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The IEEE

# Newsletter

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

**AUGUST, 1984**

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REPORT ALL ADDRESS CHANGES TO:  
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445 Hoes Lane  
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(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.

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## Transmission Lines

The North Jersey MTT/AP Chapter will hold its first meeting after the summer recess on September 18, 1984.

Dr. Tatsuo Itoh, The University of Texas at Austin, Department of Electrical Engineering will discuss "Transmission Lines for Microwave and Millimeter-Wave Circuits."

#### About The Talk

Characteristics of several transmission lines will be reviewed with circuit applications shown. Emphasis will be placed on printed lines --suspended strip lines, finlines and E-plane Structures. Microstrips and coplanar waveguides on a semiconductor substrate are to be covered.

**Time:** 8 PM, Tuesday, September 18, 1984.

**Place:** ITT Clubhouse, 417 River Road, Nutley, N.J.

**Pre-Meeting Dinner:** 6 PM, Ramada Inn, Rt. 3, Clifton, N.J.

**Reservations:** Dick Snyder (201) 492-1207, Wilhelm Schmidt (201) 284-2255.

## Centennial Issue

The October issue of "The IEEE Newsletter" will be a combined issue with the publications of the Long Island, New York and Princeton Sections to celebrate the IEEE's Centennial.

Editorial material of interest to members of the combined Sections are welcomed. Advertising rates for this special issue with a circulation of 18,000 can be obtained by calling (201) 398-5524. Editorial and advertising deadline is September 14, 1984.

## ADA Or "C"

On September 25, 1984, the NJ Computer/Communications Chapter will have Dr. Robert B.K. Dewar of NYU speak on two important programming languages: ADA and "C".

#### About The Talk

Dr. Dewar will discuss the merits and applications for each language and their potentials. The question of which language, or both, will succeed in the commercial marketplace, in addition to DOD applications, will be discussed. The talk will include both technical and non-technical issues.

#### About The Speaker

Dr. Robert B.K. Dewar is Professor of Computer Science at the Courant Institute of Mathematics Sciences at New York University. He is a member of the Ada Board Executive Committee as well as a Distinguished Reviewer. He is also a member of the ISO Expert Panel on Ada. The NYU-Ada project resulted in an Ada translator and Interpreter; Dr. Dewar has numerous publications to his credit covering a variety of computer science topics.

#### All Welcome

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

**Time:** 8 PM, Tuesday, September 25, 1984.

**Place:** Varsity, 11 Mt. Pleasant Avenue, E. Hanover, N.J. (Go 3½ miles on Route 10 East from Route 287. Turn onto Okner Blvd. from Route 10. Varsity is on the south side of Route 10/Okner.)

**Additional Information and Dinner Reservations:** Norman Joehlin (201) 785-7291, George Pick (201) 884-6040.

ELECTRONICS

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## Professional Liability

“The Professional Liability Of The Engineer” will be the topic of the September 18, 1984 meeting of the Engineering Management Society’s Metro New York/ North Jersey Chapter. Mr. Robert J. Berman, Attorney at Law, will be the speaker.  
**About The Speaker**

Currently Mr. Berman is in private practice, specializing in product liability, construction, and professional negligence. Mr. Berman has been practicing law for 10 years and previously was Managing Practicing Attorney for Julien, Schlesinger and Finz, New York City.

**Time:** 7:00 PM, Tuesday, September 18, 1984.

**Place:** Main Level, Wilkie Memorial Building, 20 W. 40th St., N.Y.C.

**Pre-Meeting Dinner:** See Below For Reservations.

**For Further Information and Reservations at Pre-Meeting Dinner:** Elaine DiLissio (212) 564-6915, Barry Gourary (201) 783-5570, Harry Stokes (914) 696-6775.

### Statements by Candidates for 1985 Executive Vice President

The following independently written statements by the two candidates for Executive Vice President, Dr. George P. Rodrigue and Mr. Merlin G. Smith, 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 George P. Rodrigue

The IEEE is primarily a technical organization and has limited financial assets. Unlike a major corporation or government agency, the IEEE cannot hire full-time professionals to carry out most of its programs. However, the IEEE has enormous resources in its volunteer members, and its professional staff is best utilized to facilitate the voluntary actions of members. Our meetings and conferences are successful because interested and capable engineers volunteer both time and talents. Our publications are pre-eminent in many fields because reviewers, authors, and editors volunteer their efforts. In the professional area members write position papers, testify before government agencies, and lobby with local school boards, and the aggregate of individual member reputations has political power.

The IEEE has a good track record, but much remains to be done in making the engineering profession a rewarding life-long career. I believe that the IEEE Board of Directors should promote programs that foster collective and mutually supportive actions on the part of IEEE members. The program “Finding Your Way” that I successfully urged the Board to approve last year is one such example. This program builds its data base on the recommendations of technically qualified members, and will provide to IEEE members guidance on the best tutorial material available in a broad range of specific technical areas.

Programs in the professional area are also most successful when a heavy infusion of volunteer effort exists. I believe that part of the problem with the AAES is that it has no significant base of volunteer support. A true pooling of the knowledge and talents of engineers from various societies with common professional goals must be achieved. Top-down organizations rarely work on a voluntary basis.

It is an honor to be considered for the position of Executive Vice President. Participation in the Executive Committee and Board of Directors affords the opportunity to consider all the interests of the Institute. We are particularly interested in promoting efforts which foster interorganizational or interdisciplinary synergisms. These and other priorities are:

- Joint industry, government and university programs
- Cooperative activities between Society and Regional entities
- Collaboration amongst regional, technical and educational groups in the generation of affordable educational programs
- Conference services to an increasing number of members
- Publications to serve a broader member base
- Intersociety conferences and publications
- Individual-recognition programs
- Recognition of Engineering and Computer Science professions
- Responsible participation in societal and governmental forums
- An environment encouraging greater volunteer participation.

One of the specific functions of the Executive Vice President is to chair the Conference Board. As a founder and a current member of this Board, we can be effective in the brief one-year term of office. We also bring the experience as a past chairman of a major conference board, the National Computer Conference Board, chairmanship of the NCC, founder of the Comcon Fall series, and initiator of a number of workshops and meetings.

We have the support and encouragement of our employer, and we are prepared to give it a good effort.

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### Statements by Candidates for 1985 President-Elect

The following independently written statements by the two candidates for President-Elect, Dr. Jose B. Cruz, Jr. and Dr. Bruno O. Weinschel, 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 Jose B. Cruz, Jr.

##### Improvement of Technical and Educational Services to Members

Advances in computers, communications, microelectronics, electronic materials, electromagnetics, systems, energy, and other areas within the scope of IEEE concern have been dramatic in recent years. IEEE members must continuously learn a significant amount of new material. The nature of our profession demands that lifelong learning, in its broadest sense, occupy a central place in our individual activities.

The IEEE provides an organizational framework through which each member can participate to more fully utilize collectively developed technical services. Publications, short courses, workshops, Society and Regional conferences, and Section/Chapter meetings will continue to be the principal vehicles through which we achieve lifelong learning objectives. In view of the great diversity of our fields of activity and the speed with which these fields change, I believe that we need to develop new and highly flexible means of service for delivering educational and technical information.

This year the IEEE Publications Board—which I chair—will provide an experimental service called “Finding Your Way.” This enables a member, who wishes to learn a new field, to access a computer system through a communication network. Members can obtain listings of tutorial articles, workshops and conferences, home study courses, special satellite broadcasts, short courses, IEEE press books, and other relevant aspects on desired topics. I propose to greatly expand this service so that a member with a personal computer or terminal may obtain a variety of additional information services from IEEE.

##### Enhancement of Status of Members of the Profession

An important mission of the IEEE is to enhance the status of the members of the profession. This is a constitutional mandate which I strongly support. Although our principal activity in this regard is confined to the United States arena, many professional issues have universal applicability. Thus, we are addressing concerns affecting the status of the profession as a whole. Moreover, we are serving the needs of a large fraction of IEEE members who reside in the United States.

I am very supportive of the USAB positions on career enhancement issues including professional practices for engineers and their employers, portable pensions, patent rights, and age discrimination; salary surveys and other member opinion surveys; and legislative coordination. We need to develop more position papers to address the major problems facing the profession. Furthermore, we should give strong support to the joint USAB/TAB initiatives on: technology policy issues on productivity, technology transfer, energy, the environment, and communications.

As President I will work for the improvement of our technical services to IEEE members through expanded tutorial and educational materials. I will support the creation of a system that provides access to a variety of IEEE information services through a computer network. Overall, I will press for the establishment of a dynamic professional development program to enhance the status of members of the engineering profession.

#### Statement by Bruno O. Weinschel

1. *Necessity To Improve Competitiveness:* The most important problem confronting the economy today where engineers can play a more important role, is the *re-establishment of our competitiveness in world trade and against imports*. This requires the introduction of many new technologies into “smoke stack” industries and continuing *improvement of the manufacturing processes, quality control, reliability, after-sales-service and customer satisfaction*. The management of some companies including Hewlett-Packard and IBM are emphasizing these points, but many others have not yet grasped that we are in a worldwide competition. About 90% of all products used here are subject to foreign competition. We need better manufacturing, quality and reliability engineering as well as marketing research. Our private sector management must be improved. *Engineers must participate*.

2. *Continuing Education of Engineers:* Industry must budget for the *maintenance of human technical capital*. Especially, electrical engineering changes so rapidly that continuing education is necessary to stay abreast of current technologies. We must *improve the utilization* of engineers, so that an engineer can use a greater part of his time utilizing his technical knowledge. This requires sufficient support by subprofessionals including technicians, tech writers, etc., and adequate facilities.

3. *Improvement of Engineering Education:* Many engineers feel unprepared for their jobs. Some schools still teach engineering on a narrow, disciplinary basis while in real life, the required knowledge is inter-disciplinary. For example, in semi-conductors, the demarcation between electrical engineering, chemistry, solid-state physics and advanced fabrication processes has practically disappeared. This needs to be reflected in the *structure and programs* of engineering schools. Since engineers work with other departments as well as the public, they must be able to *communicate effectively*. This is essential if more engineers are to become leaders in the shaping of policy in industry and government.

4. *Long-Term Civilian R&D by Industry:* About 70% of U.S. R&D is supported by defense. While important to national security, the Japanese and West Germans, as a percentage of GNP, spend more on non-defense research. Wealth, jobs and the trade balance are closely related to the amount and quality of non-defense research. Our industries must perform more long-term R&D in civilian products, services and process technology in order to improve the quality of life both here and in the rest of the world. Technology has improved and must continue to improve health, communications, environment, transportation, cost of energy and utilization of materials.

5. *Support for Engineering by the National Science Foundation:* The NSF by law must support both *science and engineering*. Historically, it concentrated on basic science. Its budget is about \$1.5 billion. Grudgingly, within the last six years engineering increased to 10%. Its engineering research is not supportive of industry’s new technologies. The needs of highly technical *industries* have outrun their support by the NSF. Our technological *competitiveness* is closely coupled to the *quality of our engineering research and talent*. Excellence in science is necessary but not sufficient. The NSF must improve the support of engineering research and education, resulting in new and better products and services.