



The IEEE

Newsletter

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Editor Sidney Bell
Managing Editor B. Blair
Business Manager M. M. Perugini

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Piscataway, N. J. 08854
(201) 981-0060

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

SECTION OFFICERS

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455-8681
Vice Chairman - 1 Alan H. Stolpen
687-9226
Vice Chairman - 2 Alex Brown
696-4695
Treasurer Frank Relotto
278-7759
Secretary Ann Giedlinski
366-1100, X-221
Member-At-Large Joe Fink
Member-At-Large Len Gardner
Member-At-Large Eugene Niemiec
Jr. Past Chairman Donald G. Bathke

The North Jersey Section, IEEE reports with great sorrow the death of Dr. Harlan Perlis on April 4, 1980. Dr. Perlis, a past chairman of the North Jersey Section, will be missed by his many friends within the Section.

PAC Workshop Slated

The May 21 Professional Activities Committee meeting is scheduled to discuss professional activities in general. This meeting will give all IEEE members the opportunity to direct our efforts for our new year.

The North Jersey Section changes its officials and committee chairmen each June. With these changes we sometimes have changes in goals, philosophy, and the budget. Our PAC Workshop will help prepare our budget and set our goals, meetings, etc. for 1980-81.

I urge each and every one of you to

attend and participate. Help us make your profession a more rewarding profession.

PAC meetings are open to all engineers. Members and guests are invited. Refreshments will be served. Your attendance is requested. Bring along a fellow engineer.

Time: 7:30 PM, Wednesday, May 21, 1980.

Place: ITT Conference Center, 500 Washington Ave., Nutley, N. J.

Pre-Meeting Dinner: 5:30 PM.

Call: Richard F. Tax, PAC Chairman (201) 573-0387 for further information and dinner reservations.

Automated Emergency Power Systems

The May meeting of the newly formed North Jersey Chapter of the Industry Applications Society will be hosted by the Automatic Switch Company. The meeting will feature a talk on "Automated Emergency Power Systems" by Patrick A. Roche, ASCO Sales Consulting Engineer, and an opportunity to view ASCO products display.

Mr. Roche is a graduate of the California State University at Long Beach with B.S.E.E. degree. He is a member of Eta Kappa Nu and Tau Beta Pi. He is involved in the applications of automatic

transfer switch and other components used in emergency power systems which have gained increasing importance in recent years as a dire necessity or to comply with various codes and/or ordinances.

Time: 7:15 PM, Tuesday, May 20, 1980.

Place: Automatic Switch Co. Conference Room, Hanover Road, Florham Park, N. J.

This meeting is open to all interested engineers. Refreshments will be served. For further information contact: Chairman, Gerald Bellsey (203) 622-3683 or Vice Chairman, Kao Chen (201) 429-3334.

Merkham's Windmills

At the May 21 meeting of the North Jersey Power Engineering Society, Mr. Dennis J. Baylor of the Merkham Energy Development Company will make a presentation regarding his experience with the construction and installation of large wind driven electric generators. Merkham wind machines are in service and being constructed throughout the world. Having built numerous units in the 40 to 225 kW capacity range, Merkham is presently constructing a 2000 kW unit for installation at an industrial site in Pennsylvania. Serving as the Electrical Engineer for the Merkham Company, Mr. Baylor's presentation will include the control systems, electrical inversion equipment and the utility interface.

"Merkham's Windmills" are the subject of an article in the April 1979 issue of "Popular Science" magazine.

The meeting will take place at the Jersey Central Power & Light Company, Route 24, Morristown, New Jersey. This is convenient to the "Convent" station of the NJ Transit Morristown (Rail) Line (Walk 5 minutes north to the JCP&L building).

The election of PES officers will also take place at this meeting.

Time: 7:30 PM, Wednesday, May 21, 1980.

Place: JCP&L, Route 24, Morristown, N. J.

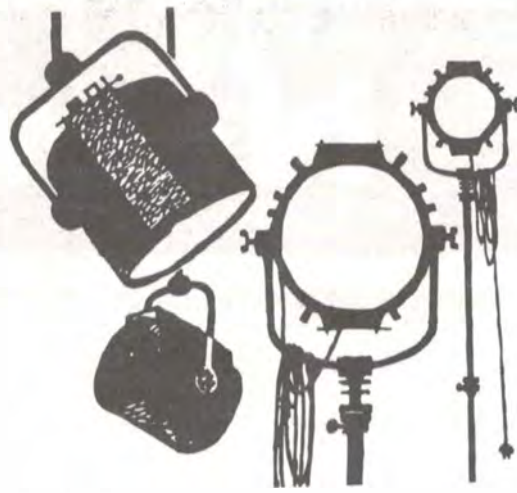
For further information: PES Chairman - Gerard V. Barton, 353-700, Ext. 545; PES Secretary - Edward P. Griffith, 201-455-8313.

Student Reception At ELECTRO '80

The Committee for Professional Opportunities for Women Engineers (COMPOW) is hosting an informal reception at The Boston Sheraton on Tuesday, May 13th from 3:00 to 6:00 PM for Women Engineering Students, Women Electrical Engineers and their friends. The reception is complimentary.

Hans Cherney, the Director of Region I, IEEE will greet the guests, and Thelma Estrin of the Brain Research Institute of University of California at Los Angeles, a member of the Board of Directors of IEEE, will give a short talk.

The social will try to show the



SPOTLITE ON NORTH JERSEY

The publication of the Election Ballot in this issue of the "Newsletter" signals that we must be about the business of choosing new officers to lead the Section beginning July 1st. The Nominating Committee has completed its assignment and the results of their deliberations and their slate of proposed officers have been presented to the membership. Biographies of the candidates have also been published. The ballot is now in your hands. We await your reply.

Candidate choices are presented only for the Member-at-Large positions. Their election is quite significant, since this is the spawning ground for future Section Chairmen. Candidate nominations by petition have not been received by the Secretary.

I would strongly encourage you to vote. By casting your ballot you demonstrate your interest and concern about the activities, leadership and future of the North Jersey Section. Remember that several thousands of dollars of your annual dues are returned to the Section each year for the officers to allocate to local IEEE activities. More importantly, your vote strengthens the base of support and confidence of the incoming officers as they represent you in local, regional and national IEEE matters.

Surely, we should be able to muster more than 100 ballots from a Section comprising nearly 5000 members. Your expenditure in voting is limited to a few moments of your time and a postage stamp.

The ballot also serves as a harbinger that my term of office is coming to a close. I would like to take this opportunity to publicly thank all the members of the Section and Chapter Executive Committees who volunteered so much of their time, and worked so hard to provide a diversified program of technical and non-technical meetings, sponsor education courses, and publish a high-quality Newsletter. Without their commitment, the Section could not function. It was also encouraging to see the number of new people becoming actively involved in Section activities — especially within the Industry Application, Engineering Management, Computer and Communication Chapters. It is a sign that augurs well for the Section.

As Leo Young commented in his Presidential Column in the February issue of the "Institute" — "Only by contributing ourselves, by becoming actively involved, are we going to make IEEE a truly exciting, effective and democratic organization."

Thank you, Ken Oexle.

students the advantages that accrue from participation in IEEE activities, and will also discuss employment opportunities, career advancement, problems facing the engineering student and the woman engineer.

All student members of the metropolitan region, attending Electro '80 are most cordially invited to the reception. I am sure that they will find it a welcome oasis at the convention.

In all probability there will also be

cut rates available at Electro for student members.

Members of the Boston Section of IEEE, students at the Boston Colleges, members of the Boston area student branches will also be at the reception as well as Boston Members of the Society of Women Engineers.

If you are planning to visit ELECTRO '80 do not fail to come to the reception with a friend. You will be very welcome.

STELLA LAWRENCE

Error Correcting & Detecting Codes

with Applications to Computer System Design

Washington, DC June 23-25 • Los Angeles, CA July 14-16 • Palo Alto, CA August 18-20

Error correcting codes are the most cost-effective method for achieving the high reliability required in modern data processing systems. For years, the theory of error correcting codes was significantly ahead of the practice due to the high cost of decoding circuitry, but improved decoding techniques and the availability of low-cost microprocessors have changed that. Every digital design engineer should know when and how to apply coding, but most have been blocked by a maze of complex mathematical terms. Dr. Weldon will cut through this maze and reduce the mathematics to easily understood concepts and readily implemented electronic circuits.

Ensure that your organization can intelligently and effectively apply these vital techniques — reserve your place now at this intensive special seminar presented by one of the world's leading experts.

"Dr. Weldon was able to explain the intricacies of coding in clear understandable terms. He's a truly outstanding lecturer." **Jerry Stockton, NAVSEE-ACTPAC, Hawaii.**

"We were extremely pleased with the results of Dr. Weldon's short course on error correction." **Donald L. Smith, Director of Training, Control Data Corporation.**

"Prof. Weldon's knowledge of hardware and microcomputers made his lectures on coding extremely useful to me. I got a lot out of the course." **Neal Glover, Storage Technology Corporation.**



E.J. Weldon, Jr.

Ned Weldon is known internationally as the co-author of two authoritative yet readable books: Peterson and Weldon's second edition of the classic

text *Error-Correcting Codes* (MIT Press), and Lucky, Salz and Weldon's oft-referenced book on *Principles of Data Communications* (McGraw-Hill). Dr. Weldon has also authored numerous technical articles and holds several patents on novel hardware implementations of coding circuitry.

He is the founder of ADTECH, Inc., one of Hawaii's foremost electronics design firms. His practical knowledge has also been enhanced by affiliation with Bell Laboratories, most recently as a participant in the design of AT&T's next generation communication system, ACS. Dr. Weldon is currently a Professor of Electrical Engineering at the University of Hawaii.

Topics

1. Fundamentals
2. Parity Check Codes & Syndrome Decoding
3. Error Correction & Detection for Random & Burst Errors
4. Application to Memories
5. Polynomial Algebra
6. Cyclic Codes
7. Shift Register & Microprocessor Encoders
8. Bit-Oriented Codes
9. Byte-Oriented Codes
10. Hardware and Microprocessor Decoders
11. Burst Error Correction
12. Applications to Data Communication

Who Should Attend?

This special seminar is intended for managerial and technical staff working in data processing, communications, computer peripheral design, main memory design, or integrated circuits with current or potential responsibility for specifying error control measures. The seminar is self-contained, and previous exposure to coding or modern algebra is **not** assumed.

Hotel Reservations

Holiday Inn Palo Alto (415) 328-2800
Holiday Inn Washington (703) 521-1600
Holiday Inn Los Angeles (213) 540-0500

Registration Form

NJ5-E

Space is limited. Reserve your place now at this intensive special seminar.

Name _____

Address _____

Phone _____

- ☐ Reserve my place at Weldon's course. Location/Dates: _____
- ☐ Check enclosed (\$595).
- ☐ Invoice my Company.
- ☐ Contact me about in-house presentations.
- ☐ Send further information about courses.

Return to: Hellman Associates, 299 S. California Avenue, Palo Alto, CA 94306 (415) 328-4091

Millimeter Waves For The 1980s

The Microwave Theory and Technique Society, NJ MTT Chapter, is sponsoring a lecture on "Millimeter Waves For The 80s".

Millimeter-wave activity has been increasing for the past several years, inspired by technology advances and an increasing need for devices capable of operating in adverse environments.

Numerous applications are being investigated, but those involving missile guidance, target acquisition and tracking, and remote sensing appear to be providing the greatest impetus.

The presentation by James C. Wiltsey, 1979-80 MTT National Lecturer, will briefly summarize the state-of-the-art in components, sources, and receivers, and will discuss the measurement programs mentioned above.

Time: 7:30 PM, Thursday, May 15, 1980.

Place: ITT Defense Communications Div., 500 Washington Ave., Nutley, N.J. (ITT Chart Room, by Microwave Tower).

Pre-Meeting Dinner: Jade Fountain Restaurant, Clifton, N.J. 6:00 PM (off Westbound Rte. 3).

For reservations and further information: H. Goldman, ITT DCD, 492 River Rd., Nutley, N. J. 07110; (201) 284-3739, or Eugene Niemiec, Merrimac Industries, 41 Fairfield Place, W. Caldwell, N. J. 07006; (201) 575-1300.

Glomb Of ITT On R&D Management

How a manager applies modern management techniques to ensure success of a large research and development program will be presented by the Engineering Management Society on May 21st.

Walter Glomb will use personal experiences from a current \$43M contract R & D program, which he has managed since it was no more than an idea, as a vehicle for demonstrating how to create the visibility and clarity of objectives needed to effectively manage all phases of a development program.

The speaker will describe modern

management techniques such as; "design to manufacturing cost", "software management" and "cost-schedule control" which have actually contributed to meeting cost, performance and schedule goals.

Mr. Glomb is a Vice President and Director, ULCS, of ITT Defense Communications Division and is well qualified to communicate the management techniques he uses in language that engineering managers find unmistakable.

This talk, sponsored by the New York/North Jersey Engineering Management Chapter will be held at the Williams Club, 24 East 39th Street (at Madison Avenue), New York City, at 8:00 PM on Wednesday, May 21st. A pre-meeting dinner will be available at the Williams Club, beginning at 6:30 PM. Plentiful on-street parking is available after 7:00 PM. Contact Mr. Thomas Morrison (212) 840-3333, Mr. Igall Sharret (201) 284-2664 or Mr. Harry Stokes (914) 686-3077 for more information.

Time: 8:00 PM, Wednesday, May 21, 1980.

Place: The Williams Club, 24 East 39th Street (at Madison), New York City.

Medical Standards

"IEEE and Standards, Nationally and Internationally" is the topic of the June 4, 1980 meeting of the Metropolitan New York Chapter of the EMBS. Speakers for the evening will be Judith Follman, Program Administrator, Medical Devices, ANSI and Bertram Stanleigh, Deputy Director, Standards, IEEE.

Time: 7:30 PM, Wednesday, June 4, 1980.

Place: Rockefeller University, Bronx Laboratory, Room 216, 66th Street and York Avenue, NYC.

Pre-Meeting Dinner: 6:00 PM, Tower Cafeteria, 64th Street and York Avenue, NYC.

Further Information: Maryon J. Williams (609) 452-9280.

The April 2nd meeting of the NY Chapter of the IEEE Engineering in Medicine and Biology Society was cancelled because of the transit workers' strike. The meeting has been rescheduled for October 1, 1980.

New Metropolitan Management Society



Reviewing activities of the newly formed North Jersey/New York Engineering Management Chapter are (L) Tom Morrison, Chapter Vice Chairman; Ken Oexle, Section Chairman; and Jack Jatlow, Chapter Chairman. The new Chapter has conducted two meetings since December. A third meeting is planned for May.

Hellman Associates Presents a Special Tutorial Seminar



Cryptography and Data Security

Palo Alto, CA July 21-23 • Washington, DC August 4-6
Los Angeles, CA August 18-20 • Woburn, MA September 29-October 1

Topics

- Basic Concepts** • Commercial Applications
- Capabilities & Limitations of Cryptography
 - Vulnerability of Communications
 - Privacy Legislation

- Cryptographic Systems** • IBM Systems and the National Data Encryption Standard (DES)
- Public Key Cryptosystems
 - Digital Signatures
 - Voice Scramblers

Cryptographic Theory

- Cryptanalytic Threats
- Stream and Block Systems • Trap Doors
- Shannon Theory Approach

System Implementation • Key Management

- User Authentication • Error Control
- Threat Analysis • Audit Trails
- Testing & Certification

Application Examples

- Networks & Distributed Processing
- EFTS • Electronic Mail
- Telecommunications & File Encryption

"The code breakers may finally have met their match. As a result of recent work by Stanford University scientists, ciphers that are for all practical purposes unbreakable can be produced easily. Says **Scientific American** Mathematics Columnist Martin Gardner: 'The breakthrough bids fair to revolutionize the entire field of secret communication' . . . Hellman overcame this fundamental obstacle with a dazzlingly simple yet ingenious scheme." [TIME MAGAZINE]

Expertise on these vital new techniques is urgently needed by every organization that handles valuable or confidential data. Make sure that **your** organization has the expertise — reserve your place now at this intensive special seminar given by one of the world's leading experts.



MARTIN HELLMAN

Martin Hellman has earned an international reputation for his invention of the revolutionary new 'Public Key' and 'Trap Door' encryption methods. In addition, he has played a leading role in proposing improvements to the NBS Data Encryption Standard (DES). His background embodies a unique blend of research with IBM, MIT and Stanford University and extensive practical consulting experience. Dr. Hellman is also a gifted speaker, able to present complex material in an easily understood and readily applied manner. Over 500 people have attended this highly popular seminar, and enthusiastic evaluations were received from attendees with backgrounds ranging from the military to the financial world. Dr. Hellman is currently an Associate Professor of Electrical Engineering at Stanford University.

This Special Seminar is intended for managerial and technical staff working in the communications, data processing, or security area, with current or potential responsibilities for implementing, specifying, or authorizing security measures for the protection of data. A degree in engineering, science or mathematics (or equivalent background) would be useful in gaining full benefit from the more detailed technical material.

HOTEL RESERVATIONS

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Los Angeles Holiday Inn (213) 540-0500

Registration and Information Request

NJ5-C

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PROFESSIONAL ACTIVITIES

March Meeting Report

At the March PAC meeting, IEEE members met to discuss the Proposed Model Agreement Concerning Inventions and Discoveries and Proprietary Information.

Irwin Feerst came prepared with copies of the present Proposed Agreement. Some members had reviewed the agreement prior to the meeting and were more familiar with it. The general consensus was that the agreement was poor and, given a choice, none present would willingly sign this agreement.

More specifically, the members present would like to see the following changes:

1. Work Related — this should be restricted to the facility at which employed and not to efforts at other corporate locations.
2. Employee and employer share the patent.
3. Costs to be incurred by the employer.
4. Use it or lose it. Employer must file within a specific period of time and if a patent is granted, it must be acted on within a specific period of time.
5. Employee to receive a minimum fee at time of applying for a patent and another minimum fee at the time the patent is granted.

It was mentioned at the meeting that one local company pays its employees \$500 at the time of filing and another \$500 when and if the patent is granted.

I had hoped that a Patent Agreement proposed by the Institute would be written as a business agreement between two interested parties, based on good faith and a mutual goal. An agreement such as this should stimulate innovation and not stifle innovation. This Agreement, in its present form, portrays the atmosphere of a highly perverted industry that uses and intimidates its engineers and innovators.

Our goal is to improve this agreement and the consensus will be sent to the Patent Task Force.

Urge Social Implications Society Formation

With your help, the present IEEE Committee on Social Implications of Technology will become a society.

In recognition of the impact that technological decisions have on our quality of life, the IEEE amended its constitution in 1972 to include the following paragraph:

"The IEEE shall strive to enhance the quality of life for all people throughout the world through the constructive application of technology in its fields of competence. It shall endeavor to promote understanding of the influence of such technology on the public welfare."

To this end, the IEEE established the TAB Committee on Social Implications of Technology (CSIT).

During the eight years of its existence, CSIT has played an active role in raising the level of discourse in this important area. To date CSIT has published 29 issues of its quarterly sixteen-page newsletter, "TECHNOLOGY AND SOCIETY,"

which features thoughtful and provocative articles, book reviews, and commentary on such topics as energy, environmental quality, arms control, information technology, consumer product safety, technology in less-developed countries, societal systems engineering, and engineering ethics. CSIT has organized sessions on "Social Implications of Nuclear Power" (Electro '75) and "Solar Energy: A Status Report" (Electro '77), and has also organized workshops and open forums at IEEE conventions. CSIT has given four engineers the Award for Outstanding Service in the Public Interest, consisting of a certificate and \$750. CSIT's pioneering work in the field of engineering ethics has provided the impetus for IEEE to adopt a Code of Ethics and to establish a Member Conduct Committee that enforces the Code and supports engineers who adhere to the Code.

"TECHNOLOGY AND SOCIETY" 's paid circulation of 2500 (which is larger than the membership of many existing IEEE societies) demonstrates that a Society on Social Implications of Technology is indeed feasible. The first step in determining whether or not this potential is transformed into effective action is up to you.

CSIT members are presently petitioning the executive Committee of the IEEE to authorize the formation of this new "SOCIETY ON SOCIAL IMPLICATIONS OF TECHNOLOGY." Please give this dedicated group your support.

Call Steve Unger at (201) 567-5923 or Frank Kotasek, Jr. at (516) 475-1330 for copies of the petition or sign them at the PAC or Section Executive Committee meetings. Get your associates to sign also. Please don't depend on someone else to do your part.

ODDS & ENDS

NEW & FREE HELP FOR CONSUMER PROBLEMS

A new Consumer Resource Handbook is available. This book discusses how to handle consumer problems and lists groups that can help, including both private and government agencies. Listings are organized by type of problem, when to seek help and by locality. It contains addresses and telephone numbers.

It's free! Just send a postcard or note to the Consumer Information Center, Dept. 532G, Pueblo, Colo. 81009.

ETHICS HOTLINE (212) 679-0935

Problems on ethics may be solved by calling this number night or day. All calls will be kept confidential.

USAB MOVES

The new address of the United States Activities Board is now: IEEE/USAB, 1111-19th St., N.W., Washington, D.C. 20036.

Private! Robert Bruce revealed in his February talk that he rejoined IEEE and became active when IEEE formed USAB and started working for the practitioner. He says, "If you want professional improvements, you need a handle. IEEE is the engineers handle."



Cryptography & Data Security

Palo Alto, CA July 21-23 • Washington, DC August 4-6

Los Angeles, CA August 18-20 • Woburn, MA September 29-October 1 19-21



Martin E. Hellman

TIME Magazine: "The code breakers may finally have met their match. As a result of recent work by Stanford University scientists, ciphers that are for all practical purposes unbreakable can be produced easily. Says **Scientific American** Mathematics Columnist Martin Gardner: 'The breakthrough bids fair to revolutionize the entire field of secret communication' . . . Hellman overcame this fundamental obstacle with a dazzlingly simple yet ingenious scheme." Prof. Hellman has also played a leading role in suggesting improvements to the National Data Encryption Standard (DES).

Digital Filtering & Control

Los Angeles, July 21-23 • Palo Alto, CA August 11-13 • Washington, DC Sept. 22-24



Prof. Franklin is best known as the co-author of Ragazzini and Franklin's classic text, **Sampled Data Control Systems**. His new text on digital control promises to make a similar mark, and a prepublication copy will be made available to each attendee. Dr. Treichler is on the technical staff at ARGOSystems and has taught a highly popular course on digital filtering at Stanford University. Student comments include: *Franklin's mode of instruction takes complex topics and makes them appear simple. Content is exceptionally current. Treichler did an excellent job of explaining concepts . . . was always well organized.*



Vulnerability of Anti-Jam

Spread Spectrum Communications

Los Angeles, CA August 11-13 • Palo Alto, CA September 22-24 • Woburn, MA October 20-22



Dr. David L. Nicholson is Technical Assistant to the Vice President of E-Systems' MELPAR Division. He has been intimately involved with developing jamming equipment and AJ strategies for state-of-the-art military communication systems and has taught at the US Naval Academy. Several agencies and DoD contractors have arranged for special presentations of this highly popular seminar. While it is self contained, previous exposure to spread spectrum concepts would be useful for obtaining full benefit from the more detailed technical material. This seminar goes beyond the basics and is concerned with effective jamming strategies and counter-strategies for AJ.

Error Correcting Codes

With Applications to Computer System Design

Washington, DC June 23-25 • Los Angeles, CA July 14-16 • Palo Alto, CA August 18-20



Prof. E. J. Weldon, Jr. is known internationally as the co-author of two authoritative yet readable books: Peterson and Weldon's second edition of the classic text **Error-Correcting Codes** and Lucky, Salz and Weldon's oft referenced **Principles of Data Communications**. He has that rare gift for explaining the extremely complex in plain, everyday language: *Dr. Weldon was able to explain the intricacies of coding in clear, understandable terms. He's truly an outstanding lecturer. Jerry Stockton, NAVSEEACTPAC. Prof. Weldon's knowledge of hardware and microcomputers made his lectures on coding extremely useful to me. Neal Glover, Storage Technology Corp.*

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AT THE 1980 SECTION BANQUET



When you're so close, why go so far?

Why move when better opportunities exist right here in New Jersey? And your dollars will go even further without being strapped with the inflated mortgage a move or transfer will create. And simultaneously keep your family's social and civic ties you and your loved ones have worked so hard to protect.

So stop dreaming Houston, Denver, California and Phoenix where uncontrolled rapid growth make for urban malaise, and think Princeton, Somerville, Clifton or Teaneck instead.

Have your skills more fully utilized and earn more than you ever did before by contacting Eastern Executive Associates. We have over 20 years successful experience in advancing careers for Engineering and EDP personnel in all categories for our blue chip clients.

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**PROFESSIONALS
PLACING
PROFESSIONALS**



Interested In Becoming A Professional Engineer

By Bob De Lucia

Maybe you never gave it much thought, or maybe you have an interest but don't know how to go about it, or maybe you just feel that you will have difficulty in passing the examination.

By way of preview, the North Jersey Section Education Committee is planning on offering a P.E. exam review course this fall, in time for the December 1980 examination. (We hope that takes care of your examination fears).

The purpose of this article is to outline the procedure required to apply for licensure in the State of New Jersey. Complete details concerning qualifications, requirements, procedures and application forms can be obtained by writing to: New Jersey State Board of Professional Engineers and Land Surveyors, 1100 Raymond Boulevard, Newark, N. J. 07102.

The following information has been abstracted from a Requirement Leaflet that accompanies the application forms:

Qualifications: Must be able to speak and write the English language; Must be of good character and reputation; Must meet minimum requirements.

Requirements: a) Graduation from an approved curriculum in engineering of 4 years or more in an approved school; 4 years of acceptable engineering experience; successfully passing a written, or written and oral, examination OR

b) Graduation from an approved science curriculum related to engineering of 4 years or more in an approved school; 6 years of acceptable engineering experience; successfully passing all parts of a written, or written and oral, examination, OR

c) Graduation from an approved curriculum in engineering or related science of 4 years or more in an approved school; 15 years of acceptable engineering experience; successfully passing the Specialized Training portion of the written, or written and oral, examination, OR

d) Other avenues to licensure MAY BE possible if you hold licensure in another State, or hold a certification by the National Council of Engineering Examiners. These applications are individually evaluated by the Board.

If you feel that you meet the qualifications and requirements, the procedure for application includes:

1. Request and obtain an application package from the Board.
2. Submission of application and application fee to the Board.
3. Obtaining 5 references, of whom at least 3 shall be licensed professional engineers.
4. Submission of appropriate transcripts of academic background and graduation must be filed with the application.
5. Details of your engineering experience is provided on the Official Application Form.
6. Written examinations are given twice yearly, usually in May/June and November/December. The entire examination consists of two segments: "Fundamentals of Engineering" and "Specialized Training". The two segments are given on two separate days, and each segment consists of two four-hour examination parts. Separate grades are earned for each segment.
7. Applicants desiring to take the June examination must have their applications on file prior to the third Wednesday of January. Those wishing to take the examination in December must have their applications on file prior to the third Wednesday of August.
8. A candidate failing an examination segment(s) may apply for reexamination. There is a reexamination fee.
9. In the North Jersey area, the examination site is at the New Jersey Institute of Technology (NJIT-NCE) in Newark, and exams are generally scheduled on Saturday.

It is also possible to apply for certification as an "Engineer-in-Training" (EIT). This category is generally intended for those who have the necessary education but lack the necessary experience for licensure as a P.E. EIT candidates must take and pass only the "Fundamentals of Engineering" segment to be certified an EIT. The EIT certification is valid for 10 years. An EIT who accrues the necessary experience can apply for licensure as a PE and will be required to take only the "Specialized Training" segment of the exam.

As noted earlier, if you have met the qualifications and requirements and wish to apply for licensure, write to the Board for more complete details and forms.

The IEEE at NJIT

The Student branch of the IEEE has been actively serving the needs of the electrical engineering students at NJIT for the last several years. The IEEE office is run by members who are elected at a general meeting every May. These officers work closely with faculty members in the EE department to provide IEEE members with assistance when they need it.

Probably the greatest service that the NJIT IEEE office provides is the monthly feedback meetings. At these sessions the students air their criticisms, complaints, and comments about the EE curriculum to the department chairman, Dr. Joseph Strano and the associate chairman, Prof. Robert Meola. All problems are examined on a case by case basis and a progress report is given at the next feedback meeting.

The IEEE also provides its members with a library service which consists of donated texts and product DATA books for use in outside research and project courses.

Several times during the academic year, seminars are run for the benefit of the students to keep them informed on matters such as choice of electives, changes in the EE curriculum, and on the choice of a senior project.

In the spring an auction is run in which electrical equipment that has been donated is put up for sale. Students can bargain hunt for test equipment and electrical components for their projects, with the proceeds going to the IEEE office to help finance other member oriented activities.

While particular activities vary from year to year, the basic mission of the NJIT IEEE office is to provide the students with a source of information about the profession which they have chosen to pursue, and to show the advantages of belonging to a professional society.

The NJIT IEEE branch needs help to maintain its services. If you have any engineering texts that could be used in our library, or if you have electrical equipment whether it is functioning or just good for parts, and wish to donate it, please contact the IEEE office at New Jersey Institute of Technology through the EE department or call Bob Savas at (201) 384-4712.

1980 - 81 SECTION MEMBER-AT-LARGE OFFICE CANDIDATES

Last month we provided background information on the Chairman, Vice-Chairman I, Vice-Chairman II, Treasurer and Secretary Candidates proposed by the Nominating Committee. This month we are providing similar information for the Member-at-Large Candidates. The 1980-81 Officer Election Ballot is included in this issue of "The Newsletter." To be counted, the ballot must be signed and returned no later than May 30, 1980.

JOHN ABRAHAM

John Abraham is a Senior Engineer employed by Public Service Electric & Gas Company in the Electrical Division of the Engineering Department. He is responsible for the electrical design and layout of substations and switching stations including the activities of project cost estimating, cost control and scheduling.

John graduated from Newark College of Engineering in 1970 with a BSEE Degree (Cum Laude). He is a Member of IEEE and previously held the position of Membership Development Chairman of the North Jersey Section.

ROBERT P. J. DE LUCIA

Dr. DeLucia presently holds the position of Associate Professor of Electrical Engineering at Newark College of Engineering at the New Jersey Institute of Technology, where he has taught for the past thirteen years. At the College, he has introduced and teaches several undergraduate, graduate, and continuing education courses in the areas of microprocessors, instrumentation systems, analog and digital circuits. He has served on the North Jersey IEEE Executive Committee over the past ten years as Member-at-Large, Chairman of the Control Systems Society, and Chairman of the Student Activities Committee. Dr. DeLucia is a licensed Professional Engineer and has done consulting work for several local corporations.

**RETURN
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CARD
BY
MAY 30, 1980**

Ballot Signature

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**NORTH JERSEY SECTION IEEE
c/o GIRARD ASSOCIATES
BOX 455
MT. ARLINGTON, N.J. 07856**

Rafael J. Hernandez received a B.S. Degree in Electrical Engineering in 1974 from Newark College of Engineering and is currently pursuing an M.S. Degree in Engineering Management and a Master's in Business Administration (MBA).

Previously Mr. Hernandez served as the Manager of Mission Assurance for several Space Shuttle Programs at the Conrac Corporation, Systems East Division, West Caldwell, N.J. Presently, he is the Supervisor of the Failure Analysis Laboratory at the Bendix Corporation, Flight Systems Division, Teterboro, N.J.

Mr. Hernandez has been actively involved with the IEEE since 1973, when he was elected to the New York Metropolitan Student Council, In 1975 and 1976 he served as Program Chairman of the North Jersey IEEE Reliability Chapter and he was elected Chapter Chairman in 1977 and 1978. He served as North Jersey Section Program Chairman in 1979 and 1980, and as Education Committee Chairman in 1979-1980.

EUGENE W. NIEMIEC

Eugene W. Niemiec is a graduate of Newark College of Engineering, 1961, BSEE. After a 17 year career as Senior Member of the Technical Staff with the Microwave Advanced Development Department of ITT Defense Communications, Nutley, New Jersey, Mr. Niemiec joined Merrimac Industries, Inc. of West Caldwell, New Jersey as their Technical Director in June, 1979.

Mr. Niemiec presently holds the post of Chairman of the North Jersey MTT/AP Chapter, a post he also held in 1976, 1977, 1978. He is currently Member-at-Large for North Jersey Section and has held this post since 1978. He also is representative to IEEE CSIT Committee since 1978.

Mr. Niemiec holds 14 patents related to the microwave field and has authored numerous papers, most recent of which was presented at the IEEE sponsored National Telecommunications Conference (NTC-79) held in Washington, D.C. during November of 1979.

Communications/Computer Set May Meeting

Efforts continue to stimulate new interest and vitality in these Chapters of the North Jersey Section.

An important meeting to select 1980 - 81 Officers, and future meeting programs, will be held at the ITT Auditorium, 500 Washington Avenue, Nutley, N.J. on Wednesday, May 28, 1980, at 7:30 PM.

TO
VOTE
FOR SECTION
OFFICERS
USE
THIS BALLOT
BE SURE TO SIGN ON
OTHER SIDE BEFORE
MAILING BY
MAY 30, 1980

NJ Section Ballot 1980-81

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

Chairman

☐ Alan Stolpen

Secretary

☐ Joseph Fink

Vice Chairman 1

☐ Alex Brown

Members-At-Large (Vote for three only)

Vice Chairman 2

☐ Frank Relotto

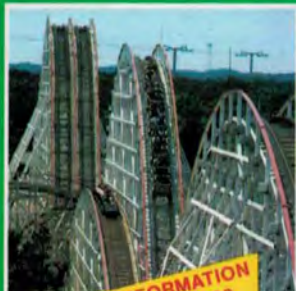
Treasurer

☐ Ann Giedlinski

☐ John Abraham
☐ Robert Delucia
☐ Rafael Hernandez
☐ Eugene Niemiec

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1980 Schedule

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April 26-September 14 Open daily

April 19-April 20 Open weekends only

September 20-October 12 Open daily

October 18-19, 25, 26

Open weekends only

Safari Hours 9AM-5PM

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