the Federal Communications Commission directly regulates all types of electronic data processing equipment. All such devices are regulated under Part 15 of its rules governing emission characteristics. This seminar will discuss these regulations and the means by which the FCC spots violators and how they go about enforcing the rules. One half of the seminar will also be dedicated to designing equipment for compliance at the printed circuit board level with a view towards complying at minimum cost.

Any devices that hook to the telephone network must also be registered under Part 68 of the FCC rules. The regulations and enforcement mechanisms are also reviewed. Methods for designing interfaces, including sample schematics, are presented and discussed.

The seminar speaker is Mr. Glen Dash who is a Director of Dash, Straus & Goodhue, Inc. and a partner of Mahn, Franklin & Goldenberg, PC. The organizers and coordinators of this seminar are Messers. Dash, Goodhue and Straus.

### Speech Synthesis/Recognition

The use of speech as a communication interface between man and machine has been the goal of scientists since the advent of the computer age. Besides its novelty value in giving a machine human-like characteristics, it provides for more rapid communication between man and machine, while freeing the user's hands to perform other useful tasks. Recently, the area of speech synthesis has become quite well developed, with the capability to pronounce any word or phrase in a human-like manner. On the other hand, speech recognition, due to the inherent abstraction and complexity of language, has posed numerous problems. Nevertheless, much progress has been made in the area of speech recognition in the last few years. This tutorial aims to present a brief review of speech synthesis techniques and discuss in detail four major innovative applications of speech recognition systems.

#### The topics and speakers are:

THEORY AND APPLICATIONS OF COMPUTER SPEECH SYNTHESIS — John Cater, MCC Human Interface, Austin, TX

COMPUTER ARCHITECTURE FOR SPEECH RECOGNITION — Roberto Bisiani, Carnegie Mellon University, Pittsburgh, PA

LARGE-VOCABULARY ISOLATED WORD RECOGNITION AT IBM — Peter de Souza, IBM Watson Research Center, Yorktown Heights, NY

CONVERSATIONAL MODE SPEECH RECOGNITION SYSTEMS — Steve Levinson, Bell Laboratories, Murray Hill, NJ

SPEAKER VERIFICATION TECHNIQUES — Richard Mammone, Rutgers University, Piscataway, NJ (and moderator for this seminar), coordinator is George Hung, Rutgers University.

### The Entrepreneur and the Venture Capitalist

Questions concerning venture, risk and buyout capital abound. If left unanswered, these questions will hinder the early development of high technology companies. The average engineer or scientist may not be familiar with business and financial procedures. This is not to their discredit since these procedures can become quite complex. Venture capital organizations assist young companies in solving these unique business problems. Besides capital investment, some organizations also provide business expertise and other financial resources to support portfolio companies through difficult periods.

This tutorial provides a setting for the entrepreneur and the venture capitalist to meet and exchange information. Specific topics will include: product viability, market research and market competition. Requirements for becoming a portfolio company will also be presented.

The panel moderator is Dr. Sotirios J. Vahaviolos, President of Physical Acoustics Corp., Princeton, NJ with James Whartenby of RCA Labs, Princeton, as coordinator.

## To Tour Facility

The New York Section's Vehicular Technology Chapter will hold a joint tour on April 18, 1985 with the Broadcast Technology Chapter. The tour, to begin at 2 PM, will be of the N.Y. City Police Communications Facilities at 1 Police Plaza, NYC. Attendees should meet in the reception area where Hal Blumberg, Chief Engineer, will host the tour of the New York Police Communications Facilities.

## Resolving Construction Claims With Micros

The Engineering Management Society's New York/North Jersey Chapter jointly with the American Association of Cost Engineers (AACE)-New York Chapter will hold an April 17, 1985 meeting in New York with a presentation on "Resolving Construction Claims Using Micro Computers." The speaker will be Jim Beach of Wilson Management Associates.

#### About The Speaker

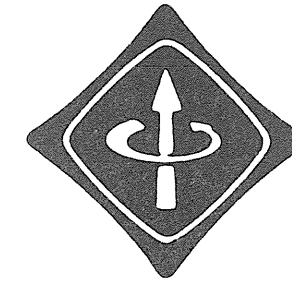
Jim Beach, P.E., is Vice-President of Wilson Management Associates, Inc. a construction management firm which specializes in the resolution of construction claims. For five years prior to this, he was Assistant Project Manager with Stone & Webster Engineering Corp., for the design and construction of the River Bend Nuclear Power Plant. Previously, he served in various positions within the Civil Engineering Branch of the U.S. Coast Guard.

Mr. Beach is a graduate of the U.S. Coast Guard Academy and holds graduate degrees from Columbia University and Rutgers University.

#### Election Of Officers

The election of EMS officers for New York/North Jersey Chapter will precede the formal presentation.

While membership in IEEE or EMS is not a prerequisite for attendance at the meeting, it is required for voting purposes. However, anyone planning to attend should call one of the following: M. Izaak (212) 397-7438; John Van Savage (201) 544-2334; M. Correa (914) 681-6484  
**Time:** April 17, 1985—Cocktails, 5:30 PM; Dinner, 6 PM; Presentation, 7:15 PM.  
**Place:** Swiss Bear Restaurant, 20 East 41st Street (5th Avenue), NYC.  
**Cost:** \$14.50 for dinner and two cocktails.



**Date:** April 17, 1985

**Time:** 7 PM—RECEPTION  
8 PM—DINNER

**Place:** CHANTICLER, Millburn  
376-2222

## SECTION BANQUET—APRIL 17, 1985

**A time to relax, unwind and enjoy —  
A time to pay tribute to our New Fellows —  
A time to honor our new Senior Members —  
YES it's time for the Annual Section Banquet**

Following the enthusiastic response of those who attended the Banquet the past seven years, we are returning to the Chanticleer in Millburn. The affair is scheduled for Wednesday evening, April 17, 1985. Each ticket is \$22.00 and includes a complete prepaid Cocktail Hour preceding dinner. Spouses and guests are welcome.

Reservations required by April 10, 1985. Complete the reservation form below and return it with your payment. If any additional information is required concerning the Banquet, contact Richard Tax at 573-0387.

Inquire about corporate tables.

Use this form for Banquet reservations enclosing a stamped self-addressed envelope. Reservations required by April 10, 1985. Mail reservation request to:

Richard F. Tax  
51 Hawthorne Ave.  
Park Ridge, N.J. 07656

Enclosed is \_\_\_\_\_ Please forward \_\_\_\_\_ tickets (make checks payable to North Jersey Section IEEE) to:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_ Zip: \_\_\_\_\_

I would like to share a table (seating \_\_\_\_\_) with the following:

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# PACE NEWS

Professional  
Activities  
Committee for  
Engineers

By R. Tax

## Anger At "Institute" Misdirected

Dear Mr. Tax:

Your PACE News Editorials in the February and March 1985 issues of "The IEEE Newsletter" concerning the "Institute" news article on the Massachusetts High Technology Council study were brought to my attention recently, in part as reported in "EE Times."

Please allow me to clarify your assertion that "IEEE has given credence to this invalid prediction by publishing it without question..." Publication of news in the "Institute" is not an IEEE endorsement of its contents. Personally, like many other IEEE members, I was appalled by the conclusions of the study. Nevertheless, the "Institute" was only accurately reporting the study. Venting anger on the "Institute" is misdirected.

It is desirable that an IEEE committee such as the Manpower Task Force analyze the assumptions and conclusions in the study. I am sure that such an analysis would receive coverage in the "Institute." I am pleased to learn that the North Jersey Section Executive Committee has established an ad hoc committee to evaluate the MHTC report. I look forward to reading about it.

I would have liked to see opposing views included in the original December 1984 article. Unfortunately, it is not always feasible to include opposing views in the same issue. We have Letters-to-the-Editor, Viewpoints, and At-Issue columns for commenting and debating issues reported in news articles.

Generally, the "Institute" editorial staff tries hard to report alternate opinions in covering controversial topics. Effective immediately, they will try even harder. However, the purpose of a news story is still to report and not to advocate nor to oppose a position.

Sincerely yours,  
J.B. CRUZ, JR., IEEE Vice President for Publication Activities

### EDITORIAL RESPONSE

*IEEE endorsement or not, the damage has already been done. The purpose of the MHTC study is to influence opinion. It has slandered members of the engineering community to secure more money for "higher education" and the academic community. The*

*"Institute," knowingly or not, has aided the MHTC, Northeastern University and others in this effort.*

*I can almost picture a new bill before Congress citing "engineer obsolescence" as a reason to fund the National Science Foundation (NSF) with megabucks to save our nations high technology.*

*Is history about to repeat itself? In 1983, Title II of H.R.1310 established a fund of 500 million dollars for the NSF under the name of engineering and science. The Bill, H.R.1310, stated "the nation now faces potential shortages in scientific as well as engineering and technical fields." Only one widely disputed, unsubstantiated, exaggerated survey was used to support this statement.*

*That survey was taken by the American Electronics Association (AEA). The "Institute" and "Spectrum" both gave AEA this same "un-endorsed" support.*

*Perhaps this 500 million dollars would better be used by industries that employ the electrical engineers that according the MHTC study "face 30 years of declining productivity..."*

*I believe an apology to our electrical engineering members is still in order.*

*Since the purpose of a news story is still to report and perhaps not to judge, we should also remember garbage IN usually equals garbage OUT.*

*Comments may be sent to Richard Tax, 51 Hawthorne Ave., Park Ridge, N.J. 07656.*

## Obsolete At 31!

Dear PACE Editor:

It is ridiculous to claim that an engineer is obsolete at age 33. I feel obsolete at age 31! This is because I haven't read a paper in the last two months! If you don't keep up with the literature and IEEE publications, you are obsolete.

Obsolescence has nothing to do with age, sex, national origin, race, color, creed, religion, marital status, weight, height, looks, and whether you wear a tie or not!

BEN ASHJARI  
Piscataway, N.J.

## NJIT Students Seek Reference Data

On January 21, the NJIT student branch began its spring semester. The NJIT student branch once again has committed itself to providing its over 250 members academic assistance and professional awareness. To these ends, during each semester students are provided with lectures from industry representatives and tutoring by IEEE student members.

This semester the NJIT student branches goal is to rebuild its outdated reference library. The library is used by students for additional information and senior projects design and construction courses. Donations of reference texts, component data manuals or other books is requested. In addition, interested parties are invited to conduct lectures to the Electrical Engineering students through the NJIT student branch.

For more information please contact Bob Hinkle (201) 596-3502 or write: NJIT IEEE, c/o Electrical Engineering Dept., 323 Martin Luther King Jr. Blvd., Newark, N.J. 07102.

## Student Activities

By STELLA  
LAWRENCE

### REGION 1 STUDENT PRIZE PAPER CONTEST

The Regional Student Prize Paper Contest will be held at ELECTRO/85 the week of April 23-25, 1985. The deadline for the Region 1 Contest is 10:30 AM, Monday, April 15, 1985. Papers should be sent to Dr. Charles Rubenstein, Student Activities Chairman, Region 1, at the Bramson ORT Technical Institute.

The prizes awarded last year were: First Prize - \$2,500 (Scholarship funded by ELECTRO); First Runner-Up - \$500; Second Runner-Up - \$300; and Third Runner-Up - \$100.

### DON'T MISS ELECTRO/85 April 23-25, 1985

On its tenth anniversary ELECTRO is predicted to be the largest and most comprehensive electronics convention ever! An estimated 55,000 attendees will view more than 1200 exhibits. ELECTRO will be held jointly with MINI/MICRO, the "The IEEE Newsletter" - April, 1985 - Page 9

region's computer conference and exhibition.

There will be a professional program of 33 sessions dedicated to the latest in computers and electronics. The ELECTRO/85 Film Theatre will present seven entertaining and educational films on the latest in electronics and space.

The Show days and hours are: April 23, 24 from 10 AM to 6 PM; and April 25 from 10 AM to 5 PM.

The Show will be held at the New York Coliseum and the Sheraton Centre Hotel.

Seven Tutorials will be held on Monday, April 22 from 9 AM to 5 PM at the Sheraton Centre covering topics such as Artificial Intelligence, Engineering Workstations, Speech Recognition and Synthesis, Fiber Optic Applications. See details in this issue.

### STUDENT EVENTS AT ELECTRO/85

Tuesday, April 23 at the Sheraton Centre Hotel - 10 AM to 6 PM - "Region 1 Student Prize Paper Contest"

Wednesday, April 24 at the Sheraton Centre Hotel, 1-2 PM - IEEE Life Members and Students Joint Presentation, "Lightwave Communications Over The Transatlantic Cable"

Thursday, April 25 at the Sheraton Centre Hotel, 9 AM to Noon - "ELECTRO/85 Professional Awareness Conference" SUMMER AT "SPECTRUM" Entries: Postmarked Not Later Than April 10, 1985

Make this summer the most exciting yet in the glamorous world of publishing. Assist the crack team of the profession's most prestigious journal in producing its next award-winning issue. Experience firsthand the fabled fun and frustrations of technical publishing.

The student who wins the contest will spend the summer of 1985 in the offices of "Spectrum." The winner will interview sources, research and write stories, proof-read and type.

To enter the contest simply write to Technical Editor, Edward A. Torrero, IEEE "Spectrum", 345 E 47th Street, New York, N.Y. 10017, explaining why you should be selected. Include relevant materials, such as term papers, engineering reports, college newspaper stories, that you think strengthen your case. All entries must be postmarked not later than April 10, 1985.

To qualify you should be a major in electrical engineering, computer science, or an equivalent technical discipline and have good grades.

### PRINCETON STUDENT NIGHT

The Princeton Section's student night on February 20th provided an opportunity for regular members and student members to meet and get to know each other. This year's student night was a change from the past. Rather than a formal presentation by an outside speaker, students from each of the section's student branches, (DeVry Institute, Middlesex Community College, Rutgers University, Princeton University, and Trenton State College) made a short (15 minute) technical presentation on a technical topic of their choice. The areas covered included Lasers, Digital, neural modeling and more.

Following the presentations a social with appropriate refreshments facilitated interaction between students and regular members.

## Students Should Join Societies

Student membership in any one of 31 IEEE technical societies gives you a vital head start on your career...long before you go for your first job interview. You gain valuable insight, have ready access to exclusive state-of-the-art information, technical meetings and conferences, even their published proceedings. Importantly, as a student member, your grades will show the difference.

You will meet and participate in technical activities-with the established experts and prime movers in your chosen field of interest. People you will work with, deal with, even compete with, in the future. Gain pertinent professional exposure and utilize their experience and guidance before you commit yourself to any one scientific and engineering discipline.

Join one or several of the IEEE Societies and receive their Transactions/Journals. You also become a member of the local Society Chapter, receive its Newsletter, and are welcome at its local meetings and conferences. Students join each Society at the discount rate of \$5 which includes the Society's main Transactions. The Society's optional publications are also available to students at 25% off members' cost.

For FREE descriptive literature and/or an application for Student-Membership in IEEE Societies, write to: Student-Memberships, IEEE Societies, 445 Hoes Lane, Piscataway, N.J. 08854

## G. GEOFFREY B. GARRETT

**“For contributions and leadership in MOS integrated circuit technology.”**

Geoffrey Garrett is Director of the Common Subsystems Laboratory at Bell Laboratories. He is in charge of departments involved in the development of silicon integrated circuit subsystems, voice and digital tape recording systems, and ringing and tone.

Mr. Garrett joined Bell Laboratories in 1952. His first assignment was in the Transistor Development Department, where he participated in research projects on semiconductor surfaces. In 1956, Mr. Garrett joined the Surface Physics Research Department. He later became involved in research on semiconductors, luminescence, and lasers in the Chemical Physics Research Department. In 1960 he became Head of the Optical Electronics Research Department, where he assumed responsibility for research in lasers, solid state spectroscopy, and non-linear optics. Eight years later he became Head of the Materials Science Research Department, overseeing research in semiconductor materials. Mr. Garrett was appointed Director of the Electron Device Process and Battery Laboratory in 1969. In 1973 he became Director of the Integrated Circuit Laboratory; he assumed his present position in 1979.

Mr. Garrett received his Bachelor of Arts degree in natural sciences from Cambridge University (Trinity College) in 1946. He received his Master of Arts degree in natural sciences and his PhD in physics in 1959, also at Cambridge University. At Trinity College, Cambridge, he was successively Scholar (1943), Senior Scholar (1945), Research Scholar (1946), and Twisden Student (1949).

## THOMAS J. MARTIN

**“For leadership in the development and implementation of electrical engineering and construction standards for nuclear power plants.”**

Thomas J. Martin is Vice President - Engineering and Construction for Public Service Electric and Gas Company. In this position he is directly responsible for design, engineering, and construction of

all nuclear and fossil-fueled generating stations, and electric transmission and distribution substations.

Mr. Martin was born in New York City and graduated from Lehigh University, cum laude, in 1949 with a bachelor of science degree in electrical engineering-power option. He joined Public Service's Engineering Department in 1949 as an electrical engineer working on fossil power plant design.

At college he became involved in AIEE as a student member, continued his involvement with AIEE, and then IEEE, throughout his entire professional career.

Mr. Martin has been a leader in recognizing the need for engineers and scientists to establish standards for the safe advancement of nuclear power. As a result of his interest and concern, he assumed a leadership role on the IEEE Joint Committee on Nuclear Power Standards (JCNPS) and later served in leadership roles of Vice Chairman and Chairman of the Nuclear Power Engineering Committee (NPEC). He developed a strong liaison with the Atomic Energy Commission Directorate of Regulation Standards. The standards generated by NPEC are currently used as requirements of nuclear power plant licensing and are accepted and used by both national and international organizations. Because his leadership in nuclear engineering standards was well-recognized, he was appointed to the IEEE Standards Board and the American National Standards Institute's (ANSI) Nuclear Standards Management Board.

## R.H. SHENNUM

**“For contributions to the design and implementation of satellite communications system.”**

Robert H. Shennum is Director of the Power Components and Military Applications Laboratory at Bell Labs where he is responsible for the development and design of power components and power conditioning systems.

He joined Bell Labs in 1954, working on microwave radio and pulse code modulation systems. In 1961 he became Head of the Satellite Design Department, and was responsible for the design and development of the Bell System's communications satellites, Telstar I and II. In 1966 he became Director of the Mathematical

Analysis Laboratory, and later held positions as Director of the Distributing Frame Laboratory, Digital Development Laboratory and Electronic Power Systems Laboratory. He assumed his present position in 1983.

Robert H. Shennum received a Bachelor of Science degree in Electrical Engineering in 1944 and a Master of Science degree in 1948, both from Montana State University. In 1954 he received a Ph.D. in Physics and Electrical Engineering from the California Institute of Technology.

He holds a patent on pulse code modulation and has had a number of articles published on pulse code modulation and satellite communications. He is a member of the research society Sigma Xi and honor societies Tau Beta Pi and Phi Kappa Phi.

## REGION 1 AWARD

### KENNETH J. OEXLE

**“For leadership in the design and development of high voltage electric power system distribution facilities.”**

A graduate of Newark College of Engineering where he received both his undergraduate degrees, Kenneth J. Oexle is Distribution Engineering & Operations Director for Jersey Central Power & Light Company in Morristown, New Jersey.

His engineering career in the electric utility industry spans System Planning, Division Operations, Transmission Engineering and Electric Distribution responsibilities.

Active in IEEE for many years, he has advanced through the Executive Committees of both the Power Engineering Society Chapter and the North Jersey Section. Mr. Oexle was recipient of the North Jersey Section IEEE Service Award and the 1984 IEEE Centennial Medal. He served as Chairman of the North Jersey Section. Other IEEE service includes ELECTRO, METSAC and the Admissions and Advancement Committee.

A Senior Member of IEEE, Mr. Oexle is also a Member of the American Society of Mechanical Engineers and the New Jersey Society of Professional Planners. He is a Licensed Professional Engineer and a Licensed Professional Planner.

Mr. Oexle resides in Whippany and serves on the Program Allocation Committee of the United Way of Morris County.

## NJ PACE Meetings

Monthly meetings of the North Jersey PACE Committee will be held at the ITT Tower Lobby, 500 Washington Avenue, Nutley, N.J. at 8 PM on the second Wednesday of every month. Free refreshments will be offered to all.

There are many active hot PACE Projects funded by IEEE's USAB from which you benefit. Here's your chance to learn about them and give your input!

Call Maitland McLarin, PACE Chairman at (201) 335-6847 for additional information.

## The “Magic” Of Japanese Manufacturing

“The Magic Of Japanese Manufacturing” is the title of a talk to be given by M.A. Leedom of RCA on May 15, 1985. The talk sponsored by the Princeton's Section's Communications & Consumer Electronics Chapter will be held at Princeton University.

### About The Talk

There has been much written on the reasons (or excuses) for the well being of Japanese manufacturing and the quality and low cost of their product.

Most of these writings have been based on upper level studies focusing on the U.S. point of view. This talk details the opinions of Japanese factory workers and the lower level managers.

Specific topics covered are:

Interviews with managers and workers of various levels in the manufacturing plants of these companies. These interviews contrast, in their opinions, the differences between working in U.S. and Japanese factories.

The internal and external pressures that cause some of their business decisions that make U.S. companies nervous.

Slides showing the working, living and recreation areas of four major Japanese companies.

### About The Speaker

Marvin A. Leedom, Director of the Manufacturing Systems Laboratory at RCA Laboratories, Princeton, N.J., earned a Bachelor's degree in Mechanical Engineering from Drexel University in 1957. Since joining RCA Laboratories, Princeton, N.J., as a Member of the Technical Staff in 1962, Mr. Leedom has spent most of his effort “The IEEE Newsletter” - April, 1985 - Page 5

on the VideoDisc program in the areas of stylus and player design and disc manufacturing.

In 1975, Mr. Leedom was named Manager of Mechanical and Instrumentation Technology and, in 1978, Director of the Electromechanical Research Laboratory. In 1980 he was appointed to the position he now holds.

In 1970 he shared an RCA Laboratories Outstanding Achievement Award for contributions to the high-density technology of recording mechanisms. In 1973 he received a second award for a team effort in the conception and development of signal systems and playback mechanism for high-density recording systems. He and his team received a David Sarnoff Award for Outstanding Technical Achievement, RCA's highest honor, in 1981, “for key contributions to the development of the CED VideoDisc system.”

Mr. Leedom has written or presented several technical papers. He holds 24 U.S. patents in the fields of TV design, Electrofax imaging, and VideoDisc player designs.

**Time:** 6 PM, Wednesday, May 15, 1985.

**Place:** Princeton University, Engineering Quadrangle, Convocation Room C-217.

**Additional Information:** C.B. Patel (609) 734-2786.

## NJ Section Officer Nominees For '85-'86

The Nominating Committee of the North Jersey Section has announced the following nominations of Section Officers for 1985-1986:

Chairman:	Richard Tax
Vice Chairman 1:	John Van Savage
Vice Chairman 2:	Charles Coulomb
Treasurer:	Robert Sinusas
Secretary:	Howard Leach
Member-at-Large:	Frank Kuhl John Baka

Three Members-at-Large are to be selected by the Voting Members.

Nominations in addition to those made by the Nominating Committee may be made by petition from the membership. Such nominations must be signed by not fewer than 25 voting members of the North Jersey Section, and transmitted to the Section Secretary for submission to the Executive Committee not later than April 20, 1985. The petition must certify that the person(s) nominated have agreed to serve, if elected.

Candidates nominated by petition should also forward biographical data to “The NEWSLETTER” by April 20, 1985 for inclusion in the May issue of “The NEWSLETTER.”

## LONG ISLAND CONTINUING EDUCATION INSTITUTE INC. “Career Growth Through Continuing Education”

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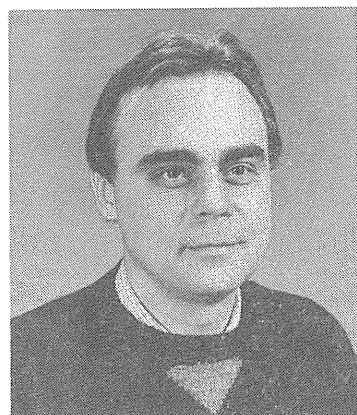
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or call: (516) 543-7212

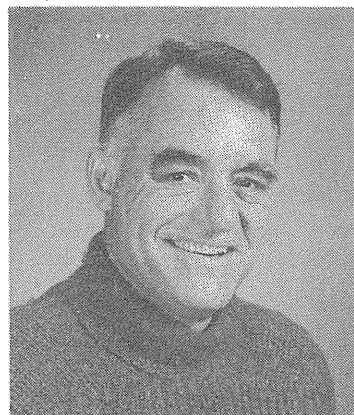
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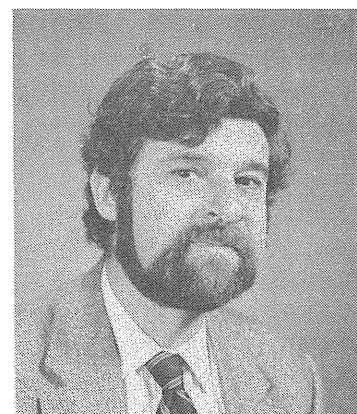
**NEW  
FELLOWS  
NORTH  
JERSEY  
SECTION  
IEEE**



**J. B. Allen**



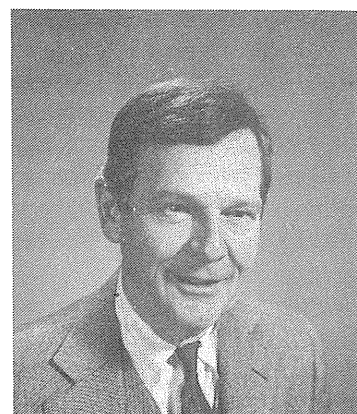
**Edward G. Coffman, Jr.**



**Leonard G. Cohen**



**Reed E. Fisher**



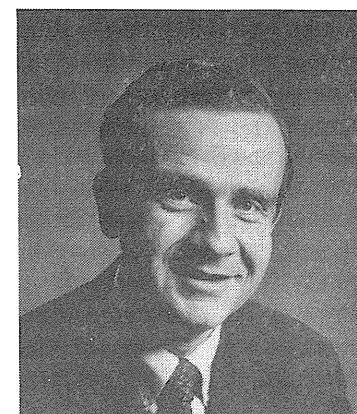
**G. Geoffrey B. Garrett**



**Thomas J. Martin**



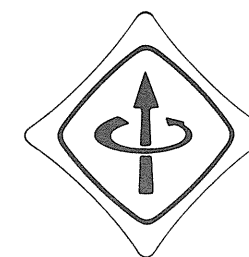
**R. H. Shennum**



**Kenneth J. Oexle**

**REGION 1  
AWARD  
RECIPIENT**

**NEW FELLOWS**



**J.B. ALLEN**

**"For contributions to speech analysis and synthesis systems."**

Dr. Jont B. Allen was born in St. Charles, Illinois, on December 5, 1942. He received the BS degree in Electrical Engineering from the University of Illinois, Urbana-Champaign in 1966 and the MS and PhD degrees from the University of Pennsylvania in 1968 and 1970 respectively. He joined Bell Laboratories, Holmdel, N.J., in 1970 and transferred to the Acoustics Research Department in Murray Hill, N.J. in 1974.

Dr. Allen is presently working in the areas of cochlear modeling, cochlear neurophysiology, digital communication theory and in digital signal processing applications. Some of his applied interests are in speech coding, room acoustics, dereverberation of speech signals and psychophysical modeling of room reverberation. His theoretical interests include short-term Fourier transform theory and cochlear modeling.

Dr. Allen is a Fellow of the Acoustical Society of America and a Fellow of the IEEE. He is presently chairman of the Publication Board of the Acoustics Speech and Signal Processing Society and is a member of ADCOM of the same IEEE society. He is a past editor of the ASSP and has served on several committees in both the IEEE and the Acoustical Society. Dr. Allen is married with two children.

**EDWARD G. COFFMAN, JR.**

**"For contributions to the theory of computer operating systems."**

Edward G. Coffman, Jr. began work as a computer scientist in 1958 at the System Development Corporation, where he was a systems programmer until 1965. At the conclusion of this period his graduate studies at UCLA culminated in the PhD degree in engineering.

From 1966-to 1979 he served on the Computer Science Faculties at Princeton University, Princeton, N.J., The Pennsylvania State University, University Park,

PA., Columbia University, New York, N.Y., and the University of California, Santa Barbara.

One year appointments were held at the University of Newcastle upon Tyne (1969) and at the Institut de Recherche d'Informatique et d'Automatique (1975) in France.

Since 1979 he has been a Member of the Technica' Staff at Bell Laboratories, Murray Hill, N.J. His research has concentrated on the mathematical modeling and analysis of system performance.

**LEONARD G. COHEN**

**"For contributions to optical fiber diagnostic measurements and single-mode fiber designs."**

Leonard G. Cohen received the BEE degree from City College, City University of New York, and the ScM and PhD degrees from Brown University, Providence, R.I., in 1962, 1964 and 1968, respectively.

In 1968, he joined the Guided Wave Research Laboratory, AT&T Bell Laboratories, (Crawford Hill) Holmdel, N.J. where he worked on optical fiber transmission studies. At present, he is Supervisor of the Lightguide Materials, Diagnostics and Applications Group in the Materials Research Laboratory, Murray Hill, N.J.

Dr. Cohen received the 1980 IEEE (London, England) Electronics Letters Premium Award for a paper relating to optical fibers; the 1981 Bell System Technical Journal Best Paper Award for Physical Sciences and Devices; and the 1982 Bell System Technical Journal Honorable Mention Award for a paper relating to Physical Sciences and Devices. He is a member of Sigma Xi, Tau Beta Pi, Eta Kappa Nu, and the Optical Society of America.

**REED E. FISHER**

**"For contributions to the implementation of cellular mobile telephony."**

Mr. Reed Fisher received a BSEE from Pennsylvania State University in 1958 and a MSEE from New York University in 1961.

Mr. Fisher joined Bell Labs upon graduating from Penn State University and participated in the Communications Development Training program. From 1958 to 1963 he was a member of a SAFEGUARD military microwave circuit development group where he designed Nike Zeus radar received protectors and rf amplifiers, diode digital phase shifters, bandpass and band-stop filters, and mm-wave delay equalizers.

From 1964-to 1969 he worked in the Semiconductor Device Development Laboratory at Murray Hill where he studied and designed a microwave analog-to-digital converter, bulk GaAs oscillators and pulse generators, lumped element hybrids and filters, and a microwave solid-state doppler radar.

In 1970 he became Supervisor of AUTOPLEX cellular mobile telephone system and circuit development where he managed groups which developed the cellular system architecture; call processing and signaling algorithms; design of base station transmitter, receiver, synthesizer, multiplexer and test circuits; mobile logic unit; and design of a cellular mobile unit for Western Electric manufacture.

In 1983 he assumed his present position as Supervisor of a group which has studied convert (spread spectrum) communications systems; radar systems, tactical mobile communications systems and local area networks.

Mr. Fisher has been awarded nine U.S. patents, has published eight papers and has given nine oral presentations all in the field of communications techniques and circuit design. His IEEE activities include: guest editor, IEEE Trans. on MTT, April 1979; members, MTT-6 Committee, 1970-1974; reviewer, IEEE-Trans on MTT, 1968-1974 and IEEE-Trans on VT 1978- present. He is a Fellow of the Radio Club of America. He holds a first class radio telephone licence and amateur extra license W2CQH.