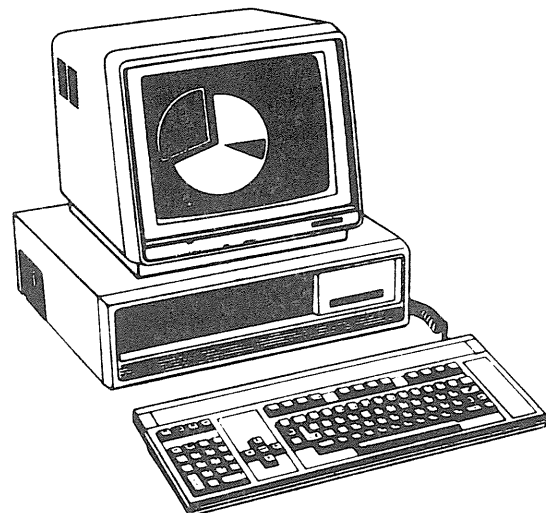


FREE  
IBM  
PC Jr.  
GIVEAWAY!



## Engineering Professionals

Help Us Prepare  
the 1986 Salary Survey Report!

### Q. What's In it for You?

- A. 1. You have a chance (two chances by calling) in our "free" Giveaway for an IBM PCjr complete system with disk drive and NEC Monitor.
2. You will be notified when the "Free" 1986 Salary Survey Report is available.

### Q. Why is Engineering Directions offering this?

- A. We need data for our New 1986 Salary Survey Report.

### Q. What do I need to do to register for the Free Computer Giveaway?

- A. Call (201) 587-0200 and answer a few questions and we will register you.

You will then receive two chances to win!

OR

Mail the Entry Blank/Survey Below:

### ENTRY BLANK/SURVEY

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
Home Phone #: \_\_\_\_\_

1. Please circle the letter that best describes your exposure to the specific technology listed below.

<b>ELECTRONICS</b>	<b>OTHER ENG.</b>
A. Digital	Q. Mechanical
B. Analog	R. Industrial
C. Microprocessors	S. Chemicals
D. Signal Processing	T. Civil
E. Components	V. Structural
F. Control Systems	X. Nuclear
G. Computers	Y. Materials
H. Communications	Z. Other _____
I. Power System	
J. Other _____	

**SOFTWARE**

K. Assembly/Microprocessor  
L. High Level/Operating Systems  
M. Firmware/Microcode  
N. Diagnostics  
O. Signal Processing  
P. Other \_\_\_\_\_

### 2. Please indicate your education below.

	Major	Year Graduated
PhD	_____	_____
Masters	_____	_____
Bachelors	_____	_____
Associates	_____	_____
Other	_____	_____

### 3. Circle the industries in which you have experience.

A. Defense  
B. Navigation and Guidance  
C. Communications  
D. Computers/Peripherals  
E. Automatic Test Equipment (ATE)  
F. Medical  
G. CAD/CAM—Graphics  
H. Microwave  
I. Signal/Image Processing  
J. Process Control/Robotics  
K. Construction/Energy/HVAC  
L. PCBs  
M. Research  
N. Other \_\_\_\_\_

### 4. Indicate your principal job function below.

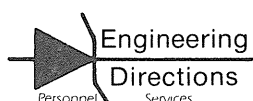
A. Design  
B. Test  
C. Reliability/Quality  
D. Manufacturing  
E. Marketing/Sales  
F. Field Services  
G. Software  
H. Systems  
I. Management  
J. Project Leader  
K. Student  
L. Educational Instructor  
M. Other \_\_\_\_\_

Total Years Experience: \_\_\_\_\_

Current or Last Position Title: \_\_\_\_\_

Current Compensation: \_\_\_\_\_

Mail To: Engineering Directions  
Park 80 West, Plaza 1 C100  
Saddle Brook, N.J. 07662  
(201) 587-0200



### RULES

All Call-in Entries will be registered twice. All Mail-in Entries will be registered once. All Entries are to be received by November 30, 1985. Drawing will be held on December 1, 1985. Winner will be notified by phone or mail - No need to be present at drawing.

### COMPUTER DESCRIPTION

A complete system incorporating an IBM PCjr with System Unit, cordless keyboard, 380KB Floppy Disk and NEC monochrome graphics monitor. The system contains 128KB of memory (64KB RAM, 64KB ROM).



The IEEE

# Newsletter

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

OCTOBER, 1985  
Volume 32, Number 4

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.

Subscription: \$0.75 per year through dues for members: \$1.50 per year for non-members.

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

Chairman . . . . . Richard Tax  
391-9075  
Vice Chairman-1 . . . . . John Van Savage  
544-2334/2412  
Vice Chairman-2 . . . . . Charles Coulomb  
455-8547  
Treasurer . . . . . Robert Sinusas  
288-2000, X-4358  
Secretary . . . . . Howard Leach, Jr.  
848-4467  
Member-At-Large . . . . . John Baka  
Member-At-Large . . . . . George Graul  
Member-At-Large . . . . . Frank Kuhl  
Jr. Past Chairman . . . . . Eugene Niemiec

## SMC Members Invited To Organizational Meeting

SMC Members are invited to an organizational meeting of the North Jersey Chapter of the Systems, Man and Cybernetics (SMC) Society of IEEE

This is an important meeting for planning and election of officers and will be held on October 16. **COME EARLY AND VOTE OFTEN!**

Time: 7 PM, Wednesday, October 16, 1985.

Place: Auditorium, ITT, 500 Washington Avenue, Nutley, N.J.

Additional Information: Benham Ashjari  
(201) 981-3528; Syamala Vishnubhatla  
(201) 885-7258.

## High Reliability In Optical Undersea Cables

The North Jersey Chapter of the Reliability Society will meet on October 15, 1985 to explore the reliability of optical transmission systems. The featured speaker will be Robert L. Easton, AT&T Reliability

Engineer for the SL Optical Undersea Transmission System.

Mr. Easton's topic will be "Achieving High Reliability in Optical Undersea Cable Systems." He will describe the approaches developed to allow the use of new types of components for which there is only limited terrestrial experience and no undersea experience. Incorporation of variable degrees of redundancy into the system design, to match the state of knowledge at any particular time to the high reliability objective, is one such technique. The methods which have been developed permit making the big step from electrical analog systems to optical digital ones, as well as allowing the implementation of advances as they occur in this rapidly evolving field.

Admission is free and all are welcome.

Time: 7:30 PM, Tuesday, October 15, 1985.

Place: ITT Auditorium, 500 Washington Ave., Nutley, N.J.

Further Information: Ray Sears (201) 386-2259.

## CALLING ASSOCIATE MEMBERS

Many present associate members are qualified for Member and Senior member grade. Get the information on advancing to a higher grade by contacting Don Weinstein, Kulite Semiconductor, 1039 Hoyt Avenue, Ridgefield, N.J. 07657, (201) 945-3000.

Lasers: From Toys To Practical Tools

Lasers will highlight the Wednesday, October 9, 1985 joint meeting of the Metropolitan Chapter of the Engineering Management Society and the Engineering Section of the New York Academy of

Sciences. At the meeting, Mr. Robert Regina, President of U.S. Laser Corp., Waldwick, N.J. will speak on “Lasers: From Exotic Toys To Practical Tools.” The talk will emphasize industrial applications of lasers and will address the processes of welding, heat treating, drilling, cutting, and soldering. The industrial areas of discussion will

include computers, hybrid circuits, semi-conductors, and packaging.

Time: 8 PM, Wednesday, October 9, 1985. Place: New York Academy of Sciences, 2 East 63rd St., NYC. Further Information/Directions: Jay Gilbert (914) 478-2713 or New York Academy of Sciences (212) 838-0230.

CANDIDATES FOR REGION DIRECTOR

V.L. GANI

Mr. V.L. Gani graduated from University of Colorado, Boulder, Colorado with Master of Science degree in Electrical Engineering (MSEE) in 1968. Mr. Gani has been with IBM for the last 16 years in Mid-Hudson Valley, New York. He has held various technical and management positions at IBM in semiconductor chip, circuit, packaging and system technology. He has received two invention achievements awards and holds two patents. He has demonstrated technical leadership in development of high performance computers in IBM. He has received IBM Data System Division 1984 annual Quality Excellence award. Mr. Gani is a senior member of IEEE. He is very active in IEEE Section, Region 1 activities. He received IEEE Region 1 award for outstanding management of Mid-Hudson Section by establishing Section Newsletter and involving Section in international conference. He is recipient of IEEE Centennial medal. He has received numerous awards for organizing national and international technical conferences.

STATEMENT OF V.L. GANI

I believe that the Region 1 Director should be vitally concerned with accelerating Institute programs in the following areas: (1) Promotion of member professional/technical development (2) Planning for Section Membership growth (3) Encouraging Section contributions to Region 1 growth (4) Working for the continued enhancement of electrical and electronics engineering curriculum at the University and 2-year Technical School level (5) Securing Institute agreement that future member dues increases must be balanced by demonstratable returns I favor encouraging closer working relationships between universities, colleges, and industry throughout our region. New curriculum, reflecting leading edge technologies, should be introduced at the high school and college level, particularly in those areas of the Region where Section member support can be employed in order to strengthen technical research and development activities of benefit to our membership Every member of the Institute has a right to question the purpose of further dues increases. As a Region 1 Director I will work to achieve a fair allocation of such funds as are realized from Institute technical conferences to subsidize membership dues and ensure that a proper distribution of such monies is made to all Sections in the Region.

MICHAEL J. WHITELAW

Michael J. Whitelaw, senior engineer at Northeast Utilities (NU) in Connecticut, is a Senior member of IEEE. A past Connecticut Section chairman, Whitelaw has been an innovative leader in IEEE work and has been a keen supporter of the organization’s activities at the grass roots level. He is currently By Laws Coordinator of the Regional Activities Board (RAB) and he is Chairman of the RAB-1987 Sections Congress Committee. He is also chairman of the Priorities and Planning Committee of Region 1. In addition to his other IEEE activities, Whitelaw has held every elected post in the Connecticut Section. He is currently serving in the ADCOM of the Engineering Management Society and in the ADCOM of the Society on Social Implications of Technology. He is a member of the Power Engineering Society and has served on several of its technical committees. He also is a member of the Nuclear Plasma Sciences Society.

STATEMENT OF MICHAEL J. WHITELAW

I believe that the profession, the Institute, Region 1 and its Sections have much to gain from mutual collaborations. The Institute and its services to the Region and its Sections must be made more relevant to all members. To that end, I am a vigorous supporter of the following: (1) Increase the visibility of the Region 1 Committee members and Region 1 services for funding Section activities and for improving Section’s administration (2) Continue to operate conferences (such as ELECTRO) and all programs in a cost-effective manner, with sound financial budgeting and reporting practices, yet maintaining technical excellence (3) Continue to improve the PACE and SPAC systems within Sections in the Region (4) Enhance affordable short-course, home-study and satellite continuing education programs (5) Improve interaction with all levels of industry and government (6) Improve the image of the “engineer” through public relation activities. Develop “appreciation of technologists” courses and publications for the non-technical public (7) Encourage increased participation of women engineers in all Institute technical and professional activities.

SUCCESSFUL IEEE FELLOW GRADE NOMINATIONS

By: Eugene I. Gordon, IEEE Fellow North Jersey Section Awards Committee

Recognition by peers is one of the important reasons for the existence of IEEE. Elevation to the grade of IEEE Fellow is the focus of much of the awards activity. A successful nomination requires two elements: (1) a qualified candidate, and (2) a well-prepared nomination form. Assuming the (1) is satisfied, this document is designed to help produce a nomination form that will enhance the possibility of success. A successful nomination is a tribute to the skills and efforts of the nominator as well as to the candidate. It represents considerable effort. Often the successful nominator experiences an unheralded victory, accompanied by a sense of quiet satisfaction for a tough job well done. A key preliminary is a careful reading of the IEEE Guide for Fellow Grade Nominations. It is well written and complete, and is ignored only with great risk to potential success. Make sure that the Guide and nomination form are up to date; an out-of-date form is deathnium. Give yourself ample time to prepare a proper form, including in the schedule a review by the North Jersey Section Awards Committee. In particular, don’t impose on your references by making a last minute request for their support. A good reference is usually a busy individual with several such requests. When you do receive assent and send the appropriate material, include a draft version of the nomination. Additional background information can be helpful since it allows the reference to buttress the case. Recognition by elevation to Fellow signifies demonstrated, outstanding effort in one case. Many good efforts do not replace one outstanding work. Many good efforts, added to one outstanding work, do not enhance a nomination. Indeed, a laundry list of outstanding efforts reduces the opportunity to make a convincing case for the validity of one. Absent the demonstration and the nomination becomes worthless. Therefore, the key decision in establishing the strategy for a successful nomination is the choice of a single outstanding effort which can be demonstrated convincingly. There is an opportunity to list other outstanding efforts, but they have little value unless they have some credibility. Items 1\* and 2 on the form require no comment. Item 3 (proposed citation) is the most important. Although 30 words are allowed in the citation, a short, concise citation based on the one outstanding effort is more effective. Avoid the temptation to list more than the one outstanding effort you have chosen to focus on. Item 4 (nominator information) requires no comment. Item 5 is simply the work history. Do not use it to add to the list of accomplishments or embellish the story. Keep to the point; position held by title and responsibilities. These may include number of people reporting to the candidate, mission of the organization, courses taught, nature of the courses, etc. Item 6A is your chance to tell about the one outstanding accomplishment of your candidate. ONLY ONE. Describe it. Don’t expect the evaluation committee to be familiar with the area. Don’t use jargon. Explain, and keep it simple. Use the space provided. This section also allows you to explain why the outstanding accomplishment is significant, and why it indicates individual performance substantially better than the average senior member.

This is where you make the case. You win or lose here. Item 6B (other contributions) is icing on the cake. But keep in mind, Item 6A is the cake. In both sections you should cross reference to tangible items listed in Item 7. Item 7 requires TANGIBLE and VERIFIABLE evidence of the technical accomplishments listed in Item 6. If you can’t fill out this section as requested, give up. The most effective and easiest exhibits involve books, publications in peer-reviewed journals, talks at meetings with published proceedings, and patents. Describe the engineering significance and cross reference to Item 6. In the case of multiple authorship, describe the specific contribution of the candidate. The absence of books, papers, talks, or patents to support the case poses a challenge but is hardly a fatal flaw. Tangible evidence includes archived reports, presentations to august bodies, published standards, minutes, designs, etc. It is important that the existence of these be verifiable. The maximum number of items is 18. These should be numbered in sequence for the sake of reference. Item 10 (references) is important. Finding suitable references who are genuinely familiar with the work of the nominee, who are Fellows of the IEEE, and who work for organizations other than that of the candidate is such a demanding requirement that it provides credible indication of stature. However, references can also help to provide credible support for the basic case. For this reason, providing the reference with a draft copy of the nomination form is essential. In summary, many of the mechanicals can be found in the nomination guide. Careful study is a must. The key to success is to prove a case of outstanding performance. Best of luck! \*The item numbers in the essay refer to the item numbers on the Fellow Grade Nomination Form B-27. CALENDAR NORTH JERSEY SECTION AWARDS COMMITTEE 1985-1986 AWARDS YEAR October - November 1985 Committee members solicit Fellow nominees from their organizations or other sources. December 6, 1985 First Awards Committee meeting: AT&T Bell Labs, Morristown, N.J. February 5, 1986 Awards Committee meeting. March 7, 1986 Preliminary drafts for all Fellows should be in the Chairman’s hands. March 14, 1986 Awards Committee meeting -- Review of all drafts and recommendations to nominators. April 4, 1986 Deadline for all final drafts of new Fellows. April 11, 1986 Last meeting -- Awards Committee final vote on whether or not to endorse. Rank order listing of Fellow nominees will be made. April 18, 1986 Letters of Endorsement sent to IEEE Fellow Secretary. May, 1986 Final report to Section Executive Committee made by Chairman.

# Statements by Candidates for 1986 President-Elect

The following independently written statements by the two candidates for President-Elect, Mr. Henry L. Bachman and Dr. Jose B. Cruz Jr., have been especially prepared for readers of IEEE newsletters. It is hoped that these statements will supplement the biographical sketches and other statements made by the candidates which appear elsewhere in the IEEE literature and that they will assist IEEE member voters in the election process.

## Statement by Henry L. Bachman

My objective, as President of the Institute will be to assure that the Institute will provide the basis for the health and growth of the profession and its members, for their own benefit, for the benefit of the electrotechnology industry and supporting institutions and, as a result, for the benefit of the members of society at large.

Essential to accomplishing this objective is the need to maintain the vigor of the technical societies and to see that these activities are not compromised. The professional activities of the Institute must support these technical activities by encouraging and assisting able engineers to join and to prosper in a lifelong career within the profession. These activities together, must take action to strengthen the profession's image and its contribution to public policy and, by so doing, create the environment that is necessary to enhance the strength and stature of the profession and its members.

More specifically, there is a need to derive more benefit and broaden the impact of technical activities by better application of the resources and capabilities provided by the Regional and Educational activities, particularly as to the need to increase the utilization and make more productive the engineers that are already working, to prevent the loss of older engineers from the profession, and to be more responsive to the careers in industry with requirements for competitiveness in product cost and quality. This requires improving the ability of the Institute to deliver relevant technical information to the members, economically and effectively, both to individuals or local groups, and with emphasis on life-long learning through continuous education.

There is a need to assure the freest dissemination of technical information, as embodied in presentations or products, consistent with proprietary needs and national security, in order not to discourage the economic and intellectual pursuit of technological innovation. There is a further need to encourage the contributors of such innovation by proper recognition of their rights to intellectual property.

There is a need for the Institute to direct more attention to external affairs. With employers of engineers, for example, to further the understanding of the contribution of the Institute to all enterprises. With institutions at the local level, especially when certain member problems and concerns have more relevance and urgency regionally, than nationally, and with the media, and the public they serve, to combat the limited awareness and often, therefore, the low regard for technology, by speaking out knowledgeably about technology to the government and the public at large. The recently established Industrial Relations Committee, increased USAB interactions, through PACE, with local governments, an IEEE Annual Conference, and more media attention to Institute awards are examples of such public information programs which require more emphasis.

## Statement by Jose B. Cruz, Jr.

### *Extend technical and educational services to a broader member base*

IEEE is the largest technical professional society in the world. It disseminates numerous major advances in the field through its technical publications and technical conferences throughout the world. Our publications and conferences are preeminent but we need to extend our publications and conference activities to serve a broader member base. We should have more offerings of tutorial and practice-oriented material to assist our members in their career-long professional development. We need to develop effective delivery mechanisms using our own computer/communications technology.

*Continuing education is for everyone*—Advances in computers, communications, microelectronics, electronic materials, optoelectronics, electromagnetics, systems, power and energy, and other areas have been dramatic in recent years. IEEE members must continuously learn a significant amount of new material to maintain technical viability. The nature of our profession demands that life-long learning, in its broadest sense, occupy a central place in our individual activities.

*Enhance opportunities for professional development*—The most critical factor affecting the professional development of engineers is the presence of challenges for creativity and opportunities for growth in the work environment. IEEE should work with industry leaders to address the productivity problem through greater incentives for professional growth. We need to match our educational offerings with industrial challenges at the workplace.

*Improve communications*—We need to express our concerns and opinions to IEEE officers. Our representatives want to hear from us so that they can represent us more effectively. More communications with our local Section/Chapter officers, Society officers, and Institute officers should lead to a more effective organization.

*Forecast engineering manpower demand*—When demand exceeds supply, more high school graduates are induced to seek a career in engineering. Unfortunately, there is usually a lag of four to five years before an increase in supply is felt. This could then lead to an excess supply of engineers. We need longer term forecasts to improve stability. We must be very careful not to overestimate demand.

*Fight Age Discrimination*—IEEE should assist industry to achieve a more effective engineering manpower utilization. IEEE must assist its membership against age discrimination practices which may occur in advertising, early retirement, employment, promotion, transfer, or other forms. IEEE should support those industry leaders who create the necessary environment for employed engineers to have full and productive careers.

### *We Need Your Feedback*

Based on my conversations with numerous IEEE members throughout the world I know that we need more services for technical and professional development in our stride for greater productivity, and we deserve improvement in our social and economic status. I believe that I have broad support for my goals to improve member services and to enhance the status of the engineering profession. I urge you to express your feedback by exercising your right to vote.

## Primer On Project Management

Project Management will be discussed by Caryl Pettijohn at the November 20, 1985 meeting of the IEEE Management Society's New York/North Jersey Joint Chapter.

### About The Talk

In his talk "Project Management—A Primer," Pettijohn will detail the importance of project management to managers and engineering staff. It is basically a human endeavor where a project's success or failure depends on how well these two entities work together. Our speaker will cover methods to help management and technical staff work as a team. Tools and techniques will be presented to set goals and objectives, monitor and track progress, communicate and control the project.

### About The Speaker

Caryl L. Pettijohn was head of the Software Project Management Department at AT&T Bell Laboratories. He developed and ran the AT&T-BL Software Project Management Workshop.

In 1983, Mr. Pettijohn was named a Bell Labs Fellow. He is now Director of the Signal Processor Laboratory.

### FREE ADMISSION

Admission is **free to members and non-members** of the IEEE. Everyone is invited. This is a meeting that managers and engineering staff, everywhere, would not want to miss!

**Time:** 7:30 PM, Wednesday, November 20, 1985.

**Place:** ITT Auditorium, 500 Washington Avenue, Nutley, N.J. (Call for directions).

**Pre-Meeting Dinner:** Sandlewood Restaurant, Ramada Inn, Route 3, Clifton, N.J. Cocktails at 5:30 PM, Dinner at 6:00 PM (Dutch Treat).

**Information & Reservations:** Allan Berlinsky (201) 386-4614; Al Stolpen (201) 386-3703; Marty Izzack (212) 397-7438.



## CALENDAR OF EVENTS

October 9, 1985--"A Task Oriented Conversational Mode Speech Understanding System"--NJ Acoustics, Speech and Signal Processing Society Chapter, 7:30 PM, Jersey Central Power & Light Co., Madison Ave., Morristown, N.J. Greg Mackintosh (201) 386-4560.

October 9--"Lasers: From Exotic Toys To Practical Tools"--NY/NJ Engineering Management Society Chapter, 8 PM, New York Academy Of Science, 2 E. 63rd St., NYC. Al Botani (212) 319-7444.

October 15--"Achieving High Reliability In Optical Undersea Cable Systems"--NJ Reliability Society Chapter, 7:30 PM, ITT Auditorium, 500 Washington St., Nutley, N.J. Ray Sears (201) 386-2259.

October 16--"North Jersey Section Social"--NJ PACE Committee, 5:30 PM, ITT Clubhouse, 417 River Road, Nutley, N.J. Richard Tax (201) 391-9075.

October 16--"Organizational Meeting, North Jersey Chapter Of The Systems, Man & Cybernetics Society"--7 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Benham Ashjari (201) 981-3528.

October 22--"Seminar—Current Trends In Database Management And Applications"--New York Computer Society Chapter; All Day, United Engineering Center, 345 E. 47th St., NYC. Jim P. Barbera (212) 956-5642.

October 23--"Meeting & Mini Show MICROWAVES—PAST, PRESENT, FUTURE"--NJ MTT/AP Chapter, 1:45—9 PM, ITT Auditorium (500 Washington Ave., Nutley, N.J.) & ITT Clubhouse (417 River Rd., Nutley, N.J.). Reservations required for free buffet dinner. Dick Snyder (201) 492-1207.

October 30--"Long-Haul Fiber-Optic Networks"--NJ Computer/Communications Societies Chapter, 8 PM, ITT Auditorium, 500 Washington Avenue, Nutley, N.J. George Parowski (201) 529-6141.

November 20--"Project Management--A Primer"--NY/NJ Engineering Management Society Chapter; 7:30 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Marty Izzack (212) 397-7438.

November 21--"Concepts In Load Management"--NJ Power Engineering Society Chapter, 7 PM, Jersey City Power & Light Co., Madison Avenue, Morristown, N.J. A. Franzoni (201) 926-6923.

November 21--"Seminar: Network Integration, Private And Public Alternatives"--New York Communications Society Chapter, 9 AM-5 PM, United Engineering Center, 345 E. 47th St., NYC. RESERVATIONS & FEE REQUIRED. Joanne P. Quigley (212) 552-2828 or Peter A. Campanella (212) 395-7479.



Load Management

The North Jersey Chapter of the Power Engineering Society will hold a November 21 meeting on “Concepts In Load Management.” The speaker will be Glenn O. Steiger of GPU Service Corporation.

About The Talk

The science of load management has evolved from simple off-peak pricing to a complex system of high tech energy management schemes.

Today, all customer segments have available to them a wide assortment of plans and devices to assist them in controlling their energy usage and pattern. Some of the more exciting concepts to be discussed:

- (1) Thermal storage
- (2) Variable time-of-day rates
- (3) Customer choice using “transtext”
- (4) Power line carrier load control
- (5) “Pay for savings and shared savings”

The discussion will concentrate on the efforts of the GPU System and other utilities to integrate these concepts into the standard operating procedures of its customer base. Techniques for marketing these concepts will be included in the presentation.

About The Speaker

Glenn O. Steiger is Load Management Manager for General Public Utilities, Parsippany, N.J. He has over 15 years of engineering, operating, and marketing experience in the electric utility industry. Presently responsible for all conservation, load management, and marketing activities for the GPU System (Jersey Central Power & Light Company, Metropolitan Edison, and Pennsylvania Electric).

Mr. Steiger holds a BS in Civil Engineering and an MS in Engineering Management from New Jersey Institute of Technology and is a licensed Professional Engineer.

Married with two daughters, he resides in Randolph, N.J.

**Time:** 7 PM, Thursday, November 21, 1985.  
**Place:** Punch Bowl Room, JCP&L, Madison Avenue at Punch Bowl Road, Morristown, N.J.

Seminar  
CURRENT TRENDS IN DATA BASE  
MANAGEMENT AND APPLICATIONS  
Tuesday, October 22, 1985  
UNITED ENGINEERING CENTER  
345 East 47th Street, New York City

Sponsored By:  
The Computer Society, New York Section of the IEEE

9:00 AM	Welcome	Chairman, Computer Society
9:10	Keynote Address	Speaker to be announced
9:45	IMS/VS Past and Present	Mr. G. Eisenberger IBM Research
10:20	Fault Tolerance in Data Bases	Dr. J. Boese BELLCORE
10:55	Coffee Break	
11:15	Indexing in Data Bases	Dr. L. Woodrum IBM
11:50	PC Data Base Software Selection	Mr. A. Gupta, Pres. Software Solutions, Inc.
12:25 PM	Lunch	
1:25	System Design Using DB Software	Mr. A. Pedrinan Pedrinan Mgmt. Consulting
2:00	Pronto Banking DB Services	Mr. M. Holthouse, Vice Pres. Pronto Link Co.
2:35	Coffee Break	
2:55	User Interface	Mr. G. Baum, Vice Pres. Lotus Development Corp.
3:30	DB Management and the End User	Ms. C. Davies United Nations

**Registration:** \$125 (includes seminar notes, lunch and coffee), IEEE Members \$115, and a \$10 discount for early registrations before October 14, 1985.

**Note:** Above program is tentative and subject to change.

Registration for CURRENT TRENDS IN DATA BASE MANAGEMENT & APPLICATION

**TO:** Mr. Francis X. Kadien, NYNEX Service Co., First Floor, 441 Ninth Ave., New York, N.Y. 10001. Direct phone enquiries to Mr. Jim Barbera (212) 956-5642, New York Tel. Co.

Name _____	IEEE No. _____
Affiliation _____	Phone No. _____
Address _____	

Please enclose required fee made payable to **Computer Society, N.Y. Section IEEE**

HENRY L. BACHMAN  
Vice President, Engineering  
Hazeltine Corporation

Mr. Bachman received his BEE degree (1951) and the MEE degree (1954) from Polytechnic Institute of New York. He attended the Harvard Business School Advanced Management Program in 1972. His career began at Wheeler Laboratories as a Development Engineer where he conducted and subsequently directed state-of-the-art developments of microwave components and antennas for communications, monopulse radar and phased arrays; he served as President of Wheeler Laboratories from 1968 to 1970. He joined Hazeltine Corporation when, as a subsidiary company, Wheeler Laboratories merged with the parent company in 1970. He has served as Vice President with various responsibilities including Logistics Engineering, Quality, Customer Service and Operations. He is presently Vice President, Engineering, responsible for the development and implementation of Engineering design policies, practices, development and analysis tools, and expertise. He is a Distinguished Alumnus of Polytechnic Institute of New York and Chairman of the Alumni Association, Chairman of the Long Island Forum for Technology, and a member of Tau Beta Pi, Eta Kappa Nu and Sigma Xi. This year he was the recipient of the IEEE Engineering Management Society’s Engineering Manager of the Year Award and the IEEE Long Island Section’s award for outstanding service to the IEEE.

Henry has served IEEE for over 25 years, as Long Island Section Microwave Theory and Techniques Chapter Chairman, Antennas and Propagation Chapter Chairman, and Section Chairman; as Engineering Management Society President, as a Director, Treasurer, and Executive Vice President, and as a Chairman and member of numerous other Committees and Boards.

*For further information concerning the IEEE activities of Henry Bachman please refer to the information included with your Ballot.*

JOSE B. CRUZ, JR.  
Professor and Associate Head  
Department of Electrical and Computer Engineering  
University of Illinois

Dr. Cruz received the BSEE (summa cum laude, University of the Philippines, 1953), the SM (MIT, 1956), and the PhD (University of Illinois, 1959) degrees all in electrical engineering. He held visiting posts at the University of California at Berkeley, MIT, and Harvard; served as consultant for several organizations; authored or coauthored six books and over 175 papers in feedback systems, control, sensitivity analysis, and circuits. He is a Vice Chairman of the IFAC Technical Board; a member of the National Council of Engineering Examiners and the Illinois Professional Engineering Examination Committee; a member of the National Research Council Panel on Information, Communications, Computations, and Control Systems Research.

Dr. Cruz received the 1972 ASEE Curtis W. McGraw Research Award and the 1981 Halliburton Engineering Education Leadership Award. He is a member of the National Academy of Engineering, AAAS, ASEE, NSPE, ISPE, PAASE, PESO, Eta Kappa Nu, Phi Kappa Phi, and Sigma Xi. He is listed in Who’s Who in America and Who’s Who in the World.

*For further information concerning the IEEE activities of Jose B. Cruz please refer to the information included with your Ballot.*

PACE NEWS

Older Engineers Should  
Be Appraised Not By Age  
But By Contributions

by Carole Patton

The out-of-date engineer has become an industry cliché. So prevalent is the concept that new terms have been coined to describe it: “technological obsolescence,” “burnout,” “engineering half-life.” To put a figure on that last term, recent studies indicate that technology is now changing so fast that half of what an EE learns in school is useless inside of 10 years. Some even suggest that the career may not last a lifetime and that practitioners ought to learn—during the course of their jobs in engineering—how to do something else later on.

History proves that some people do their finest work when middle-aged or older (Michelangelo, Shakespeare, Freud, Picasso, to name a few), and a study of Nobel Prize winners reveals that most were middle-aged when they did the work for which they were later honored. Yet, from a purely statistical standpoint, older scientists as a group are less productive than young ones. Why?

People do not lose the ability to learn as they age. MIT’s Marvin Minsky, who has researched memory and learning, notes that the middle-aged can learn a foreign language, all the grammar plus thousands of words, in three months. “It takes a child two or three years to learn as much,” he says. In reasoning and problem solving, where the brain notes similarities between things or events and makes inferences, oldsters can draw on a larger “data base” of experience.

Older engineers have other pluses: For example, retention of “older” technology—like analog design, which seems to have been abandoned by the younger generation but is now more crucial than ever in real world systems.

I don’t believe engineers become less creative as they get older, but I do think they are less willing to take risks. An engineer still wet behind the ears has not learned that novel design approaches don’t always get off the ground in large engineering companies. After a dozen years or so of design reviews—and being rapped on the knuckles for lack of foresight—one becomes less willing to make radical suggestions. (Also, putting a couple of kids through college and paying off a mortgage make risk taking more dangerous.)

One other issue should also be considered: rewards. A recent study by sociologist Stephen Cole of the State University of New York at Stony Brook suggests that the unrewarded cease to produce. According to *ELECTRONIC DESIGN’s* 1984 salary survey (Oct. 31, p. 140), older engineers receive smaller raises, and because of salary compression, those approaching the age of 60 actually earn less than colleagues 10 years their junior.

Engineers are important to a technological society like ours. Pat phrases like “burnout” and “technological obsolescence” are not the answer. The issue warrants serious thought, not a new platitude.

*(REPRINTED FROM “Electronic Design,” September 5, 1985.)*

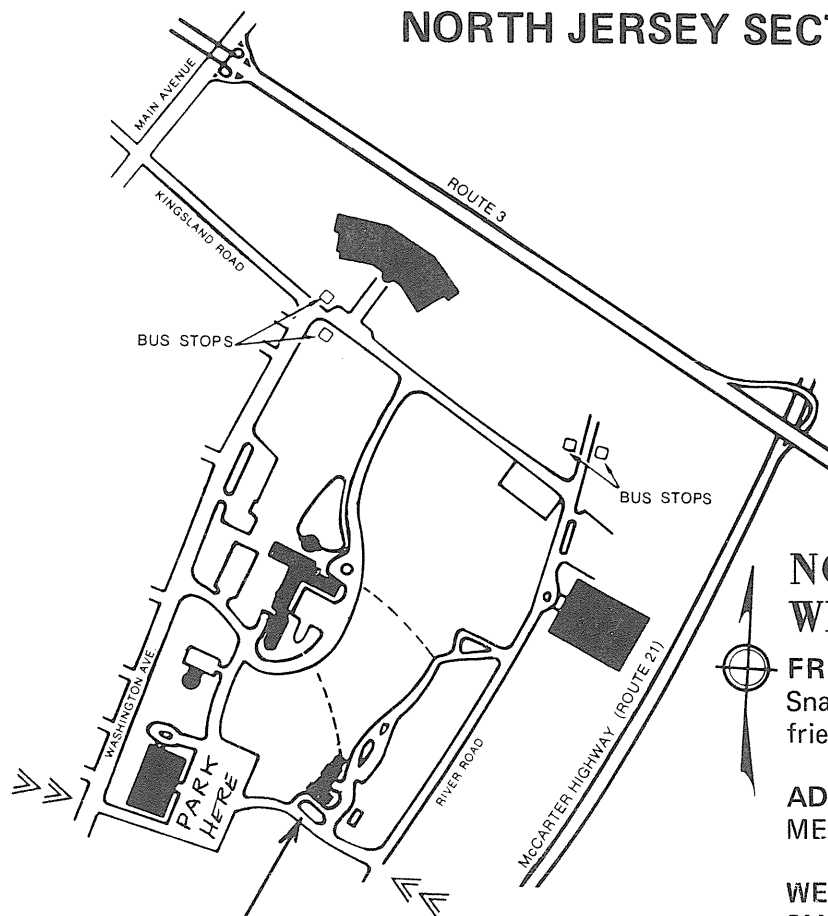


HENRY L. BACHMAN



JOSE B. CRUZ, JR.

**PACE—Professional Activities Committee for Engineers  
Presents  
Candidates for IEEE President-Elect  
As Guests At Our  
NORTH JERSEY SECTION SOCIAL**



**NORTH JERSEY SECTION SOCIAL:  
WEDNESDAY, OCTOBER 16**

**FREE** — Beer, Wine, Soda, Coffee, Cheese, Sandwiches, Snacks and the opportunity to relax and meet with friends and associates.

**ADMISSION: FREE** to IEEE MEMBERS, and POTENTIAL MEMBERS and Spouse.

**WEDNESDAY, OCTOBER 16, 1985, 5:30 PM to 10:00 PM** at the ITT CLUB HOUSE, 417 River Road, Nutley, N.J. Parking at rear of ITT AVIONICS DIV. BLDG., 390 Washington Avenue, Nutley, N.J.



**CLUBHOUSE**  
417 River Road, Nutley, N.J. 07110



**NJ Section Awards  
Committee Report**

The IEEE North Jersey Section Awards Committee is a standing committee of the North Jersey Section. The Section Executive Committee has empowered the Awards Committee with the responsibility of identifying Section members who should be submitted for Fellow awards or other IEEE national or sectional awards. In addition, the Awards Committee also reviews nominees for Fellow awards submitted by individuals and makes suggestions to the nominators on improving these submissions. The Committee also has the option to endorse these candidates as the facts warrant.

The Section Awards Committee's work typically begins in October when solicitations for candidates for Fellow are made by members of the Committee. The Committee meets on a monthly basis from December through April. Each member of the Committee is assigned various candidates to see that the nominators meet all IEEE requirements in preparing cases for Fellow. Progress of all cases is followed with final drafts being submitted prior to the April Awards Committee meeting. A calendar of the Awards Committee's schedule is shown below.

In addition, Dr. Eugene I. Gordon, a member of the Section Awards Committee, has written a very informative essay on how to prepare a Fellow case. This is also printed in this newsletter.

The current members of the IEEE North Jersey Section Awards Committee are listed below:

- Dr. George S. Eager, Jr.  
(201) 783-7281
- Dr. Eugene I. Gordon  
(201) 685-2000
- Prof. Gerald J. Herskowitz  
(201) 420-5605
- Mr. Stephen A. Mallard  
(201) 430-6776
- Mr. Robert L. Mattingly  
(201) 538-7493
- Dr. Jerry B. Minter  
(201) 627-0290
- Mr. Frank Relotto  
(201) 634-3460
- Mr. Christopher O. Riddleberger  
(201) 299-3428
- Mr. John Van Savage  
(201) 544-2334
- Dr. Joseph J. Suozzi, Chairman  
(201) 898-1200

**Fiber-Optic Networks  
For Long Hauls**

The North Jersey Section's Computer/Communications Chapter will hold a October 30, 1985 meeting on "Long-Haul Fiber-Optic Networks." Charles Siperko of Microtel will discuss the LaserNet system.

**About The Talk**

The speaker will discuss various aspects of the planning, engineering and construction of Microtel's LaserNet fiber-optic network, and the present network topology and status of the National Telecommunications Network (NTN).

The talk will cover technology alternatives and the advantages of a fiber-optic transmission network, considering the operating environment in the Southeastern U.S. and the competitive cost advantage. It will also present a review of LaserNet network objectives, design, and construction techniques.

**About The Speaker**

Mr. Siperko is presently Vice President of Operations at Microtel Inc., where he is responsible for the engineering, network operations and customer service functions. He had originally joined Microtel as VP Engineering, responsible for the planning, engineering, and construction of the LaserNet network.

Previously, Mr. Siperko was Assistant Vice President for Engineering of Macomnet (division of M/A-Com Corp.), and Director of Earth Station and Satellite Interface Engineering at Western Union Telegraph Co.

Mr. Siperko holds a BSE degree from The Johns Hopkins University and an MBA (finance) from Loyola College of Baltimore.

**NON-MEMBERS OF IEEE ARE WELCOME TO ATTEND THIS EVENT.**

**Time:** 8:00 PM, Wednesday, October 30, 1985.

**Place:** ITT Auditorium, 500 Washington Avenue, Nutley, N.J.

**For Further Information:** George Parowski (201) 529-6141 or Fran Stork (201) 884-6042.

**Speech Understanding**

Dr. Stephen Levinson, a participant in the ASSP Distinguished Society Lecturer Series, will inaugurate the exciting 1985/1986 technical program of the North Jersey Acoustics, Speech and Signal Processing Society chapter on October 9, 1985. His talk is entitled "A Task Oriented Conversational Mode Speech Understanding System."

**About The Talk**

A conversational mode connected speech understanding system which simulates the function of an airline ticket agent will be described. The system, which allows a complete spoken dialogue over dialed up telephone lines, comprises a syntax directed, dynamic programming, temporal alignment algorithm for acoustic pattern recognition, and a semantic processor that controls a speech synthesizer system, making two way speech communication possible.

The heterarchical nature of the system allows it intelligent processing, such as the ability to recognize incorrect and incomplete, improbable and or conflicting information in the context of the transaction, and to pose questions which identify the difficulty, thereby allowing communication to proceed in the natural way.

**About The Speaker**

Dr. Levinson received the BA degree in engineering sciences from Harvard University, Cambridge, MA in 1966, and the MS and PhD degrees in electrical engineering from the University of Rhode Island, Kingston, in 1972 and 1974, respectively. He is a member of the Technical Staff at Bell Laboratories, Murray Hill, NJ where he is pursuing research in the areas of speech recognition and cybernetics.

**Elections Stated**

Elections of chapter officers will be held in a brief business meeting preceding the talk. We urge members and non-members alike to actively participate in the North Jersey ASSP chapter, and join us in what will surely be an exciting evening!

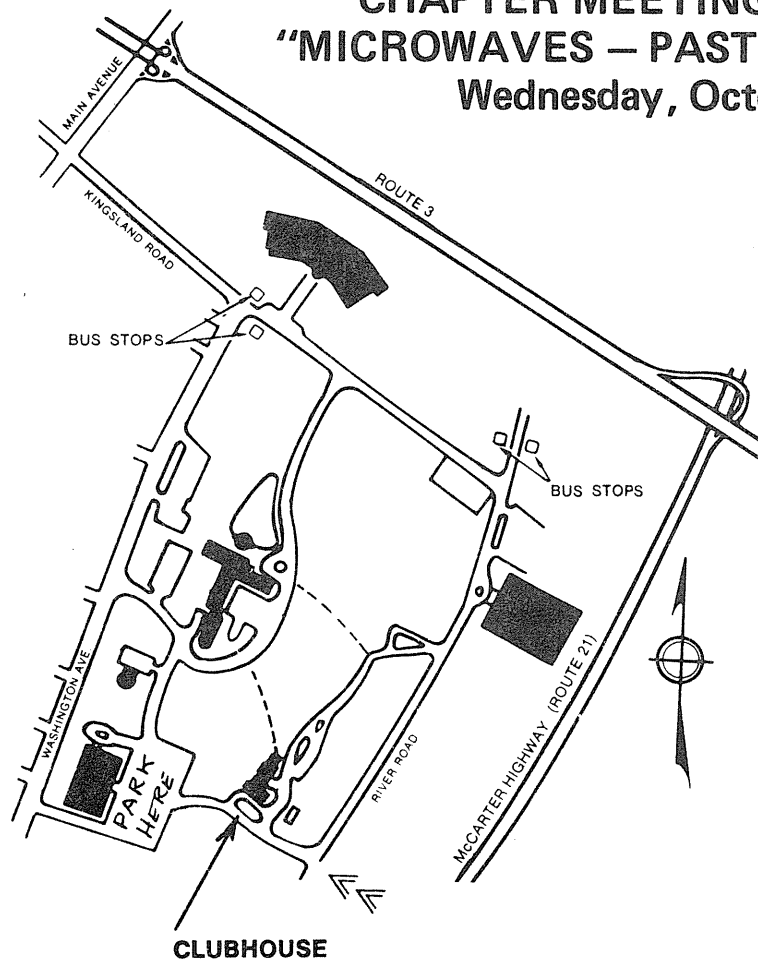
**Time:** 7:30 PM, Wednesday, October 9, 1985.  
**Place:** Jersey Central Power & Light Co., Madison Ave. (Rt. 24) at Punch Bowl Rd., Morristown, N.J.

**Information:** Greg Mackintosh (W) (201) 386-4560 or Marc Beacken (W) (201) 386-3757.

**Pre-Meeting Dinner Reservations:** 6 PM, Greg Mackintosh (W) (201) 386-4560.



**North Jersey MTT/AP  
CHAPTER MEETING AND MINI SHOW  
"MICROWAVES – PAST, PRESENT, FUTURE"  
Wednesday, October 23, 1985**



**TWO IEEE-MTT DISTINGUISHED LECTURERS**

**PAST –**

Mr. Ted S. Saad, Microwave Theory and Techniques Historian  
"The Story of the MIT Radiation Laboratory."

**FUTURE –**

Dr. Glenn R. Thoren, Raytheon Radar Systems Laboratories, Bedford, Ma.  
"Back To The Future."

Lectures in the ITT Auditorium (at the Tower) 500 Washington Avenue, Nutley, N.J.

**PRESENT –**

MINI SHOW by Microwave Companies and Electronics Representatives.

MINI SHOW in the ITT Clubhouse, 417 River Road, Nutley, N.J.

- |                |   |  |
|----------------|---|--|
| 1:45 – 2:45 PM | – | Lecture by Dr. Glenn R. Thoren                   |
| 2:45 – 7:30 PM | – | MINI SHOW, Refreshments, Beer, Soda, etc.        |
| 6:00 – 7:30 PM | – | Free Buffet Dinner for the first 300 Registrants |
| 7:30 – 9:00 PM | – | Lecture by Mr. Ted S. Saad                       |

**DOOR PRIZES BY MINI-CIRCUIT  
GRAND PRIZES BY MICROLAB AND MINI-CIRCUITS  
RESERVATIONS FOR THE COMPLIMENTARY DINNER REQUIRED**

For Reservations please call before Friday, October 18, 1985

Dick Snyder (201) 492-1207;  
W. Schmidt (201) 284-2255;  
Har Dayal (201) 785-7561

**BACK TO THE FUTURE**

The future of microwave lies at the horizon of our view. In the distance is the dimly lit skyline of the future where the "blue sky" of possible programs and emerging technologies meets the broad (not always smooth) road of today's contracts and systems.

That's a literary canvas at best. The future of microwaves and its younger kin, millimeter waves, is cast by hard, cold facts. Technology presses on. Programs struggle to survive. Innovative concepts and infant technologies will take the most focused dedicated efforts we can muster to be transformed into real and practical products. This is an awe inspiring challenge. Monolithic GaAs circuitry in both analog and digital components will be created and used extensively. Entire radars as small as a coffee can (or smaller) will be prolific.

Digital beamforming will lead to radars that can see in all directions at once. New electron devices and high speed "Ultra" VHSIC circuits will operate at mindbending speeds and at data throughputs that will leave scientists and engineers groping for ideas on what to do with all the information. Optics and optical techniques will blaze inroads into data transfer and signal manipulation for microwaves and millimeter waves.

As fantasy meets reality the future will rush toward today. Then there is the Strategic Defense Initiative. SDI will be a prime force behind many technology advances in the near future.

But beware, computer automated design, factories of the future, stealth, expert systems, artificial intelligence, we will see none of this without "real" intelligence. Can today's universities support the need for microwave engineers in the future? Will corporations pick up the "educational slack"? At what cost? Let's talk about it on October 23rd in the North New Jersey Symposium. I'll see you in the future.

**GLENN THOREN**

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.

Dr. Thoren has been with Raytheon since 1971. He has designed, developed and supervised research on many state-of-the-art IMPATT diode power combiners at C, X Ku, KA and W-bands. He has also directed millimeter wave technology programs as Manager of the Millimeter Wave Transmitters and Systems Section of the Antenna/Microwave Department. Dr. Thoren also discovered the Delayed Secondary Avalanche (DSA) Phenomena in millimeter GaAs IMPATTs. In October of 1982 he was named Engineer of the Month for the development of a versatile W-band IMPATT power combiner. Dr. Thoren holds four patents for advanced solid-state power combiners circuits and has published and presented more than thirty papers on solid-state power sources and millimeter-wave technology. He is currently on the technical staff of the Radar Systems Laboratory and the Chairman of the Raytheon-Cornell University College Relations Committee.

As an active IEEE member, Dr. Thoren is past Chairman and Vice Chairman of the New England Chapter of the Microwave Theory and Techniques Society. He has served as Membership Development Subcommittee Chairman for the International MTT-S ADCOM and has served as Membership Development Chairman for Division IV. He is also a member of the MTT and ED Societies, as well as the Eta Kappa Nu Honor Society. Dr. Thoren is also advisor to the National Science Foundation and member of the Cornell University Council, the principal advisors for the operation and advancement of Cornell University and its programs.

**THE MIT RADIATION LABORATORY**

October 11, 1990 will be the 50th anniversary of the MIT Radiation Laboratory. The service performed by that organization has been understood and appreciated by only few people. Not enough has been said or written about the contribution made by the rare collection of individuals who were the people of "Radlab." The work they did left a permanent imprint on science, technology, radar, microwaves, and laboratory operations.

Mr. Saad's lecture will try to give an overview of the History of Radlab. It will touch on the reasons and conditions of its formation, some of its major projects and the results achieved. Although it was generally accepted that the atomic bomb ended World War II, people at Radlab knew that it was radar that won the war.

**THEODORE S. SAAD**

Mr. Saad has been working as a microwave engineer from the time he graduated from MIT in 1941 to the present. His main efforts have been in the design of passive microwave components. For this work, he has obtained 16 patents. He spent four years at MIT Radiation Laboratory as a research associate, four years at the Submarine Signal Company, four years at Microwave Development Laboratories as Vice President and Chief Engineer, and a year at Sylvania. In early 1955, Mr. Saad became co-founder, President, and Chairman of the Board of Sage Laboratories, Inc., which positions he still holds. In 1958, Mr. Saad was a co-founder of Horizon House-Microwave Inc., which publishes "The Microwave Journal." He was also a co-founder of Artech House, which publishes technical books. He is presently a consulting editor of the Microwave Journal.

Mr. Saad is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). He has been a member of the National Administrative Committee of the IEEE Microwave Theory and Techniques Society since 1953. He has been the editor of the Transactions of MTT, Editor of the Newsletter, and Vice Chairman and Chairman of the National Administrative Committee. He was the 1972 National Lecturer and was made an Honorary Life Member in 1973. He received the MTT Distinguished Service Award in 1983 and the IEEE-Centennial Medal in 1984. He is presently Historian of the Microwave Society.