



The IEEE

Newsletter

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

Volume 26 April 1980 No. 10

Publication No: USPS 580-500

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

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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.

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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.

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For additional information on how you can become a Senior Member, contact either Don Weinstein (201) 945-3000, or Joe Fink (201) 621-7500, extension 727.

Long Lines Tour

The Communications/Computer Chapter will sponsor a tour of the AT&T Long Lines Headquarters facility in Bedminster, N.J. on April 30, 1980 at 7:30 PM. The tour will be conducted in the Bell Systems Network Operations Center (as seen on T.V.). An explanation of the procedures used by the Bell System to maximize the utilization of the Bell System's Interstate Network will be presented. Additionally, there will be presentations in the AT&T Long Lines Applications Planning Center on the Bell System's Voice and Data Systems.

Reservations are required and should be made by calling Miss Marge Vacca, (201) 455-7962 by April 18, 1980. The session will last approximately 90 minutes. Coffee and danish will be served. The building is located on Route 206 just one-half mile north of the intersection of Routes 206 and 287 in Bedminster.

Time: 7:30 PM, Wednesday, April 30, 1980.

Place: AT&T Long Lines, Bedminster, N. J.

Reservations: Required by April 18.

LATE NOTICE: N. J. PES will present a slide show and talk on "IEEE sponsored visit to Soviet Union in May 1978". The meeting will be held at the J.C.P. & L. auditorium, Madison Avenue and Punchbowl Road, Morristown, N.J. on Wednesday April 30, at 7:30 PM. For details contact J. Baka 455-8534 or G. Barton 353-7000 Ext. 545.

Morgan To Discuss Integrated Voice

There is no doubt that communications, computers, and the automated office are merging. Companies with origins in one area are expanding to cover "the big triangle."

A one-hour talk on April 9th will present the underlying basis for the merging. The common denominator is digital. Subjects covered include: digital transmission; digital PABX switching; the desk telephone becoming a digitized terminal; integrated voice/data; digitized voice (PCM, delta, CVSD); standard data speeds derived from voice (56kb, 64kb, 1.544Mb); interconnect; etc.

During this Joint Computer/Communications Chapter meeting, real-life examples are given showing the faster-than-anticipated advance of this technology.

The guest speaker is James H. Morgan of J. H. Morgan Consultants, Morristown, N. J. His firm provides independent management and technical consulting in voice and data communications, data processing, and electronic systems. Covering planning through operations, Mr. Morgan specializes in applying latest technology to improve operations for client management. He earlier held various management and engineering positions for 20 years at American Express, Western Union, ITT, and USAF. Assignments included pioneering work on all-digital, integrated voice/data systems. He holds a BSEE '56 and MS in Management from NJIT. Mr. Morgan is a member of STC, IEEE, and ACM, and has published and lectured extensively on management and technical subjects.

Time: 7:30 PM, Wednesday, April 9, 1980.

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

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.**



SPOTLIGHT ON NORTH JERSEY

Last month we reviewed the recent Cleveland Survey of IEEE Section Activities and more specifically, compared the performance of the North Jersey Section to those results.

This month Bob Sinusas has assembled some thoughts on a "Call to Action." Some of the views in this "Call to Action" might be considered controversial by some members. However, let me assure you that I have heard similar opinions on many occasions as I travel through the North Jersey Section.

Ken Oexle

I assert that the only real value that you can receive for your membership dues comes from Section Activities. The surveys show that the standard of living for IEEE members has been declining since the sixties and will continue to decline, so if you are going to pay dues - why not insist on something of value in return?

About one half of our section members do not belong to a Technical Group or Society. The only "value" received is 12 issues of Spectrum. Would you buy it at a newsstand for \$3.75 a copy? The other half of our members that do belong to Groups or Societies do receive journals, but they are no better off than those that just receive Spectrum. The reason is simple economics. Something really worth while, true know how, is worth money and to publish it means giving money and possibly your job away. What gets published are discards or elegant solutions to imaginary problems to satisfy the requirement of publishing every three months or perish. The engineering content does vary somewhat with the type of industry it serves; it is much higher for monopolies, but for competitive industries it is garbage. We want not just a solution to a problem, but the optimum solution; everything is a tradeoff, everything involves economics but you never see this mentioned in the Journals. When was the last time you could use the information contained in an article directly in your work?

Well what about the intangible value of belonging to an engineering society? Well what about it - if you live as a professional hermit uninvolved in the IEEE community what good is carrying a membership card? This problem deserves a closer look. The majority of IEEE members do not earn their bread by doing engineering, but get paid for managing, teaching, writing, selling etc. The reason for this is quite simple: industry treats engineers in ways that no company would dare treat a plumber or union electrician; for doing engineering you can not get paid more than twice the starting salary of this years June graduates. It is obvious that no self respecting person will stay in engineering. Yet, you love engineering and want to stay in touch. Now for the IEEE to admit formally that the majority of the members do not do engineering would require dropping the last "E" from IEEE and thereby commit suicide as an engineering society. The "silent" majority is not just ignored but dead, buried and forgotten with all programs aimed at the small minority. You can appreciate that this must be the policy at the international level and therefore it is only at the section level that you are going to get something out of belonging to a professional society.

While the only value you get comes from section activities, yet somehow or other something is wrong. If we add up all the attendance for a year of the various Group,



Digital Filtering & Control

Washington, DC — April 23-25 • Los Angeles, CA — July 21-23 • Palo Alto, CA — August 11-13

The advantages of digital signal processing have been known for many years, but cost prohibited its use in all but the most sophisticated applications. The advent of low cost microprocessors and digital hardware has made digital processing competitive in price as well as performance, and has established it as an essential engineering tool. In this intensive three day seminar, two gifted lecturers will teach you how to intelligently apply these vital techniques.

"Franklin's mode of instruction takes complex topics and makes them appear simple . . . Excellent course — gives a good feeling for how this stuff really works — real applications."

"Treichler has an outstanding feel for the material . . . Did an excellent job of explaining concepts . . . Was always well organized."



GENE F. FRANKLIN

Dr. Franklin is best known as the coauthor of Ragazinni and Franklin's classic text, *Sampled Data Control Systems*. His new text on digital control promises to make a similar mark on the engineering world when published next spring, and relevant portions of the manuscript will be included in the course notes. His practical knowledge has been enhanced by consulting assignments for IBM and Hewlett-Packard in the area of digital control. As a Professor of Electrical Engineering, first at Columbia University and currently at Stanford University, Dr. Franklin has gained a reputation as a superb teacher and lecturer.



JOHN R. TREICHLER

Dr. Treichler is a Member of the Technical Staff at ARGOSystems, Inc., Sunnyvale, California, working on advanced digital signal processing techniques for radar and sonar applications. He has taught highly popular courses on digital filtering at Stanford University, where he is known for his ability to express complex concepts in plain, everyday language. His background embodies a unique blend of teaching, research and practice which allows him to clearly explain state of the art concepts in terms which are readily applied by the practicing engineer.

Who Should Attend?

This special seminar is intended for managerial and technical staff working in communications, process control, radar, sonar, or signal processing. The seminar stresses basic concepts, modern design and implementation techniques, and current and evolving applications. The theory is supplemented and illustrated by numerous practical examples.

Topics

Basic Concepts

- Time & Frequency Domains • z-Transform
- Discrete Transfer Functions • Controllability & Observability

Digital Filters

- Finite & Infinite Impulse Response Filters • Windowing • Sampling • Discrete Butterworth, Chebyshev & Elliptic Filters
- Optimization & Approximation Methods

Digital Control

- Steady State & Dynamic Response
- Design Methods • State Space Approach
- Kalman Filters

Implementations

- Software/Firmware/Hardware Approaches
- Memory vs. Computation Tradeoffs • Roundoff Error • FFT

Application Examples

- Radar • Sonar • Communications • Servomechanism Control • Process Control

Hotel Reservations

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

Registration form

NJ4-D

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

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☐ Reserve space for me at the DF&C course.
Location/Dates:

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☐ Contact me about group discounts & in-house presentations

☐ Send further information about courses

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

Society and PAC meetings the total comes to about 10% of our section members. A closer look at the attendance sheets, reveals the same names at each meeting so that perhaps only 2 - 3% of our members are involved in section activities. Involvement in section activities does take up some of your time and you make a value judgement on how best to spend it. Are we to conclude that for 98% of you, section activities can not compete with "Charlies' Angels"?

This is not a call to please come to our meetings - this is a call for you to get involved in Section Activities. The one and only purpose of this Section and the Section Officers is to serve you. Ask and we shall try to help, but please understand that the Section Officers can not give anything else than help. The Section can not give you activities you want - you must get involved in organizing activities that you and therefore your colleagues want. If there are twelve members interested in Engineering Education why not form a Chapter? Is no one interested in Communications? Well how about awakening our sleeping beauties - Communications Society, Multigroup and so on. Computer Programming in the fifties was exactly at the same point as one generation later for Microprocessors. Could not someone who knows how the Fortran Compiler implements the Do Loop, rescue our members lost in the Jump Instructions? A question answered on the spot is worth at least ten pages of gobbledygook. A talk by a member is surely worth ten talks by an imported theoretician.

Technical information received is really insignificant when compared to the value of personal contact with your colleagues. This is really a call to form a professional community. Surely someone who values professionalism enough to pay dues is worth knowing compared to one who is in engineering just for the money. A community helps members grow and develop and provides help when needed.

The biggest hurdle to good intentions is the first step. You want to get involved in Section Activities but you are embarrassed because you do not know anybody, so how can you get started? Your Section officers are here to help and they are listed in this Newsletter. Why not contact them and discuss things! If you wish to make personal contact why not come to the Executive Committee meeting on April 2, 1980 or May 7, 1980 at 7:30 PM at the Jersey Central Power & Light Co. on Route 24 about a mile east of Interstate 287. Become involved and get something more for your dues than announcements of IEEE insiders giving each other awards and medals? —Bob Sinusas

METSAC Meeting In New York



Attending the recent METSAC meeting in New York were (L to R) - Dave Doucette-LI, Jack Lubowski-Princeton, Don Bathke-NJ, Karl Sommer-NY, Ken Oexle-NJ, and Bill Terry-NY. Chairpersons of the Metropolitan Sections meet quarterly to discuss matters of mutual interest to members of the North Jersey, New York, Princeton and Long Island Sections.

Medical Ultrasound

The Metropolitan New York Chapter of EMBS will hold a May 7, 1980 meeting covering "On Real-Time Medical Ultrasound Instrumentation". Speaker will be Kai Thomenius, Ph.D., Engineering Manager, High Stoy Tech. Corp.

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

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

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

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

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 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



Vulnerability of Anti-Jam Spread Spectrum Communications

Woburn, MA May 5-7 • Los Angeles, CA August 11-13 • Palo Alto, CA September 22-24

Introduction to Spread Spectrum

Using Spread Spectrum to Immunize Systems Against
Unintended Intercept (LPI/TRANSEC)
Exploitation (COUNTER-ESM)
Unintended Listening (COMSEC)
Spoofing (COUNTER-DECEPTION)
Interference (Anti-Jam/AJ)

Review of Spread Spectrum Modulation

Frequency and Time Hopping
Direct Sequence Encoding
Hybrids

Intercepting Spread Spectrum Signals

Comparison of Intercept Techniques

Jamming Digital Spread Spectrum Communications

Comparison with Jamming AM and FM Voice
Jamming Digital Voice and Data Links
Optimizing the Jamming Spectrum

Processing Gain (PG) and Vulnerability Assessment

PG for Frequency Hopping Systems
PG for Direct Sequence Encoding
Bit Error Rate in Direct Sequence Encoding Modems
Relationship of LPI Suppression Factor and AJ PG Factor

Vulnerability Assessment of AJ Techniques

Contours in Space of Constant J/S Ratio
Follower Jammer Against Frequency Hoppers
Partial Band Jamming of Frequency Hoppers
Repeater Jammer Against Dwelling AJ Systems

Mathematical Appendices

Direct Sequence LPI
Fourier Analysis of Short Segments of Long m-Sequences
Gold Codes — A Summary
Factors Influencing Jammer Effectiveness
Exploitation of Spread Spectrum Signals

Contract awards for military communication systems are becoming ever more dependent on a proper vulnerability assessment. Make sure that your organization has expertise in these vital new techniques — reserve space now at this intensive special seminar presented by an acknowledged leader in the field. Several agencies and contractors have arranged for special presentations of this highly popular seminar. Comments from participants include:

"Great course; when is Nicholson's book coming out?"
"Excellent coverage of impact of whitening sequences."
"Material was advanced and well presented."



Dr. Nicholson is with E-Systems MELPAR Division, where he is Technical Assistant to the Vice President Systems. He has been intimately involved with developing jamming equipment and AJ strategies for many state-of-the-art military communication systems. Dr. Nicholson was on the faculty of the US Naval Academy from 1974 to 1976 and is a gifted lecturer able to explain the extremely complex in plain everyday language. His research at the leading edge of technology is tempered by wisdom gained through the development of practical systems.

Who should attend?

This special seminar is intended for managerial and technical personnel with responsibility for research, development, evaluation or planning of military communication systems. While the seminar is self-contained, previous exposure to spread spectrum concepts would be useful for obtaining full benefit from the more detailed technical material. The seminar goes beyond the basics and is concerned with effective jamming strategies and counter-strategies for AJ.

Hotel Reservations

Los Angeles Holiday Inn (213) 540-0500
Palo Alto Holiday Inn (415) 328-2800
Woburn Ramada Inn (617) 935-8760

Registration Form

NJ4-S

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

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Phone

Reserve my place at the location.

☐ Check enclosed (\$595)

☐ Invoice my company

☐ Contact me about in-house presentations

☐ Send further information about this and other courses

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Palo Alto, CA 94306 (415) 328-4091**

IRA and KEOGH Plans For Engineers

The April PAC meeting will address two popular retirement plans for engineers.

Our guest speaker will be Elaine Deja. She will discuss the basic differences between the two plans, how an unemployed spouse can qualify for an IRA, and how to increase contributions to a KEOGH. She will also discuss the flexibility to select investments in a self-directed IRA/KEOGH Account.

Ms. Deja is an Account Executive with Merrill, Lynch, Pierce, Fenner and Smith Inc. She is their coordinator, specializing in IRA/KEOGH Accounts, at their Wayne, N.J. office. Elaine has specialized in IRA/KEOGH Accounts for two years and is experienced in working with engineers. She is registered in N.Y., N.J., Conn., and California.

We invite you to join us at all of our Professional Activity Committee meetings and to join us in any and all discussions. Your participation enhances our efforts and your 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, April 16, 1980.

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

Pre-Meeting Dinner: 5:30 PM, JADE FOUNTAIN Restaurant, 321 River Rd., Clifton, N.J. Call Meyer Rosenthal (201) 731-4812 (7 - 10 PM) for further information and dinner reservations.

Control By Direct Digital Programming

The April 17, 1980 meeting of the NJ Control Society Chapter will hear Mr. Louis Blaine discuss process control using direct digital control programming.

THE SPEAKER

Mr. Louis Blaine is presently employed by General Automation as a technical support analyst. General Automation is a computer company with many installations in process control, data acquisition, and communications. Prior to this Mr. Blaine was with Ecodyne Corp. and was involved in engineering design and process control programming.

THE TALK

The implementation of direct digital control programming as a basis for process control is becoming more common as the availability of economical mini and microprocessors increases. But the increasing spread of such equipment has in many cases presented the design engineer with a variety of "black boxes" to evaluate. In order to arrive at an optimal process control design the engineer should be familiar with the building blocks in a DDC system and how they compare with their analog counterparts.

A description of the overall structure of a DDC system will be presented and a closer look will be taken at some of the unique characteristics of digital controls systems.

This meeting is open to all interested and no charge will be made.

Time: 8:00 PM, Thursday, April 17, 1980.

Place: Bell Laboratories, Whippany Road, Whippany.

Pre-Meeting Dinner: 6:15 PM, the AFTON (Columbia Turnpike and Hanover Road, Florham Park, New Jersey). **For Dinner Reservations Call:** John van Savage, 328-4667.

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.

IMPACT

In case you don't know it, "Impact" is an IEEE National PAC newsletter. It's part of the communications system that pulls PAC chairmen together. Believe me when I say, "if it's important to PAC, it's important to you."

This year we can see some encouraging news with Sandie Bidwell and Frank Lord assigned to the editorial staff of "Impact". Sandie Bidwell, Tucson PAC chairman, is a very outspoken individual. She has already done more than her share for her engineering colleagues. Frank has also been a contributor and got "Impact" off to its very popular start a few years ago. Thanks to both for still giving.

If you want Impact, call (202) 785-0017 and ask to speak to Gloria Aukland.

Hellman Associates Presents a Special Tutorial Seminar



Cryptography and Data Security

Woburn, MA May 19-21 • Palo Alto, CA July 21-23
Washington, DC August 4-6 • Los Angeles, CA August 18-20

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

Washington Holiday Inn (703) 521-1600
Palo Alto Holiday Inn (415) 328-2800
Woburn Ramada Inn (617) 935-8760
Los Angeles Holiday Inn (213) 540-0500

Registration and Information Request

NJ4-C

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☐ Invoice my company.

☐ Send further information about courses.
☐ Contact me about in-house presentations.

Industry Applications Society Chapter Formed

The over 225 Industry Applications Society members located within the North Jersey Section are now represented by a newly formed IAS Chapter reports Frank E. Schink, IAS Area Chairman.

The Chapter was established at a meeting of interested IAS members held on January 23, 1980 at the Westinghouse Lamp Division Plant in Bloomfield, New Jersey. An Executive Committee was formed of enthusiastic IAS members who have established plans for Chapter activity for the coming months. Meeting information will be issued shortly, so watch the Newsletter for the announcements.

The IAS members and those IEEE members whose interests lie within the IAS technical or industry area can now obtain the additional benefits offered by Chapter activity. The overwhelming response to Mr. Schink's letter to North Jersey IAS members indicated that a Chapter was required to provide the programs to meet their needs. All suggestions will be utilized to provide technical, professional, educational and social programs in your field of interest at a location convenient to your home or place of employment. Your North Jersey IAS Chapter will offer you an opportunity to associate with electrical engineers employed by other organizations in your IAS technical or industry area.

Your Chapter is a reality. Watch for the meeting announcements and plan

to attend Chapter functions frequently. If you wish any information, wish to provide suggestions, would like to actively participate in Chapters Committees or desire to join the Industry Applications Society, contact your IAS Chapter Chairman - Mr. Gerald Bellsey, 17 Greenbriar Road Parsippany, New Jersey 07054; Phone (203) 622-3683 or Vice Chairman, Kao Chen, Westinghouse Electric Corp., One Westinghouse Plaza, Dept. 1541, Bloomfield, New Jersey 07003; Phone (201) 429-3334.

IAS Chapter Sets First Meeting!

On January 23, 1980, IAS members met to establish the first North Jersey Industry Applications Society Chapter to serve the more than 225 members of the Northern New Jersey area. The Chairman and Vice Chairman are Gerald Bellsey and Kao Chen.

The first Chapter meeting will be held at 7:15 PM on April 24, 1980 at: Allen Bradley (Product Demonstration Room), 1293 Broad Street, Bloomfield, N. J. It will feature a guest speaker with a most timely and interesting topic: "PROGRAMMABLE CONTROLLERS FOR INDUSTRY" by Gary Schmidt, Systems Specialist, Allen Bradley.

Gary is a BSEE graduate from Ohio State University, and has been the Programmable Controller specialist at Allen Bradley for the past 3 years. He has been involved in many PC app-

lications, such as utility pollution controls, and materials handling systems.

Come meet your friends, and fellow IAS members at what promises to be one of the many interesting meetings of the North Jersey IAS Chapter. So you don't lose a seat, contact: Gerald Bellsey (203) 622-3683, or Kao Chen (201) 429-3334.

Time: 7:15 PM, Thursday, April 24, 1980.

Place: Allen Bradley, 1293 Broad St., Bloomfield, N. J.

Hotline On Ethics

NEW YORK — A pilot project, funded by the United States Activities Board, has been launched to protect and advise IEEE members whose jobs might be in jeopardy because of their adherence to the Institute's code of ethics.

The project, a hotline telephone number with a 24-hour answering service, is the brainchild of IEEE New York Section Professional Activities Committee (PAC) chairman, V. Edgerton. "The IEEE code of ethics contains a pledge to protect the public from predictable equipment malfunction that can cause death or serious injury," Edgerton explains. "And yet, for at least the past ten years, personnel in all fields of engineering who have been quietly doing their best to comply with the code have been getting fired or demoted, or have been forced to resign because of it.

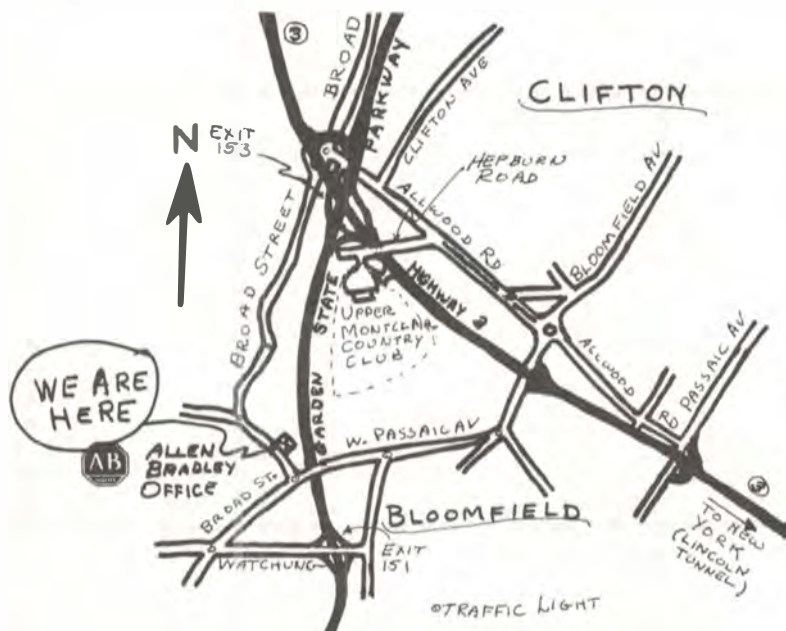
"Many people have been killed in accidents that have been predicted by engineers—and thus could have been avoided," adds Edgerton. "We know how to fix things, but when we try to do it we get fired."

Edgerton points out that the hotline project needs two kinds of volunteers—technical consultants and ethical consultants. Engineers wishing to volunteer for the project, or those with questions about the IEEE code of ethics, can call the hotline number—(212) 679-0935.

"All views will be respected, all calls kept in confidence, and all ethics questions answered on the spot or referred to consultants," says Edgerton. "The resources of the Institute, technical support and strong, ethical engineers are at the caller's disposal."

—CATHY FIGORITO

(Reprinted (in part), with permission, from the Monday, March 3, 1980 issue of "Electronic Engineering Times.")



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 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

NJ4-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

1980 - 81 SECTION OFFICE NOMINATIONS

The following information is provided concerning the individuals proposed by the Nominating Committee for 1980 -81 Section officer positions. Information about the Member-At-Large candidates will appear in the May Issue of the Newsletter, along with the Election Ballot.

ALAN H. STOLPEN - Chairman

Alan Stolpen is a Senior Project Engineer with Weston Instruments in Newark. His most recent assignment has been that of Project Leader in developing a hand-held audio response digital multimeter. His work at Weston has also included development of custom instrumentation and Liquid Crystal Display research.

Prior to joining Weston, Mr. Stolpen had spent nine years as Designer and Project Leader for computer power supplies for Conrac, D.C.C., Singer Kearfott, and Burroughs. His diverse background also includes six years in Quality Assurance, Applications Engineering and Component Engineering. He is co-holder of three patents, and has earned his BSEE ('66) and MSEE ('70) from N.J.I.T.

Alan's activities in the North Jersey Section started in 1964, as a student branch officer. In 1966, he joined the Newsletter staff as Student Affairs Editor, and progressed to Editor and Publications Chairman. He had held offices as Groups Coordinator, New Projects Administrator, Treasurer, Secretary, and Vice Chairman (II & I). He has been an active member in several ELECTRO committees, and was Committee Chairman of last year's record-setting Banquet.

ALEX T. BROWN - Vice Chairman I

Alex is a Section Head in the Transmissions Equipment Design Department at ITT Defense Communications Division in Nutley, N.J. At present, he is engaged in the Test Integration of the digital military Unit Level Switch. He has been Project Engineer for the AN/GRC-143 Digital Troposcatter Radio, Troposcatter systems, and a shipboard satellite transmitter. He has supervised and participated in the development of microwave systems, a ground satellite transmitter, a digital processor, low-noise front ends, Tacan ground receiver, and microwave components. He is a co-inventor of ITT's first radio predetection combining system using automatic phase control.

Mr. Brown graduated cum laude from N.C. State University with a BEE, and from Stevens Institute of Technology with a MS in Electrical Engineering. He is a member of Eta Kappa Na and Phi Kappa Phi.

His IEEE activities include serving as Vice Chairman, Treasurer, and Member-At-Large of the North Jersey Section. He has also served as Chapters Representative of the Communication Society of IEEE, and Chairman and Treasurer of the Communication Chapter of the North Jersey Section.

FRANK RELOTTO - Vice Chairman II

Frank Relotto received his BEE Degree from the University of Dayton, and MSEE from NJIT. He has been a member of IEEE since 1967. Active on the Education Committee since 1975, Mr. Relotto has also served as Member-At-Large, Secretary and Treasurer of the North Jersey Section. He has served as instructor of the highly successful microprocessor course offered by the Section's Education Committee. Mr. Relotto is an Application Engineer, specializing in micro-electronics, microprocessors, and computer sub-system.

ANNE M. GIEDLINSKI - Treasurer

Anne M. Giedlinski graduated from Penn State in 1967 with a BS in Electrical Engineering. She joined Jersey Central Power & Light Company in June, 1967, and has worked in the System Planning and Distribution Engineering departments. In October, 1976, she was promoted to the position of Supervisor-Area Engineering.

A member of the Power Engineering Society she has served on the Executive Committee of the PES North Jersey Chapter in various capacities and was Chairman in 1976-77. She was elected Member-At-Large for the North Jersey Section in 1978-79 and currently holds the position of Section Secretary.

JOSEPH W. FINK, JR. - Secretary

Joseph W. Fink, Jr. received his BSEE Degree from the Newark College of Engineering in 1964. He has been associated with the Research and Testing Laboratory of the Public Service Electric and Gas Company for all his professional career.

Mr. Fink is currently responsible for the operations of the Metrology Laboratory involving the calibration and standardization of primary instrumentation. He is a senior member of the IEEE, and a member of the North Jersey Executive Committee, serving as Member-At-Large and Chairman of the Membership Development Committee for several years. He is the current chairperson of the ANSI C39.6 Digital Measuring Instruments Committee, and recently served on nine steering committees for the Edison Electric Institute in the development of the recently published Electric Power Plant Environmental Noise Guide.

At the present time, he is a member of the NJIT Division of Technology instructing staff and serves on a subcommittee for the State of New Jersey Department of Environmental Protection.

Associate Member: Can You Upgrade?

You may qualify for a higher membership grade if you have a Bachelors degree or three years experience. There is no increase in dues. For details, contact: Don Weinstein, Kulite Semiconductor, 1039 Hoyt Ave., Ridgefield, N. J. 07657, (201) 945-3000 or Joseph Fink, Jr., PSE&G Research, 200 Boyden Ave., Maplewood, N. J. 07040, (201) 621-7500 Ext. 722.

Pension Answers For 1980

Responsible employers, employees and other citizens are truly concerned that the great mass of pension plans extant today do survive and ultimately deliver the benefits that future retirees expect to receive. You, of course, are also vitally concerned. Aren't you?

But, will those benefits be there for you, at the very time that you will need them most? That is the gnawing question.

Now, all of us, employers, employees and other citizens, can surely help each other to substantially decrease the number of those of us who will surely be disappointed, unless all of us act now. All of us means you, too. We can't do a respectable job without you. We need your personal help now.

Here is where you come in. We must get a real feel for what is going on in our own pension world, how you sense things, whether you have any uneasy feelings about your retirement future. So, you must be candid and tell us the way it is.

Your answers to the questionnaire which follows will truly help us. If you have additional commentary, we will be delighted to hear it.

So, please turn off that background TV, radio or whatever, and help yourself and us by carefully completing this questionnaire right NOW.

Upon completion, please mail the questionnaire to:

Paul Kodak
320 South Harrison Street
East Orange, N. J. 07018

Your help in this effort is sincerely appreciated, and we thank you for your concern and assistance.

Paul Kodak
Pensions Chairman, PAC
North Jersey Section, IEEE
(201-672-7940)

1980 QUESTIONNAIRE - EMPLOYEE PENSION PLAN

1. How old are you? _____
2. Your degree; also what kind of work do you do; i.e., E.E., M.E., Mathematician, Scientist, etc. _____
_____ Are you An Employer? _____ YES: _____ NO: _____
3. How many years have you been working? _____
4. How many employers have you had? _____
5. How many of these employers had pension plans? _____
6. Of those employers, how many plans have you actually vested in? _____
7. At present do you have an employer? _____
8. How long have you worked for your present employer? _____
9. Does your present employer have a pension plan? _____
10. How many dollars does your present employer put into this plan for you each year?

11. If your employer does not, when will the employer start to? _____

12. How many dollars will your employer put in each year? _____
13. On what date will you vest in this plan? _____
14. Do you realistically expect to be in this employ on that date? _____
15. If not, why not? _____

16. Would you be interested in having your own retirement plan completely independent from one that an employer provides? _____
17. How many dollars would you put into your own plan each year? _____
18. Will you contribute each year until retirement? _____
19. Would you prefer that your employer provide a pension plan for you? _____
- YES: _____ NO: _____ 20. Why? _____

PHASELOCK

UP-TO-DATE

A short course for engineers who work with phaselock loops.

Lecturer: **Dr. Floyd M. Gardner**

New York:

June 16-20, 1980
(Marriott's Essex House,
New York City)

Boston:

October 6-10, 1980
(Holiday Inn,
Burlington, MA)

Los Angeles:

December 8-12, 1980
(Airport Park Hotel,
Inglewood, CA)

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Foundations

Basic Loops
Transfer Functions
Noise
Tracking
Acquisition

Implementation

Loop Filters
VCOs
Phase detectors
Digital circuits
Optimization
Stability
Spurious locks

Applications

Receivers
Transponders
Demodulators
FM Threshold
Synthesizers
Synchronizers

Floyd M. Gardner is a consulting engineer with more than 20 years experience in phaselock loops and is widely known for his book ***Phaselock Techniques***. The expanded 1979 second edition of the book will be provided to each person enrolled in the course.

For further information, or to enroll, send coupon below to:

Gardner Research Company
1755 University Ave.
Palo Alto, CA 94301
(415) 328-8855

PHASELOCK UP-TO-DATE: Information and Enrollment Form

Name: _____

Title/Position: _____

Company: _____

Address: _____

Telephone: _____ Day _____ Evening _____

☐ Please enroll me in course.
I enclose:

☐ check ☐ purchase order
for \$495.00.*

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☐ Send Brochure

☐ Notify me of future offerings.

*Fee includes tuition, text,
notes, and coffee.