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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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Jr. Past Chairman . . . . . Robert E. McMillan

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May 11 — Socio-Econ. Committee Section Meeting, 7:30 PM, ITT, Nutley, N.J.

## North Jersey IEEE Meeting: Battery Energy

The May 18 meeting of the North Jersey Power Engineering Society will feature a program on Battery Energy Storage. The election of officers for June 1977 through May 1978 will also take place.

Mr. Al Pivec of Public Service Electric and Gas Co. will discuss the design, construction and operation of National Battery Energy Storage (Best Facility). Load leveling batteries in the megawatt range are now under development for use by electric power systems. The Best Facility program will provide an important evaluation and assessment of the storage devices.

Mr. Pivec is a graduate of New York University and is a licensed Professional Engineer in New Jersey. He has worked in the Public Service energy laboratory for 22 years. Currently, Mr. Pivec is the Principal Research Engineer in the Research and Development Department assigned to the Best Facility.

Time: 7:30 PM, Wednesday, May 18, 1977.

Place: Jersey Central Power & Light Co., Madison Ave. (Rt. 24) at Punchbowl Rd., Morristown, N. J.

## North Jersey IEEE Meeting: Status & Future Of Engineers In Industry

The North Jersey Section Reliability Chapter meeting on Wednesday, May 11, 1977, will feature a Cracker Barrel Session covering "The Status & Future of Today's Engineer in Industry and Society." In addition, there will be the election of 1977-78 Reliability Group officers.

Section members are urged to come to

this meeting and participate in the "Cracker Barrel" session. Let us hear your views on the status and future of today's engineer in industry and society. Do you think you're treated as a professional? What can engineers do to improve their status? What are the pluses and negatives of your profession? Do you think the engineers' salary structure is fair and compatible with other professions? Yes, this will be an opportunity to present your views and gripes! Perhaps we can answer some of your questions and you can answer some of ours.

Refreshments will be served. The election of 1977-78 Reliability Group officers will precede the "Cracker Barrel" session.

A pre-meeting dinner will be held at the Bethwood Restaurant, Lackawanna Ave., Totowa, N. J. at 6 PM.

Time: 7:30 PM, Wednesday, May 11, 1977.

Place: Singer Kearfott Plants Auditorium, 1250 McBride Ave., Little Falls, N.J.

Pre-Meeting Dinner: 6 PM, Bethwood Restaurant, Lackawanna Ave., Totowa, N. J.  
Contact: Ralph Hernandez at (201) 575-8000 or Dan Bogush at (201) 256-4000, ext. 3757.

## Newark Airport Tour

The New York, North Jersey, and Long Island Joint Chapter Instrumentation and Measurements is sponsoring a one hour tour of the Newark Airport Control Tower on Wednesday, May 25, 1977, at 7:30 PM. All persons are welcome and there is free parking at the tower.

For reservations and information, call or write: Mr. Dennis Roerty, Westinghouse Electric Corp., 95 Orange Street, Newark, New Jersey, 07101; (201) 465-2295.

Time: 7:30 PM, Wednesday, May 25, 1977.

Place: Newark Airport.

## I&M General Meeting

The New York, North Jersey and Long Island Joint Chapter Instrumentation and Measurements will hold its Annual General Meeting on Tuesday, May 17, 1977, 7:30 PM at the General Public Utilities Service Corporation, Interpace Building, 260 Cherry Hill Road, Parsippany, New Jersey. A "Dutch Treat" dinner will be held at Paul's Diner Rt. 46 in Parsippany, beginning at 5:30 PM.

A presentation will be given by Mr. George C. Moran on "Instrumentation

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GOOD STUFF.

System for the Atlantic Generation Station Model Test Program." The model test program was established to evaluate the design of the facility as part of PSE&G's safety analysis report and environmental impact statement to the U.S. Nuclear Regulatory Commission. The tests were and are being conducted on a 1:64 scale model of a proposed floating nuclear power plant to be situated 2.8 miles off the coast of New Jersey, in the vicinity of Atlantic City. The talk will describe the facility and the computer controlled instrumentation system used in the model. A brief summary of the results to date will also be presented.

Mr. Moran is Assistant Materials Division Chief in the Energy Laboratory of PSE&G Company. The Materials Division is responsible for tests of various materials used by the company in the construction and operation of energy producing and delivery systems. Mr. Moran has been associated with the Model Tests on the AGS model since February 1973 and is presently Test Director of those tests.

For further information call in New York: Mr. D.C. Roberts (212) 422-4800, in New Jersey, Dr. Harlan J. Perlis (201) 645-5492.

Time: 7:30 PM, Tuesday, May 17, 1977.  
Place: General Public Utilities Service Corporation, Interpace Building, 260 Cherry Hill Road, Parsippany, N. J.

## Medical Device Workshop

The Princeton Chapter of GEMB has announced a full-day workshop dealing with various aspects of the FDA Device Regulations. Members of FDA's Bureau of Medical Devices and Diagnostic Products main and field offices will speak as will attorneys specializing in device legislation. Both FDA personnel and the attorneys will also conduct group sessions. The one day workshop is designed to give a good overview and is aimed at technical and administrative personnel in medical devices and diagnostic products research, development, design, manufacturing and testing.

The workshop will be held on June 11, 1977 in the von Neumann Hall of Princeton University at Princeton, New Jersey. Registration will be limited and on a first come basis. The fee is \$50 for members of GEMB, \$55 for IEEE members and \$60 for all others. This fee includes lectures, group sessions, reference materials, breakfast, both coffee breaks, buffet lunch and social hour. Address

registrations to: Ulrich Frank, 945 Stuart Road, Princeton, New Jersey 08540, Phone inquiries to: Theodor Dukes, Princeton University, Forrestal Campus, Princeton, New Jersey 08540; (609) 452-5156.

## Microprocessor Short Course

The New York, North Jersey, and Long Island Joint Chapter Instrumentation and Measurements is sponsoring a two-day tutorial short course on microprocessors on May 13 and 14, 1977 (Friday and Saturday) from 9 AM to 4:30 PM at the Holiday Inn in Parsippany at the junction of Rts. 46 and 80.

The Seminar is being offered to introduce engineers, engineering management and students, involved in logic and digital design, to the intricate and flourishing field of microprocessors.

Registration for IEEE members is \$105, non-members \$140 and Students \$50, and includes coffee breaks and lunches. Further information can be obtained from Ted Barabutes at (201) 465-2293 or Dave Roberts at (212) 422-4800, ext. 8224.

## Electrosurgical Machines

On June 1st, the Metropolitan New York Chapter of the IEEE Group on Electronics in Medicine and Biology (G-EMB) will hold a meeting on "New Developments In Electrosurgical Machines." The speaker will be Frank Harris, M.D., E.E. of Valley Lab. Co., Boulder, Colo.

Time: 7:30 PM, Wednesday, June 1, 1977.

Place: Rockefeller University, South Lab, Room 204, 66th St. & York Ave., New York City.

Pre-Meeting Dinner: 6:00 PM, Tower Cafeteria, Rockefeller University, 64th St. & York Ave.

## PES Officers Nominated

The slate of officers nominated for the North Jersey Power Engineering Society for 1977-78 is:

Chairman:	John Langenfeld
Vice-Chairman:	Sy Salowe
Secretary:	John Baka
Treasurer:	Gerry Barton

Election of officers will be held on May 18, 1977 at the regular monthly meeting.



## Two NJ Members Win National Awards

Two North Jersey Section members have received 1977 national IEEE awards. The 1977 Edison Medal was awarded to Henri G. Busignies "For technical contributions and leadership in the fields of radar, radio communication and radio navigation." Manfred R. Schroeder received the 1977 WRG Baker Prize for his outstanding paper "Models of Hearing" published in the September 1975 issue of "IEEE Proceedings." Both were honored at the N. J. Section's Annual Banquet. **Henri G. Busignies**

Henri G. Busignies was born on December 29, 1905 in Sceaux, France. He received his Engineering degree from the Institute Normal Electrotechnique and an honorary Doctor of Science in 1958 from the Newark College of Engineering. In 1928 he joined ITT Laboratories in Paris and developed an airborne model of the radio-compass and other direction finders and radio aids to navigation. Shortly before Pearl Harbor, he joined the U. S. Navy and developed for them a shore and ship High Frequency Direction Finder that the Navy named Huff Duff, which was officially credited as a great factor in the winning of the Battle of the Atlantic against German submarines. For this he received among many honors, the President Certificate of Merit from Harry Truman and a Certificate of Commendation from the U.S. Navy.

He became President of ITT Laboratories in 1955 and General Technical Director and Senior Vice President of ITT in 1960, and in 1975 he retired but continued his activities as Chief Scientist Emeritus of ITT. He has been Chairman of Committees of the National Academy of Engineering (elected member in 1966), National Research Council, NATO Industrial Advisory Group.

Among his some 140 patents and inventions are the MTI Radar used in all airports of the world, the IFF patent (secret 27 years) the bi-static and multi-static radars, and the doppler radio navigation systems.

He is a Fellow of the IEEE and has received the IRE Pioneer Award (1959), the IEEE David Sarnoff Award (1964), the IEEE Award in International Communication (1969) and the Armstrong Medal, the highest honor of the Radio Club of America.

### Manfred Robert Schroeder

Manfred Robert Schroeder was born in Ahlen, Germany, on 12 July 1926. He began his studies in physics and mathematics at the University of Gottingen in 1947 from which he received the degree of Diploma Physiker in 1951 and that of Dr. rer. nat. in physics in 1954. The same year he came to the United States to join the research staff of Bell Telephone Laboratories at Murray Hill, New Jersey.

Dr. Schroeder's work at Bell has encompassed a variety of phases in the fields of acoustics. He has been engaged in fundamental studies of architectural acoustics, electroacoustics, underwater sound, speech and hearing. He is also noted for his contributions in the communications sciences, for his statistical theory of random wave fields and for new measurement methods in acoustics and other disciplines. He holds over 40 United States patents for inventions in these fields.

In 1958 Dr. Schroeder was appointed Head of the Acoustics Research Department at Bell Laboratories. In 1963 he became Director of the Acoustics and Speech Research Laboratory and in 1964 he assumed responsibility for all areas of acoustics and ultrasonics research at Bell as Director of the Acoustics, Speech and Mechanics Research Laboratory.

In 1969 Dr. Schroeder was appointed Professor of Physics and Director of the Drittes Physikalisches Institute of the University of Gottingen. In 1972 he was elected Chairman of the Physics Department at Gottingen.

Dr. Schroeder served on the "National Stereophonic Radio Committee", an advisory group to the Federal Communication Commission which formulated the standards for stereophonic broadcasting in the United States. In 1966 he served on the New Technologies Panel of the National Advisory Commission on Health Manpower.

In 1963, Dr. Schroeder was a guest of the Soviet Government to consult on the acoustics of the Palace of Congresses in the Kremlin.

Dr. Schroeder is a Fellow and past Member of the Executive Council of the Acoustical Society of America and a former Associate Editor of the Journal of the Acoustical Society of America. He is also a Fellow of the Audio Engineering Society and the Institute of Electrical

and Electronics Engineers. In 1975 he was elected Foreign Scientific member of the Max Planck Society.

In 1972 he was awarded the Gold Medal of the Audio Engineering Society for "the successful merging of theory and practice in the analysis of sound transmission and reproduction, and for pioneering efforts to apply computer technology to the problems of architectural acoustics."

### ASW PROGRAM MANAGER

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## Section Officer-Nominees

### **FRANK B. GIALANELLA** NOMINEE FOR CHAIRMAN

Frank B. Gialanella is a technical sales representative with the Automatic Switch Co., N.Y.-N.J. Metropolitan District Sales Office, Bloomfield, N.J., working with consulting engineers and manufacturers.

He has been with the company for over 15½ years. During this time he worked in the Valve Lab, Switch Lab and the Electronics Research & Development Lab in the main office of the Automatic Switch Co., in Florham Park, N.J. While at Florham Park, he also worked in the customer engineering section of the Switch Department, and then went to the New Jersey District Sales Office as a technical sales representative.

Mr. Gialanella is a graduate of Fairleigh Dickinson University where he earned an Industrial Engineering degree.

As a member of the IEEE for over 10 years, he was also Chairman of the Education Committee-North Jersey Section, and received an award in 1975 for his dedicated service and leadership in educational activities. He is also at present president of the Manufacturers Division of the Exxes Electric League and is active in a number of programs and activities in his community, among them is the Livingston UNICO of which he is a member.

He is currently Chairman of North Jersey IEEE, finishing out term of prior elected chairman.

### **DONALD G. BATHKE** NOMINEE FOR VICE CHAIRMAN I

Donald G. Bathke has been with Westinghouse Electric Corporation since 1957. He worked in nuclear, electronics, industrial and power systems fields. At present, he is in the power sales division.

Mr. Bathke graduated from the University of Wisconsin in 1954. He has served in the U.S. Air Force as a pilot and air traffic control officer.

Since joining the IEEE in 1961, he has been very active, he has held the offices of Membership Chairman, Member-at-Large and Vice Chairman in the North Jersey Section. He recently was awarded a section award for membership activities.

### **KENNETH J. OEXLE** NOMINEE FOR VICE CHAIRMAN II

Kenneth J. Oexle is employed by Jersey Central Power and Light Co. as manager in system planning. He is a licensed Professional Planner and Engineer in the State of New Jersey.

Mr. Oexle received his BSME (1964) and MSME (1966) from New Jersey Institute of Technology (formerly Newark College of Engineering). He is a member of IEEE, ASME, and the New Jersey Society of Professional Planners.

His previous activities in the IEEE have included Program Chairman, Vice Chairman and Chairman of the Power Engineering Society Chapter and Member-at-Large, and Treasurer/Banquet Chairman in the North Jersey Section. His many activities resulted in a recent section award.

### **ALAN H. STOLPEN** NOMINEE FOR TREASURER

Alan H. Stolpen is a project engineer with Conrac Corp., in West Caldwell, responsible for the design of power supplies for military and aerospace instrumentation systems. He previously designed linear and switched-mode power supplies, as well as sequencing circuits for commercial, military, and aerospace computers, navigational guidance, and instrumentation systems for Digital Computer Controls, Singer-Kearfott, and Burroughs, Corp. His background also includes work as a quality assurance reliability engineer in the fields of electronic instrumentation, microwave components, and semiconductor manufacture.

Mr. Stolpen received his BSEE and MSEE at NJIT subsequent to his military service (Army). He is the co-holder of three patents in the area of switching circuits and motor speed control.

His diverse IEEE activities have included Student Branch V.P. (NJIT), Student Affairs Editor, Newsletter Editor, Publications Chairman, Group Coordinator, Special Programs Administrator, and (presently) Section Secretary.

### **ALEXANDER J. MCPHEE** NOMINEE FOR SECRETARY

Alexander J. McPhee has pursued a career in the analysis, planning, design and operation of communication systems. He has a wide and varied engineering consulting experience which includes long-range planning, technical/economic feasibility analyses, network layout, system design and testing, and the development of operating practices for systems with applications in areas including public telephone and telegraph networks, highway communications, public safety communications, VHF broadcasting and teleprocessing.

Mr. McPhee graduated from the Royal Melbourne Institute of Technology, with the Diploma of Engineering. He has worked for ITT (junior engineer) in the Australian subsidiary, ITT Canada (project engineer), and as a switching equipment engineer for the Bell Telephone Co. of Canada. He joined RCA Corp. in 1955 as systems engineer in the International Division, and then was appointed administrator, system engineering after working in advanced development and systems analysis for several years with RCA. Prior to the formation of his independent practice he served on the staff of a major consulting firm. His private consulting firm is a member of the American Consulting Engineers Council (ACEC), affiliated with the International Federation of Consulting Engineers (FIDIC).

A. J. McPhee is a Fellow of the Institution of Engineers, Australia and a licensed Professional Engineer in the State of New Jersey. He is a member of the National Society of Professional Engineers (NSPE), la Societe des Electriciens, Electroniciens et Radioelectriciens (SEE), and the IEEE, in which he serves at chapter committee level. He served the North Jersey Section of the IEEE Communications Society as Program Chairman in 1974-75, Intersociety Relation Chairman in 1975-76, and was Member-at-Large on the IEEE Executive Committee in 1976-77.



### ALEX BROWN

#### NOMINEE FOR MEMBER-AT-LARGE

Alex Brown is employed as a section head in the System Intergrations Group at ITT Defense Communications in Nutley, N. J.

He is a graduate from N.C. State University with a BEE (cum laude) and holds a MSEE from Stevens Institute of Technology.

Mr. Brown is a former chairman of the North Jersey Communications Society and a chairman of the last METSAC dinner committee. He is currently Member-At-Large.

### SID MARKOWITZ

#### NOMINEE FOR MEMBER-AT-LARGE

Sid Markowitz is an ASQC Certified Reliability Engineer, employed at Picatinny Arsenal, Dover, N.J. He has served in the U.S. Army in Vietnam.

He received his BSEE (1965) from Clarkson College of Technology, and his Masters of Management Science from Stevens Institute of Technology in 1973.

Mr. Markowitz is also a member of the following professional societies: American Society for Quality Control, American Defense Preparedness Association, and the System Safety Society.

As a member of IEEE, he has held various positions, among them were Chairman (1976), Vice Chairman (1975) Secretary (1974) in the Reliability Chapter, North Jersey Section; and member of the Executive Committee (1976).

### FRANK J. RELOTTO

#### NOMINEE FOR MEMBER-AT-LARGE

Frank J. Relotto is a sales engineer with GTE Sylvania. He received his BEE from the University of Dayton in 1970 and his MSEE from New Jersey Institute of Technology in 1974.

Mr. Relotto has been active with IEEE, which he joined as a student in 1967. He is now a member of the North Jersey Section IEEE Education Committee.

Frank designed and presented the very popular course in North Jersey Section.

### JEROME L. UHRIG

#### NOMINEE FOR MEMBER-AT-LARGE

Jerome L. Uhrig received his BSEE from Ohio University; his MSEE and Ph.D. in Systems and Communication Sciences from Carnegie Tech. His technical line of interest is in large systems. He now works as a member of the technical staff of the Bell Telephone Laboratories.

As Member-at-Large, he would like to promote a useful exchange between engineering groups and environmental groups, which, he believes could be accomplished through interfacing with the Association of New Jersey Environmental Commissions.

## N. J. SECTION BALLOT

All grades of membership, except students, should vote for one candidate for each office (except members-at-large).

#### Chairman

☐ Frank Gialanella

☐

#### Secretary

☐ Alex McPhee

☐

#### Vice Chairman 1

☐ Donald Bathke

☐

#### Vice Chairman 2

☐ Ken Oexle

☐

#### Treasurer

☐ Alan H. Stolpen

☐

#### Members-At-Large

(Vote for three only)

☐ Alex T. Brown

☐ Sid Markowitz

☐ Frank Relotto

☐ Jerry L. Uhrig

☐

☐

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## PES Past Chairmen's Annual Dinner



Past Chairmen and speakers (left to right): Paul Watson, Robert Weiner, John Redmon, Samuel Smith, Herb Blaicher and Ken Oexle.

The North Jersey Section of the Power Engineering Society held its Fifth Annual "Past Chairman's" Dinner at the Rock Spring Inn in West Orange On April 5.

There were two speakers for the dinner meeting, Mr. Robert Weiner and Mr. Samuel Smith from the Division of Consumer Affairs. They discussed the function of the Department and mentioned several cases of fraud and deceptive practices in the State of New Jersey.

Three awards for Outstanding Service were presented, to Mr. H. Otzman, T.A. Balaska, and J. Beehler. Mr. Otzman was honored for his job as Chairman of the Temperature and Environmental Measurements of Electrical Apparatus Subcommittee, PSIM Committee. Mr. Balaska received his award for serving as Publications Chairman- Underground Transmission & Distribution Conference 1976. Mr. Beehler received his award for his being Chairman - Technical Operations Department.



Outstanding Service Award winners (left to right): H. Otzman, T. A. Balaska, and J. Beehler.

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OOH—

## Engineers' Assassin

The "1978 - 1979 Occupational Outlook Handbook" (OOH) is at its final draft stage in Washington D.C. The new format is much the same as the 1976 - 1977 issue.

This Handbook sells a career in engineering and is used by engineering schools to recruit students. The engineering sections of this Handbook are misleading and deceptive. The high school students and the engineers are its victims.

OOH is published by the Bureau of Labor Statistics and funded by your tax dollars; it is an example of a government activity that the public can well do without.

Stop at your local library and read the section on the engineering profession. Then compare it to the section on the teaching profession. Express your opinion by writing to: John T. Dunlop, Secretary of Labor, Dept. of Labor Bldg., Bureau of Labor Statistics, 200 Constitution Ave., Washington D.C. 20210. This cannot be put off.

This subject has been brought to the attention of the IEEE/USAB, but your letters will help.

## VOTE!

## PAC Moves On Contract Act

In order to supplement USAB activities in support of the Service Contract Act (HR314), Herbert S. Bennett, Region I PAC Chairman, requested Section Professional Activities Committees to contact their Congressional Representatives. HR314, introduced by Congressman Frank Thompson, will extend the Service Contract Act to protect professional employees, including engineers, from Wage Busting.

Our North Jersey Section Socio-Economic Committee responded by sending Western Union Mailgrams to representatives of Bergen, Essex, Hudson, Morris, Passaic, Sussex, and Union Counties. Mailgrams were sent to Senator Harrison A. Williams Jr. and the following Congressional Representatives: Mrs. Millicent Fenwick, Mrs. Helen S. Meyner, Andrew Maguire, Harold C. Hollenbeck, Joseph G. Minish, Peter W. Rodino,

Joseph H. LeFante, Robert A. Roe, Matthew J. Rinaldo and Edward J. Patten.

The mailgram invited the above to attend a Reception sponsored by Rep. James C. Cotman (D-CA) and the IEEE in support of the amended Act and the professionals.

It would be helpful for members to monitor their representatives' actions on this issue.

For further information see "Electronic Design" Feb. 15, 1977, pg. 26 — "Wage Busting" and "ELECTRONIC ENGINEERING TIMES", March 7, 1977 pg. 10, 12.

## Seattle Introduces PAC Review Board

The following is a copy of a draft of the Charter for the "Professional Activities Review Board" (PARB) of the Seattle Section.

### IEEE Professional Activities Committee Seattle Section Professional Activities Review Board Functions

"The Professional Activities Committee (PAC), Seattle Section, Institute of Electrical and Electronics Engineers, Inc., has established a Professional Activities Review Board. This Board functions in matters relating to electrical and electronics engineering practice in the Seattle Section area as defined below. The Board operates within the scope of the activities promulgated by the United States Activities Board, (USAB) of IEEE, and is under the direction of the Seattle Section IEEE Executive Board and Sixth Region, IEEE.

1) Sits as an ethical review board in matters of ethical practice that may be called to its attention, taking depositions, making inquiries, and creating a file of such alleged practice as it may deem appropriate, and filing a motion of censure, as applicable, with the Seattle Section Executive Board and/or Sixth Region, IEEE.

2) Sits as a Board of Inquiry in matters relating to malpractice, discriminatory practice, working conditions, OSHA violations, design safety, and similar areas that may be called to its attention. Investigates and maintains files of inquiries as it deems appropriate, provides expert witnesses, prepares briefs and supporting material incidental to testimony. Appears before Boards, Commissions, and Committees relating to the

above area of inquiry, or in Court as *amicus curie*.

3) Supports the Executive Board of the Seattle Section, IEEE, in selecting individuals who may be recommended for appointment to state, county, or local boards, committees, or commissions. Maintains a list of such governmental bodies, including terms and vacancies, identifying those bodies that would specifically benefit by having an engineer as a member. Promotes the selection and appointment of appropriate individuals, writing letters of endorsement and soliciting the endorsement of other engineering organizations such as WSPE and PSEC.

4) Reviews employment practices and working conditions in the Seattle Section area. Writes letters to employers on areas requiring improvement, or areas of alleged poor employment practice or poor working conditions, requesting improvement or relief and providing suggestions or recommendations which can be implemented to reduce such poor practice or improve working conditions in a fair and equitable manner. Maintains a list of organizations, or sub-organizations or groups within these organizations who in the opinion of the

Board, do not cooperate sufficiently with the Board to initiate required improvement, or who patently demonstrate continuing poor employment practices or working conditions. Disseminates such lists of organizations, sub-organizations or groups who continue to promote poor employment practice or sub-standard working conditions to interested schools of engineering and/or student sections of IEEE, or other areas of influence or publication, to advise engineers who may be seeking employment or a change in employment to avoid these sub-standard areas.

"The Professional Activities Review Board will consist of at least four members of the Professional Activities Committee (PAC); one of which shall be the Chairman of the PAC. A fifth member shall be appointed by the Executive Board, or in the absence of such Executive Board appointment, if time is of the essence, by the Chairman of Seattle Section IEEE or in the event of his absence or unavailability, by the Vice-Chairman. A sixth and/or seventh member may be selected at the option of the Board, from IEEE Technical Societies if specific areas of expertise appear to be involved."

## Special Course ONE DAY TUTORIAL ON COMPUTER NETWORKS

SATURDAY, June 4, 1977, 9:00 A.M. to 4:30 P.M.  
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Rochelle Park, New Jersey

**FOR WHOM INTENDED:** For systems analysts, engineers, engineering managers and others who need a better understanding of the operation, utilization and management of contemporary computer networks including problems associated with planning, procuring, designing and operating such networks.

**COURSE OBJECTIVE:** Today's computer communications networks facilitate computer-to-computer and terminal-to-computer communications on a scale previously impossible. While many networks are already fully operational, extensive continuing research and development activities are underway that promise even greater efficiencies and capabilities. The interconnection of dispersed data processing centers and other locations requiring such services, through computer networks, opens new opportunities but also poses difficult problems for designers and managers.

This course provides a user-oriented introduction to computer networks. Knowledge of such networking issues as topological design alternatives, common carrier communications services, value-added networks, hardware and software networking technology, cost factors, regulatory issues and network administrative practices will enable the participant to make intelligent decisions concerning the value of different network approaches.

**COURSE INSTRUCTOR:** Dr. Marshall Abrams, National Bureau of Standards

### COURSE OUTLINE

- (1) **INTRODUCTION**—The topic of computer networks is introduced by first examining common networks. Different types of computer networks are then discussed, from the point of view of the different components and different configurations employed.
- (2) **NETWORK UTILIZATION**—Networks are used in a variety of ways and for a variety of applications. The discussion will focus on the range of benefits to be gained from the use of networks. Problems to be faced with the use of networks are also introduced.
- (3) **BASIC COMMUNICATIONS**—A brief review of the basics of data communications is presented, including discussion of circuits, modulation and modems, terminals, multiplexors and concentrators, and communications control software. This material is one of the basic building blocks for computer networks.
- (4) **NETWORK TECHNOLOGY**—Network technology is organized into four main areas: computing, switching, routing and control. These concepts are explained and illustrated with reference to actual networks. Alternatives are evaluated, and some guidelines provided for selecting the best approach to particular problems.
- (5) **REGULATION**—Networks are partially regulated and partially not. The current situation is explained, and user alternatives are discussed.
- (6) **NETWORK MANAGEMENT**—Networks pose more severe managerial problems than most types of computing systems.
- (7) **FUTURE DEVELOPMENTS**—Some trends in the future development and of computer networks are explored.

**FOR ADDITIONAL INFORMATION**, call or write Gary Golinski, Chairman Education Comm., North Jersey IEEE, 155 Ridge St., Newark, New Jersey 07104; (201) 484-3500.

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### REGISTRATION FORM

*Mail to: Mrs. K. Doktorski, IEEE, 445 Hoes Lane, Piscataway, N.J. 08854  
Make checks payable to IEEE.*

*Please enroll me in SPECIAL COURSE: ONE DAY TUTORIAL ON COMPUTER NETWORKS.*

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

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Phone: \_\_\_\_\_

*Fee: \$65.00 IEEE Members; (\$60.00 course fee & \$5.00 for lunch)  
\$85.00 Non-IEEE Members; (\$80.00 course fee & \$5.00 for lunch)*