



The IEEE

Newsletter

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

North Jersey Section PACE:

AEA And Professional Activities

The April 8, 1993 PACE meeting will introduce you to the activities of the American Engineering Association (AEA). The speaker will be Richard F. Tax, vice president of the AEA and editor of this newsletter's PACE News column.

About The Talk

Richard will provide a brief review of the history of professional activities. He will discuss the AEA's current activities to enhance engineering opportunities and the areas where improvements are needed and how members can help.

This meeting is important for engineers who are concerned about their engineering career and provides them with the opportunity to combine their efforts.

About The Speaker

Richard Tax is a graduate of Fairleigh Dickinson University with a BSEE degree and is a Senior Member of the IEEE. He has more than 25 years of experience in the engineering field. Richard is the recipient of six IEEE awards for leadership including the IEEE Centennial Medal and the IEEE-USAB Citation of Honor.

He has been active in the IEEE since 1974. Richard was Chairman of the North Jersey Section from 1985 through 1986 and was our past PACE chairman. He is the editor of our PACE News column, served as a member of the IEEE—USA's Manpower Committee and wrote IEEE's Entity Position Statement "Enhancing U.S. Productivity Through Improved Utilization of Engineers." In 1987 he chaired the 20,000 member, Metropolitan Sections Activities Council (METSAC) that consists of the Long Island, New York, North Jersey, Princeton and, just recently included, Jersey Coast IEEE Sections.

All IEEE members and guests are invited to attend.

Time: 7:30 PM, Thursday, April 8, 1993.

Place: JCP&L Co., 300 Madison Ave., Morristown, N.J.

Further Information: Robert Sinusas (201) 228-3941.

NJ Comp/Comm/LEO Soc:

Comparing Page Replacement Algorithms

On April 12, 1993, the North Jersey Section Computer/Communication/LEO Chapter will present "A Comparison Of Page Replacement Algorithms." The speaker at this meeting will be IEEE Distinguished Lecturer William M. Tetzlaff of IBM's Watson Research Center, Yorktown Heights, N.Y.

About The Topic

One of the objectives of virtual memory systems is to provide more virtual memory than actually exists as real memory. Thus, only a subset of the addressable pages are kept in the real memory of the system. The page replacement algorithm selects this subset through the decisions that it makes to remove pages from real memory. This algorithm is key to the performance of any paging system.

This talk briefly reviews the history and structure of virtual memory systems. Several simple replacement algorithms are discussed. The primary focus is on the page replacement algorithms used in five production operating systems which are all approximations to the Least Recently Used (LRU) algorithm. Systems that do block paging use Local LRU and the others use Global LRU. Some systems allow installation control for classes of work and some use scheduler information to predict future reference. The particular systems described are MVS, VM/SP, VM/ESA, BSD Unix, and VAX segmented FIFO.

About The Speaker

William M. Tetzlaff joined the IBM Service Bureau Corporation in 1966 and transferred to the Research Division of IBM in 1969. He has done research in the areas of information retrieval, system performance, capacity planning, paging subsystems operating systems, file systems, file serv-

ers and network operating systems.

Mr. Tetzlaff has received four IBM Outstanding Contributions Awards for his work. He has a BS in Computing Systems from the Engineering School of Northwestern University, Evanston, Illinois, and he is a graduate of the IBM Systems Research Institute in New York City. Mr. Tetzlaff is currently a Programming Staff Member in the Research Division and Senior Manager of Operating Systems, File Systems and serves in the Computer Sciences Department. He is a frequent speaker at SHARE, GUIDE and the Computer Measurement Group on topics of performance management, tuning, and paging systems.

Optional Pre-Meeting Dinner

Come meet the speaker. Stoney Hill Inn, 231 Polifly Rd., Hackensack at 5:30 PM. For directions call (201) 342-4085. Reservations required (908) 388-5110.

All Welcome

You do not need to be an IEEE member to attend. Come and bring your friends.

Time: 7:30 PM, Monday, April 12, 1993.

Place: Fairleigh Dickinson Univ., Room M-207, Muscarelle Bldg., Teaneck N.J.

Information: Richard G. Estock (908) 388-5110.

Comp/Comm/LEO Volunteers Needed

Anyone interested in helping with program development and other activities for the Computer/Communications and/or Laser Electro-Optical Societies, or video conferences, please see Richard G. Estock at the next Executive Committee meeting on April 7th. See calendar for time and location.

APRIL, 1993

APRIL, 1993

Volume 39, Number 10

Publication No: USPS 580-500

The North Jersey Section's "The IEEE Newsletter" is published monthly except June by The Institute of Electrical and Electronics Engineers, Inc. Headquarters: 345 East 47th Street, New York, N.Y. 10017-2394. \$1.00 per member per year (included in annual dues) for each member of the North Jersey Section. Second-class postage paid at New York, N.Y. and at additional mailing offices. Postmaster send address changes to: "The IEEE Newsletter," 445 Hoes Lane, P.O. Box 1331, Piscataway, N.J. 08855-1331. USPS 580-500.

NEWSLETTER STAFF

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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, P.O. Box 455, Mt. Arlington, N.J. 07856 (201) 398-5524.

IEEE North Jersey Bulletin Board System:
0 TO 9600 baud, 8 pits, no parity, 1 stop bit, BBS
phone number: 201) 669-8268.

(Courtesy of United Societies of Engineering & Science of NJ, Inc.)

REPORT ADDRESS CHANGES TO:

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(908) 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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The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7 PM. These meetings are open to all members. Information on meeting agenda is available from Art Greenberg, Section Secretary at 785-7295.

Elected Section Officers are listed above.

North Jersey Section Activities

APRIL

Apr. 7—"North Jersey Section Executive Committee Meeting"—7:00 PM, Plant 11, GEC-Marconi, 164 Totowa Rd., Totowa, N.J. Al Connelly (201) 616-0755.

Apr. 7—"1993 Control Systems Seminar Series—III & Industry Show"—NJIT, North Jersey Section IEEE, 4:00 - 6:00 PM, Guttenburg ITC-1400, Newark, NJ. Prof. Tim Chang (201) 596-3519.

Apr. 8—"AEA And Professional Activities"—IEEE North Jersey Section PACE, 7:30 PM, JCP&L Co., 300 Madison Ave., Morristown, N.J. Robert Sinusas (201) 228-3941.

Apr. 12—"A Comparison Of Page Replacement Algorithms"—North Jersey Section COMP/COMM/LEO Chapter, 7:30 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck, N.J. Richard G. Estock (908) 388-5110.

Apr. 13—"Application Of Digital Communication Technology"—PES/IAS NY/LI Chapter, 5:30-7:30, Gibbs & Hill, 11 Penn Plaza, 5th Floor, NYC. Hans Candia (914) 681-6660.

Apr. 14—"Electromagnetic Field Enhancement Of Membrane Ion Transport"—NY/NJ/LI Engineering in Medicine and Biology Society, 7:30 PM, Rockefeller University, Tower Bldg., Rm. 305, 1200 York Ave., NYC. Joel Levitt (718) 891-6460.

Apr. 21—"Computer Technology Court Wars"—NJ/NY Chapter of the Engineering Management Society, 7:00 PM, AT&T Bell Labs, Room 68106, 600 Mountain Ave., Murray Hill, N.J.

Apr. 21—"Imaging Systems—1993 Optoelectronic Seminar III"—NJIT, Center for Microwave and Lightwave Engineering, North Jersey Section IEEE & NJIT Graduate Student Assoc., 3:00-5:00 PM, NJIT, Alumni Center, Newark, N.J. Dr. Whitman (201) 596-5709/3232.

Apr. 22—"GaAs MMICs—Current Status"—IEEE North Jersey Section MTT/AP Chapter, 7:00 PM, ITT Avionics, New Auditorium (across from Tower), 100 Kingsland Rd., Clifton, N.J. Dick Snyder (201) 492-1207.

Apr. 22—"POSIX—Delivering Open Systems Portability"—Videoconference, North Jersey Section, 12 noon-3:00 PM, Edward Williams College Lecture Hall, (FDU Hackensack Campus), 150 Kotte Place, Hackensack, N.J. For playback location see article. Richard Estock (908) 388-5110.

Apr. 22—"Short Circuit Calculations And Considerations"—PES/IAS NY/LI Technical Discussion Group, 6:00-8:00 PM, Con Edison Bldg., Rm. 1425, 4 Irving Place, NYC. Richard Atalese (201) 926-6925.

Apr. 27-29—"ELECTRO/93"—Garden State Convention Center, Somerset and Raritan Center, Edison, N.J. (800) 877-2668 or FAX (310) 641-5117. See article.

April 28—"Two Presentations On Cable"—North Jersey PES/IAS Society Chapters, 7:30 PM, JCP&L, Punch Bowl Room, 300 Madison Ave., Morristown, N.J. Ken Oexle (JCP&L) (201) 455-8481.

Apr. 28—"UNIX or Eunuchs"—North Jersey Section COMP/COMM/LEO Chapter, 7:30 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck, N.J. Richard G. Estock (908) 388-5110.

Apr. 28—"Instrumentation For Voice Measurement"—IEEE Metropolitan Chapter of the EMBS and NY Academy of Medicine's Sections on Biomedical Engineering and Otolaryngology, 7:30 PM, NY Academy of Medicine, 5th Avenue at 103rd St., NYC. Office of Medical Education, NY Academy of Medicine (212) 876-8200, ext. 235.

Apr. 29—"Protecting Your Intellectual Property"—Northern N.J. IEEE Consultants' Network, 7:30 PM, GEC-Marconi Facility 150 Parish Dr., Wayne, N.J. Jim Boyd (201) 584-0329.

Members and Non-Members Welcome

PLEASE POST

New Jersey Institute of Technology 1993 CONTROL SYSTEMS SEMINAR SERIES

Metro EMBS:

Electromagnetic Field Enhancement Of Membrane ION Transport

On April 14, 1993 the IEEE Metropolitan Sections Engineering in Medicine and Biology Society will present a talk on "Electromagnetic Field Enhancement Of Membrane ION Transport." The speaker will be Dr. Lance Breger.

About The Talk

In the mid-1980s, Abraham Liboff discovered that a dynamic magnetic field superimposed on a static one affects living organisms, e.g., by increasing the motility of diatoms (a microscopic organism). He hypothesized that the dynamic magnetic fields change the rate of calcium diffusion through the cell membranes by a mechanism involving cyclotron resonance (CR). However, he offered no direct experimental evidence. The objective of our study is to directly test Liboff's hypothesis in a simple case. A membrane is placed in a standard diffusion cell with solutions on both sides but calcium ions on one side only. Rate of change of calcium concentration is studied as a function of Helmholtz-coil applied fields. An artificial membrane is used in our investigation to eliminate non-CR influences.

A newly designed apparatus is also described. The computer-controlled instrument automatically controls and monitors the experiment as well as eliminates some important errors of observation. This talk is a report of research in progress.

About The Speaker

Dr. Breger holds degrees in both electrical engineering (MSEE, Northwestern University) and Physics (PhD University of Illinois, Urbana). He is the Principal Investigator on an N.S.F. grant (Electromagnetic Field Enhancement of Membrane Ion Transport) and is an Associate Professor of Electrical Engineering at Pratt Institute, Brooklyn, New York.

Pre-Lecture Get-Together

Optional informal pre-lecture get-together 6:30 to 7:30 PM in the cafeteria snack area (enter Tower, turn left).

Time: 7:30 PM, Wednesday, April 14, 1993. (Pre-lecture get-together 6:30.)

Place: Rockefeller University, Tower Bldg., Room 305, 1200 York Ave., NYC.

Further Information/Reservations: Joel Levitt (718) 891-6460; Sol Manber (516) 585-8200; John Frederick (212) 595-2599; Edna Feher (212) 757-0610.

sponsored by

The North Jersey Section IEEE

The Cullimore Lecture Series

The Department of Electrical & Computer Engineering

Location: Guttenburg Information Technology Center ITC-1400

III. APRIL 7, 1993, WEDNESDAY 4:00 PM - 6:00 PM

- Performance Limitation of Nonminimum Phase Systems

Professor E.J. Davison

Department of Electrical Engineering, University of Toronto

- Control Research at GE

Dr. T.L. Johnson

GE Corporate Research & Development Center

Industry Show: 3:00 - 6:00 PM

For further information on:

- Seminar and travel directions: Prof. Tim Chang at NJIT (201) 596-3519 by email: tnc0766@tesla.njit.edu
- Advertising: Mr. Dave Haessig Jr. at GEC Marconi (201) 305-2766

ELECTRO/93 In New Jersey April 27-29, 1993

Electro inaugurates its move to New Jersey with the introduction of Technology Focus Week and two technology focused events running concurrently with Electro/International: SMT/Electro and Test/Electro.

Electro/93 will be held at the new Raritan Center in Edison, while Test/Electro and SMT/Electro will take place at the Garden State Convention Center in Somerset. Shuttle buses will run between the two sites throughout the week. Attendees may visit any or all shows with one admission ticket.

The Electro/93 keynote, by Dr. James E. Carnes, President and Chief Operating Officer of the David Sarnoff Research Center, will address "High Definition Television and Imaging Technology." The keynote program will take place at a Keynote Dinner on Tuesday, April 27, at the Ramada Renaissance.

Test/Electro will feature a keynote address by Graham C.C. Miller, Chairman of the Board and President of LTX Corporation. The Test/Electro keynote will be delivered at a noon luncheon, Tuesday, April 27, at the Somerset Plaza Hotel.

As part of its leading-edge Professional Program of 29 technical sessions, Electro will present an entire subject track devoted to Advanced Technologies, including HDTV, Virtual Reality and Medical Electronics. Other subject tracks will explore Computer Technology; Communications Technology, Competitiveness and general interest topics.

Test/Electro and SMT/Electro will feature comprehensive paid Technical Conference programs. The Test/Electro Conference will feature 32 sessions and tutorials. Sessions are divided into four tracks covering Boundary Scan and Built-in-Self Test; Digital and Software Testing Techniques; Analog and Mixed Signal Testing Techniques; and Quality and Reliability. SMT/Electro will present 16 full- and 5 half-day courses on a variety of surface mount technology topics, including circuit design and packaging, manufacturing and test related issues.

Copies of the Electro/93 or Test/Electro technical session papers that will be presented are available by contacting Natalie Perlin, Communications Manager, at (310) 215-3976 ext. 252. A summary of the SMT/Electro courses is included in this kit.

Other Electro/93 highlights include Virtual Reality demonstrations, an HDTV theater, a Hewlett-Packard Concurrent Engineering workshop, 13 in-depth short courses, and special IEEE Society presentations.

More than 500 exhibiting companies, including IBM, Epson America, TDK Corp., Cherry Electrical Products, and Yokogawa Corp. of America, will round out this year's Electro.

For information about Electro/International, Test/Electro or SMT/Electro, call (800) 877-2668, or FAX (310) 641-5117.

Electro is sponsored by Region 1, METSAC and CNEC, Institute of Electrical and Electronics Engineers, and the New York and New England Chapters, Electronics Representatives Association. It is produced by electronic conventions Management, Los Angeles.

NY/North Jersey-EMS: Computer Technology Court Wars

On April 21, 1993 the Engineering Management Society will present a seminar on "The Computer Technology War In The Courts: The Impact Of Intellectual Property Protection On Technology." The speaker will be Joel Miller, of West Orange, New Jersey, an attorney specializing in patent, trademark, copyright, trade secret, and unfair competition law.

About The Topic

Lately, it seems as if virtually every electronics and software firm is going to court to sort out its rights over technology. Apple v. Microsoft, Atari v. Nintendo, Intel v. Advanced Micro Devices, Lotus v. Paperback, and Sega v. Accolade are but a few of the more recent disputes. These matters have concerned hardware, software, the look and feel of programs and user interfaces, and reverse engineering.

Why is this of importance to you - the engineering professional? Come to this meeting of the EMS and find out: How such matters affect the design, manufacturing, marketing, and sales process; How to protect your creative output; How to avoid invading someone else's turf. Mr. Miller will provide handouts during the meeting.

About The Speaker

Joel Miller was formerly a patent examiner in the U.S. Patent and Trademark Office, patent counsel for the Kearfott Division of the former Singer Company, and an attorney with the New York-based law firm of Weil, Gotshal & Manges. He is the author of the *IEEE Spectrum* Legal Aspects column.

Over the years, Mr. Miller has secured patents and trademarks, negotiated intellectual property licenses, and participated in litigation concerning semiconductors, disk drives, and computer software. He has worked in a variety of technologies including communications, broadcasting, semiconductors, avionics, and computer hardware and software. He is a member of the American Bar Association, the American Intellectual Property Law Association, the Computer Law Association, the New Jersey State Bar Association, the IEEE, and the American Radio Relay League.

There will be a \$20 charge for attending the seminar. **Make checks payable to IEEE North Jersey Section.** Handouts and hors d'oeuvres will be provided.

Time: 7:00 PM, Wednesday, April 21, 1993.

Place: AT&T Bell Labs, Room 68106, 600 Mountain Ave., Murray Hill, N.J.

Information/Reservations: Al Connelly, 49 Channing Drive, Ringwood, NJ 07456.

New Jersey Institute of Technology 1993 Optoelectronics Seminar Series and Industry Show

sponsored by

**The Center for Microwave and Lightwave Engineering
North Jersey Section IEEE & NJIT Graduate Student Association**

Planning Committee: M. Ettenberg, DSRC; E. Gordon, NJIT; H. Grebel, NJIT; W. Kosonocky, NJIT; R. Leheny, Bellcore; T. Li, AT&T; Richard Linke, NEC-Res. Inst.; S. Nagel, AT&T; E. Niver, NJIT; I. Reingold, Geo-Centers; G. Whitman, NJIT; J. Yardley, Allied Signal.

III. IMAGING SYSTEMS

April 21, 1993, Wednesday, 3:00-5:00 PM, Alumni Center

From Telephone to Tele-Presence

Kicha Ganapathy, AT&T Bell Laboratories

High Definition Display Systems

M. Robert Miller, U.S. Army Electronics Technology and Devices Laboratory

Registration:

By mail, telephone or in person. Those who register in advance will be sent a map. There is no registration fee. Refreshments will be served.

Directions:

Garden State Parkway to Exit 145, Route 280 East; take King Blvd. Exit 14A and turn right at the traffic light. Continue straight and after three traffic lights, turn right onto Central Avenue. Take the first left, Summit Street, into campus. Proceed to the guardhouse, the attendant will direct you to reserved parking.

From Route 280 West; take the King Blvd. exit, make a left at the foot of the ramp, go one block and make a left at the stop sign onto King Blvd. After four traffic lights, turn right onto Central Avenue. Follow directions above.

For Information: Contact Dr. Gerald Whitman (201) 596-5709/3232.

1993 Optoelectronics Seminar III, April 21 "IMAGING SYSTEMS"

From Telephone To Tele-Presence

Kicha Ganapathy

AT&T Bell Laboratories

Abstract: Telecommunications is rapidly evolving to provide multiple modalities of communication. As services evolve beyond telephones, fax, e-mail, image mail, etc., it is possible to visualize interactive information services that integrate audio, video and tactile information. The ultimate goal of department research efforts is to provide tele-presence through use of virtual reality technology. Such an approach involves building novel human-machine interfaces and use of machine vision technology to reconstruct an environment and use computer graphics to resynthesize the environment at the other end. We have a small but tightly-focused group effort directed towards providing such services by building model-based shared environments. Details of efforts will be presented along with some examples of results, the lessons learned, the challenges ahead and conclusions with future direction and applications in many areas including education and entertainment.

High Definition Display Systems

M. Robert Miller

*U.S. Army Electronics Technology and
Devices Laboratory*

Abstract: The introduction of new high definition display technology is fueled by the steadily increasing amount of information people are required to acquire and utilize along with development and availability of higher performance display devices. The requirements for high definition display systems in many applications are certainly real, varied and will continue to grow. CRT's continue to set the performance standards, but flat panel display technologies are becoming more mature and projection systems are becoming more capable in large screen displays. The technology will benefit from having a variety of customers including the military, CAD, medical imaging and teleconferencing. Increased resolution will have definite benefits for many applications, but the assumption that higher definition alone will solve any given set of problems must be discarded. The applicability of the display is strongly affected by the interactivity provided along with the display system. Only an holistic approach which combines the precise specification with subjective evaluation and analysis can be expected to achieve well defined and implemented systems.

North Jersey Section: POSIX: Delivering Open Systems Portability

POSIX is the topic of the second of seven 1993 IEEE videoconferences being offered by the North Jersey Section. This live and interactive event will occur Thursday, April 22, 1993. Attendance is limited to IEEE members only.

POSIX is an evolving and emerging set of software standards for open computer systems that is supported by the U.S. Government, the European Commission and a wide range of private corporations. It is the cornerstone of future use of information systems. Consequently, this videoconference should be of great interest to computer scientists, data processing and technical managers, software engineers and software developers.

Topics include: the business value of the POSIX standards to both user application developers and system providers; how to apply the POSIX standards within the context of other standards to accomplish specific functional objectives; the role of validation in obtaining the benefits expected of open systems; and how the capabilities and availability of the POSIX standards can be applied to achieve application portability among different hardware platforms.

The agenda for the videoconference includes: a panel discussion on the importance of open system concepts in the industry; the expectations and current status of open systems; how to apply these concepts in the real world; and the essential role of conformance testing.

Sponsored by Digital Equipment Corporation, the lead presenter will be Jim Isaak, POSIX Strategy Director for DEC. Other presenters will be Roger J. Martin, Manager of the Software Engineering Group of the National Institute of Standards & Technology (NIST), and Karen Sheaffer, Member of the Technical Staff at Sandia National Laboratories.

A set of conference notes and copies of the viewgraphs will be available for \$10 to those who order and pay for them ten (10) days in advance. For those desiring to obtain maximum benefit from this videoconference, these notes are highly recommended. To reserve a set of notes, mail a check for \$10 payable to "IEEE North Jersey Section" to Richard G. Estock, c/o EDP Consultants Inc., 77 Meredith Road, Colonia, NJ 07067-3198. Be sure to include your name, address and telephone number.

Admission FREE to IEEE Members

Admission is free to IEEE members; others may attend by completing an application form for membership with payment of 1993 dues—\$95 for regular

members, \$23 for students. Mail check payable to "IEEE North Jersey Section" to Richard G. Estock, c/o EDP Consultants Inc., 77 Meredith Rd., Colonia, NJ 07067-3198. Include your name, address and telephone number.

Videoconference Playback

Playback of taped "POSIX" videoconference for those unable to attend the live, interactive session will take place the same day at 6:00 - 9:00 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck. For a copy of conference notes, follow instructions above.

Time: 12 noon - 3:00 PM, Thursday, April 22, 1993. (Playback 6-9 PM at location shown above.)

Place: Edward Williams College, Lecture Hall (FDU Hackensack Campus), 150 Kotte Place, Hackensack, N.J.

Directions: Route 4 to Hackensack Ave. south, then 1st left onto Kotte Place.

Information: Richard G. Estock (908) 388-5110.

NY/LI PES & IAS: Application Of Digital Communication Technology

The Power Engineering Society and Industry Applications Society NY/LI Chapter will meet on April 13, 1993 to hear a talk on "Application Of Digital Communications Systems For Relaying And Control." The speaker will be Mr. Mohamed A. Ibrahim, P.E. Director of Protection & Control in the Engineering Division of New York Power Authority's System Operation Department.

Actual application of dedicated digital communication links, as well as relaying multiplexing systems, will be presented.

The meeting will take place 5:30-7:30 PM at Gibbs & Hill, 11 Penn Plaza, 5th floor, NYC. Refreshments provided. For information: H. Candia, (914) 681-6660.

NY/LI PES & IAS: Spring '93 Get-Together

The Chapter Related Activities Committee announces that the Spring Get-Together will be held on Friday evening May 14, 1993 at the Meadowlands Race-track, Pegasus East Buffet.

The cost will be \$34.95 per person. For information on this social event please contact William N. Coyne, c/o Con Edison Energy Services, 708 First Avenue, Room 515, New York, NY 10017.

North Jersey PES/IAS: Two Presentations

On April 28, 1993 the North Jersey Power Engineering/Industry Applications Society Chapters will host two 45-minute presentations, "Materials And Construction Of Medium Voltage Power Cables" by Tony Doeppen of Cablec Continental Cable Company and "Design Of Utility Distribution Cables" by Tony Reczek of Cablec Utility Cable Company.

About The Presentations

The first presentation "Materials and Construction of Medium Voltage Power Cables" will cover the materials and constructions of medium voltage cable including information on: conductors, conductor shields, insulation types, insulation shields, various metallic shields, jacket types and armors. Also covered are the advantages and disadvantages of various materials and constructions on cable performance.

The second presentation will cover the "Design of Utility Distribution Cables" from 15-35kV. The effects of various insulations, shields and jacketing materials on aging and degradation will be discussed. Also discussed will be moisture barrier systems and their effects on cable performance.

About The Speakers

Tony Doeppen is Director of Materials Development for Cablec Continental Cable Company and has been with Cablec and its predecessor Phelps Dodge since 1975. He is a member of the IEEE PES/IAS as well as the Dielectric Conductor Society and his career in the cable industry has been primarily in the area of both design and development of medium voltage cables.

Tony Reczek is a Senior Applications Engineer for Cablec Utility Cable Company and was with Reynolds since 1962 which has been acquired and is part of Cablec Utility Cable Company. He is a member of IEEE Insulated Conductor Committee and his career in the cable industry has been in the areas of: cable design, manufacturing, testing, research and development and application engineering for 600V through 138kV cables.

All Welcome

Free Pre-Meeting Buffet

Members and guests interested in the meeting topic are invited. Reservations are required for the complimentary pre-meeting buffet which starts at 6:00 PM followed by the meeting at 7:30 PM.

Time: 7:30 PM, Wednesday, April 28, 1993.

Place: JCP&L, Punch Bowl Room, 300 Madison Ave., Morristown, N.J.

Reservations/Information:

Ken Oexle (JCP&L) (201) 455-8481; R.V. Rebbapragada (Ebasco) (201) 804-2011 or (212) 839-1473.

No. NJ Consultants' Network: Protecting Your Intellectual Property

At the April 29th meeting of the IEEE Consultants' Network of Northern NJ, Tom Adams Esq., a partner in Behr and Adams of Morristown, will discuss "The Intellectual Property Protection For The Independent Practitioner."

About The Talk

Independent consultants serve several clients in closely related fields. To be effective, consultants require access to the client's technology, and the consultant typically does not execute the usual employer/employee agreements. This talk will cover the common practices used to protect both parties in such situations.

The talk will also address other cases where intellectual property concerns arise. When creative solutions are proposed to a client's problem, there may be questions regarding the ownership of the idea, particularly if the proposed solutions lie in the main area of the consultant's expertise. How consultants should protect their own ideas will be discussed.

About The Speaker

Tom Adams' practice consists of drafting and prosecuting patent applications, prosecuting interference claims, civil trials and appeals, and the licensing of intellectual property. Trademark activity includes solicitation, opposition and litigation.

Mr. Adams holds a BSEE from NJIT ('69) and a JD from Seton Hall Law School ('75). He is the Immediate Past Chair of the Patent, Trademark, Copyright Law and Unfair Competition Section of the NJ State Bar Association. He is listed in the Who's Who in American Law and is a former Deputy Mayor of Livingston, N.J.

About The Consultants' Network

The IEEE Consultants' Network of Northern NJ was founded in April 1992 to encourage and promote the use of independent technical consultants by business and industry. Meetings are held on the last Thursday of each month at GEC-Marconi. The Network will distribute its first Directory of Consultants in April '93. For a complimentary copy, call Alex Richardson (201) 992-0448.

Time: 7:30 PM, Thurs., April 29, 1993.

Place: GEC-Marconi Facility, 150 Parish Drive, Wayne, NJ.

Directions: From Intersection of Rte. 23 and Rte. 46, approx 1 mile east to Riverview Drive. North on Riverview for 1.5 miles to traffic light at golf course. Go straight on Valley Road to next light; turn left onto Parish Drive. Follow to "T"; left turn for 2 short blocks to Dey Rd. Left on

Dey Rd. GEC entrance approx. 100 ft. on right side.

Information: For alternate directions and up-to-date meeting status call (201) 736-0771 (Walker Elec. Services VOICE MAIL - 24 hrs). For other questions regarding the meeting or the Consultants Network, call Jim Boyd (201) 584-0329.

NJ Comp/Comm/LEO Soc: UNIX Systems: Past, Present & Future

On April 28, 1993, the North Jersey Section Computer/Communication/LEO Chapter will present "UNIX Or Eunuchs." The speaker at this meeting will be IEEE Distinguished Lecturer Susan L. Rosenbaum, President of Practical Solutions International, Inc., of Plainfield, N.J.

About The Talk

UNIX is a system with maverick parents and mixed step-parents, siblings having diverse interests, children with different goals, and grandchildren attempting a reunion of personalities.

This talk summarizes the MULTICS, CTSS and GECOS roots of UNIX which accounts for many of the anomalies inherent in UNIX, delineates the Workbench offshoots (Programmers', Writers', Documenters'), compares various flavors of UNIX (AT&T, Berkeley and several commercial offerings), and discusses the evolution of UNIX as a concept subject to standardization by the IEEE Computer Society, the Open System Foundation and UNIX International, Inc. (the latter now a part of Novell), including the impact of a hesitant association with Windows and Layers.

Rosenbaum also offers a projection of the evolution of the UNIX family within the scientific/engineering and industrial communities.

About The Speaker

Ms. Rosenbaum has served on the Computer Society Governing Board, as Ombudsman, and as Chairperson of the New Publications Planning Committee. She has been a member of the Finance Committee, the Audit Committee, and several advisory committees. She has also been a member of the Membership and Information Services, Publications, Conferences and Tutorials, Education, and Area Activities Boards of the Computer Society, and has represented the Computer Society on the IEEE Finance Committee.

Susan is currently President of Practical Solutions International, Inc., an information system and computer consulting and planning firm. Previously, she was a Senior Information Specialist with AT&T, a Senior Consultant with Honeywell Information Systems, a nuclear submarine Test Director and Analyst for

the U.S. and British navies, and a Systems Architect for MIT's Project MAC. Rosenbaum is one of the original designers of the Multics system.

Optional Pre-Meeting Dinner

Come meet the speaker. Fireside Inn, 70 West Passaic St., Rochelle Park, 5:15 PM. For directions call (201) 845-8333. Reservations required, (908) 388-5110.

All Welcome

You do not need to be an IEEE member to attend. Come and bring your friends.

Time: 7:30 PM, Wednesday, April 28, 1993.

Place: Fairleigh Dickinson Univ., Room M-207, Muscarelle Bldg., Teaneck N.J.

Information: Richard G. Estock (908) 388-5110.

Metro EMBS:

Instrumentation For Voice Measurement

On April 28, 1993, the IEEE Metropolitan Chapter of the Engineering in Medicine and Biology Society and the New York Academy of Medicine's Section on Biomedical Engineering and Otolaryngology will host a program on "Instrumentation For Voice Measurement." The speakers will be Dr. Ronald J. Baken, Dr. Clarence Sasaki and Dr. Katherine S. Harris.

Program Components

1. "Aerodynamic Measurement of Vocal Fold Activity" by Ronald J. Baken, PhD.
2. "Visualization of Abnormal Vocal Fold Activity" by Clarence Sasaki, MD, and
3. "Laryngeal Behavior in Running Speech" by Katherine S. Harris, PhD.

About The Talk

During speech the vocal folds vibrate in response to complex aerodynamic and myoelectric forces. As the vibrating vocal folds move in and out of an outward flowing airstream produced by steady subglottal pressure, they become aerodynamically coupled to the egressive airstream. This is the mechanism by which speech is produced. Key aerostatic, aerodynamic, and laryngeal physiological variables, and appropriate instrumentation and measurement techniques for assessing the effects of these variables in the production of normal and abnormal speech will be discussed.

About The Speakers

Dr. Ronald J. Baken is Professor of Speech Science at Columbia University, where he has taught and conducted research on measurement and instrumentation for objective assessment of laryngeal function in speech production since 1968. His recent research has included investigation of chaotic nonlinear dynamic modeling of vocal fold activity to obtain a better understanding of normal and abnormal speech.

Dr. Clarence Sasaki is Otolaryngology, Hearing, and Speech Professor in the Department of Surgery at Yale University School of Medicine. He has been actively involved in clinical practice and research in the medical aspects of voice and speech disorders.

Dr. Katherine S. Harris is a Distinguished Professor of Speech and Hearing Science at the City University of New York, and is Vice President of Haskins Laboratories in New Haven, Connecticut. She has been a leading researcher in the physiology of speech and voice production for many years.

Pre-Meeting Reception and Dinner

A reception and dinner prior to the meeting will be held at the New York Academy of Medicine starting at 6:00 PM. The cost for the dinner will be \$35.00. Reservations are requested prior to April 23, 1993, (212) 876-8200, ext. 235.

Time: 7:30 PM, Wednesday, April 28, 1993. (6:00 PM reception/dinner.)

Place: New York Academy of Medicine, 5th Ave. at 103rd St., NYC. (Limited free parking in NYAM enclosed lot at 2 East 103rd Street.)

Further Information/Reservations: Office of Medical Education, New York Academy of Medicine (212) 876-8200, ext. 235.

Metro EMBS: VDT Radiation: Assessing The Science

On May 11, 1993, the IEEE Metropolitan Chapter of the Engineering in Medicine and Biology Society, the New York Academy of Medicine's Sections on Occupational Medicine and Biomedical Engineering, and the New York Occupational Medicine Association, will host a program on "Radiation From Video Display Terminals: Assessing The Science." The speaker will be Dr. Walter E. Baker. He will be joined in the discussion by Dr. W. James Gould.

About The Program

The National Research Council has developed a model for defining health risk assessment. Under this model, assessment of possible human occupational health hazards associated with electromagnetic radiation (EMR) from electronic visual display terminals (VDTs) requires scientific investigations in three areas: (1) epidemiological experiments demonstrating a cause and effect relationship between VDT EMR and adverse human physiological effects; (2) biological and etiological modelling of possible adverse interactions between VDT EMR and human health; and (3) animal and other biological studies supporting the epidemiological findings, and validating the biological and etiological models. The scientific work performed to date in each

of these areas will be discussed, and in particular the scientific data available on health and safety assessment with respect to VDT EMR and human reproductive tissues and organs will be considered. In addition, health and safety issues relating to low frequency electromagnetic fields (ELF and commercial power frequencies) will be mentioned.

About The Speaker

Dr. Walter E. Baker received his Doctorate in Applied Psychology from the Pace University in New York, and a Master of Science Degree from Oxford University in England. Dr. Baker worked for IBM Corporation for 30 years as Corporate Director of Human Factors and Ergonomics, and as Manager of Environmental Health and Safety. Dr. Baker is a private consultant in human factors, ergonomics, and environmental health and safety. He is currently president of Ergonomic Environments, Inc., and a member of the Human Factors and Ergonomic Society, the American Psychological Association, and the American Physical Society. Dr. W. James Gould (Otolaryngologist to Pavarotti and other opera and movie stars) will participate in the discussion.

Post-Meeting Reception

A subscription reception with cocktails and hors d'oeuvres will be held at the New York Academy of Medicine after the meeting at 7:00 PM. Cost will be \$22.00. Reservations are requested prior to May 7, 1993.

Time: 6:00 PM, Tuesday, May 11, 1993. (7:00 post-meeting reception.)

Place: New York Academy of Medicine, 5th Ave. at 103rd Street, NYC. (Limited free parking in NYAM enclosed lot at 2 East 103rd Street.)

Further Information/Reservations: Office of Medical Education, New York Academy of Medicine (212) 876-8200, ext. 235; Joel Levitt (718) 891-6460

NY/LI PES & IAS TDG: Short Circuit Calculations And Considerations

The PES/IAS NY/LI Chapters Technical Discussion Group Committee will meet on April 22, 1993 to hear a talk by Mr. Harry Wargo, Senior Engineer at Westinghouse Consulting, Advisory Training Services Division. He will review short circuit calculations and considerations when performing a short circuit and coordination study. Device and relay selection for proper system coordination will be investigated.

The meeting will take place 6:00-8:00 PM, at the Con Edison Bldg., Room 1425, 4 Irving Place, NYC. refreshments will be provided. For information: Richard A. Atalese, (201) 926-6925.

North Jersey MTT/AP: GaAS MMICs — Current Status

On April 22, 1993 the IEEE North Jersey Section MTT/AP Chapter will present "GaAS MMICs—Current Status." The speakers will be E. Ronald Schineller and R. Brian Khabbaz.

About The Talk

The development of Microwave Monolithic Integrated Circuit (MMIC) technology is continuing both through government-sponsored program (MIMIC) and company-sponsored (IR&D) programs, and the application of the technology into operational systems is expanding. This talk will review some of the applications of MMICs and provide an update on the status of MMIC device development. A general description of MMIC chips and modules will be presented showing the performance achievable with low noise amplifiers, power amplifiers, and various control devices. This will be followed by a more detailed description of the design methodology for several chip types.

About The Speakers

E. Ronald Schineller joined ITT in 1978 and has been engaged in the development of MIC and MMIC circuitry. Currently he is Manager of the Microwave Design Department and is responsible for planning and directing advanced technology programs, both internally funded and government sponsored. Since 1986, he has served as Engineering Manager of the MMIC program at ITT. Prior to ITT, he was employed at Wheeler Laboratories, where he was engaged in microwave, antenna and electro-optic laser work. From 1972 to 1978, at Hazeltine Corp., he worked on various antenna subsystems including the microwave landing system.

R. Brian Khabbaz joined ITT in 1989 and has developed several MMIC devices, including feed-back amplifiers, distributed amplifiers, mixers, frequency doublers, switches, and digital attenuators. Mr. Khabbaz is author or co-author of five papers related to MMICs, and has a patent pending for distributed digital attenuators. Previous to ITT he was with Sanders Associates where he worked on development of MMIC control devices, VCL's and passive element modeling.

Members and guests interested in the meeting topic are invited.

Free Pre-Meeting Buffet

Reservations are required for the pre-meeting buffet which starts at 6:00 PM followed by the meeting at 7:00 PM.

Time: 7:00 PM, Thursday, April 22, 1993.
Place: ITT Avionics, 100 Kingsland Road, Clifton, N.J. New Auditorium (across from Tower).

Reservations or Questions: Dick Snyder (201) 492-1207; Willie Schmidt (201) 492-0371.

North Jersey Section: Delivering Software Products To The Global Marketplace

Delivering Software Products to the Global Marketplace is the topic of the third of seven 1993 IEEE videoconferences being offered by the North Jersey Section. This live and interactive event will occur Thursday, May 20, 1993. Attendance is limited to IEEE members only.

From human-machine interfaces and product documentation conformance to international standards and worldwide manufacturing and design, this videoconference is perfect for anyone competing in our dynamic global marketplace. It will lead you through the intricacies of foreign markets and each country's standards in light of the drastic changes in world order over just the past few years.

Attendees will be shown how to design products which can be brought to the global marketplace quickly and easily. Serving the need to be able to understand and interpret the changing world market, this videoconference will help the viewer overcome human and technical obstacles in foreign markets.

Topics include an overview of technological issues with a concrete example; optimization of the product life cycle; and improving the software development process. The agenda for this videoconference includes two interactive panel discussions.

Presenters include David L. Stone, President, AT&T Operating Systems; Samuel J. Keene, Founder of Quality Innovations; and David Herron, Vice-President, Software Productivity Research.

The next video conference in the 1993 series will occur June 17 on "Maintaining The Technical Currency Of The Engineering Workforce", which confronts the challenges of continuing education for engineers and scientists. The lead presenter will be Shakil Ahmed, Development Staff Director of IBM.

Admission FREE to IEEE Members

Admission is free to IEEE members; others may attend by completing an application form for membership with payment of 1993 dues—\$102 for regular members, \$28 for students. **Mail check** payable to "IEEE" to Richard G. Estock, c/o EDP Consultants Inc., 77 Meredith Rd., Colonia, NJ 07067-3198. Include your name, address and telephone number on the check.

A set of conference notes and copies of the viewgraphs will be available for \$10 at the videoconference for those who order and pay for them ten (10) days in advance. For \$14, these notes will be

mailed to the recipient in advance of the videoconference.

These course notes are highly recommended for those desiring to obtain maximum benefit from the presentation. To reserve a set of notes, **mail a check** payable to "IEEE North Jersey Section" to Richard G. Estock, c/o EDP Consultants Inc., 77 Meredith Road, Colonia, NJ 07067-3198. Include your name, address and telephone number on the check, along with the name of the videoconference whose notes you seek.

Videoconference Playback

Playback of taped "Delivering Software Products to the Global Marketplace" videoconference for those unable to attend the live, interactive session will take place the same day at 6:00 - 9:00 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck. For a copy of conference notes, follow instructions above.

Time: 12 noon - 3:00 PM, Thursday, May 20, 1993. (Playback 6:00-9:00 PM at a different location shown above.)

Place: Edward Williams College, Lecture Hall (FDU Hackensack Campus), 150 Kotte Place, Hackensack, N.J.

Directions: Route 4 to Hackensack Ave. south, then 1st left onto Kotte Place.

Information: Richard G. Estock (908) 388-5110.

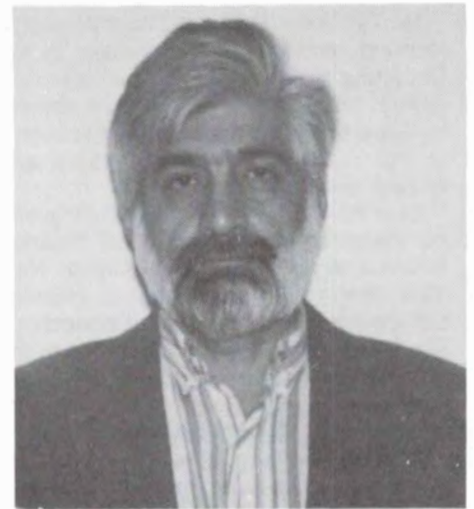
NJ Comp/Comm/LEO Soc: Challenges For Systems Software Designers

On May 10, 1993, the North Jersey Section Computer/Communication/LEO Chapter will present "Programming Dataflow Computers For Parallel Computation." The speaker at this meeting will be IEEE Distinguished Lecturer Dr. Ali R. Hurson of Penn State.

About The Talk

The asynchronous nature of the dataflow model of computation allows exploitation of maximum inherent parallelism in many application programs. However, before the dataflow model of computation can become a viable alternative to the control flow model of computation, one has to find practical solutions to some major and interrelated issues. These include: the efficient handling of large data structures, such as arrays; the partitioning of a program graph and the assignment of subgraphs to the processing units in a multi processing dataflow environment; and the control and support of large amounts of inter-processor communications.

This talk will attempt to clarify these issues. Moreover, it will introduce new schemes for handling the aforementioned issues. Finally, the simulation and per-



formance analysis of the proposed schemes will be presented.

About The Speaker

Dr. Ali R. Hurson is a Computer Engineering Faculty member at the Pennsylvania State University. His research for the past 12 years has been directed toward the design and analysis of general purpose as well as special purpose computer architectures. Professor Hurson has published over 110 technical papers in areas including computer architecture, parallel processing, database machines, dataflow architectures and VLSI algorithms.

He served as the co-guest editor of a special issue of the *IEEE Proceedings on Supercomputer Technology* and a special issue of the *Journal of Parallel and Distributed Computing*. He has served as a member of technical committees for various IEEE/ACM conferences and is the co-founder of the IEEE Symposium on Parallel and Distributed Processing.

Professor Hurson is co-author of the IEEE Tutorial books on "Parallel Architectures for Database Systems" and "Multidatabase Systems: An advanced Solution for Global Information Sharing" (in press). He has given numerous tutorials in areas of databases, unconventional computer architectures, and supercomputers. He is a member of the IEEE Computer Society Press Editorial Board, and a member of the IEEE Distinguished Visitor program.

Optional Pre-Meeting Dinner

Come meet the speaker. Pero's New Bridge Inn, 105 Old New Bridge Road, New Milford, 5:30 PM. For directions call (201) 836-6394. Reservations required (908) 388-5110.

All Welcome

You do not need to be an IEEE member to attend. Come and bring your friends.

Time: 7:30 PM, Monday, May 10, 1993.

Place: Fairleigh Dickinson Univ., Room M-207, Muscarelle Bldg., Teaneck N.J.

Information: Richard G. Estock (908) 388-5110.

Electronic Bulletin Board Information

The BBS run by United Societies of Engineering & Science of NJ, Inc. (USES) has been on the air now for over 150 days and so far has 37 registered users who have logged on in response to the notice about the BBS published in a recent issue of this newsletter.

While the board has a number of features that will be apparent to those who log on, projects of primary interest to the membership that will be addressed by the BBS are services to the job hunter and what is being offered for continuing education.

The employment situation is something that we should all take very seriously. You can help by getting permission of your personnel department to place information about openings on the bbs. If you work for a large company, perhaps you can get them to provide you with a list of positions.

USES-BBS belongs to the Virtual-BBS network that has 600 nodes and has gateways to other bbs systems such as FIDO and internet.

If your company has openings at the entry level, we can pass the information about the openings on to student members via the BBS.

There is no cost to the user who logs on, except for a line charge. Resumes and job opening announcements to be posted should be left with the System Operator (SYSOP = Dave Perry) or a SUB-SYSOP who will review the resume or opening before adding it to a file.

The job opening file may be downloaded by the user for off-line examination. The positions wanted file, may be downloaded by companies who are seeking technical specialists.

Job openings and positions wanted may also be stored as public messages. If the user is looking for a job opening with specific characteristics or if the user is looking for an individual with certain skills, the file can be searched using a key word.

The message system and the file system is a very general one and is not specifically tailored to the job hunt or skills search. If there is sufficient demand, we will provide on-line software that will handle skill-data collection and retrieval.

See the masthead for the BBS number. If you are having problems logging on call Dave Perry at (201) 325-3769 or in West Covina, CA (818) 332-8068. He divides his time between here and California. If you are calling California, remember there is a three hour time difference.

IEEE Vehicular Technology Society

1993 Vehicular Technology Conference

Personal Communication — Freedom Through Wireless Technology

Meadowlands Hilton, Secaucus, NJ — May 18-20, 1993

The 1993 Vehicular Technology Conference, sponsored this year by the North Jersey Chapter of the IEEE Vehicular Technology Society, is to be held May 18-20 at the Meadowlands Hilton in Secaucus, N.J. The program will present over 290 papers and attendance is expected to exceed 700.

Each day's program will begin at 8:30 AM with a tutorial session and continue with 21 additional sessions of paper presentations, ending at 5:00 PM, with a one hour break for lunch.

The subject matter includes circuit and systems design, theory, hardware, and applications. Among the session topics scheduled are Modulation/Demodulation, RF Propagation Experiments, Cellular System Planning, Indoor and Outdoor RF Propagation, Hand-off Management, Vehicular Communications Experiments, Satellite Land Mobile Communications, Mobile Communications, Railroad Systems, Signal Processing, Receiver Processing, Channel Processing, Speech Processing, Hardware, Antennas, Amplifier Design, Filtering, Equalization, Hybrid Systems, CDMA, TDMA, Frequency Hopping, Spread Spectrum Techniques/Analyses, Base Stations/Microcells, Frequency Air Interfaces, DECT, Personal Communication Systems, Terminals, Operating Systems, PRMA, Applications, Spectrum Sharing, Wireless Data, and Encryption/Security.

Registration Fees:

IEEE Members \$295.00; Non-Members \$345.00; Students and Life Members \$30.00 **If received by May 1, 1993.** After that date Member and Non-Member fees are \$345.00.

To register or for further information contact Frank Schink, Registration Chairman, P.O. Box 326, Garwood, NJ 07027, (908) 276-8847 or Mel Lewis, Conference Chairman, at Loral Electronic Systems, (914) 968-2500 ext. 2304.

1993 Vehicular Technology Conference

To: Frank Schink, Registration Chairman,
P.O. Box 326, Garwood, NJ 07027.

Name: _____

IEEE No.: _____ Membership Grade: _____

Affiliation: _____ Phone No.: _____

Address: _____

Please enclose required fee made payable to "IEEE VTC '93"

NJ Comp/Comm/LEO Soc: Understanding Knowledge-Based Systems

On June 10, 1993, Dr. Y.T. Chien, of the National Science Foundation, Washington, D.C., a Fellow of the IEEE and a Distinguished Lecturer, will present a talk on "Understanding Knowledge-Based Systems."

About The Talk

Within the context of Artificial Intelligence, Knowledge-Based Systems (computers or programs which attempt to capture knowledge or human expertise to assist in problem solving tasks) were clearly an expression of successful technology transfer (from research to applications) in the 1980's. A brief summary of NSF's programs in support of research, both basic and strategic, in this and related areas will also be discussed.

This talk will discuss the principles of these systems and raise some issues that will help us understand them in a larger context: what goes into and comes out of them; how to measure their performance; how they evolve, change and improve; what are the new roles they might plan in our information-oriented society; and how this technology is influenced by the behavior of economy, the forces of the society, and the global business environment.

About The Speaker

Y.T. Chien is Director of the Division of Information, Robotics, and Intelligent Systems at the National Science Foundation (NSF). From 1967 to 1982, Dr. Chien was on the faculty of the University of Connecticut, where he taught and did research in the Electrical Engineering and Computer Science Department. For four years, he served as chairman of that department and subsequently became Assistant Dean of Engineering for Computer Research. Prior to his current position at NSF, he spent two years as a Researcher and Group Leader at the Artificial Intelligence Center, Naval Research Laboratory in Washington, D.C.

Dr. Chien has authored or co-authored three books: "Fundamentals of Computing" (John Wiley); "Interactive Pattern Recognition" (Merce Dekker); and "Knowledge-Based Systems—A Tutorial" (IEEE CS Press). He is a member of the Assoc. for Computing Machinery (ACM) and American Association for Artificial Intelligence (AAAI); and a Fellow of the IEEE.

Optional Pre-Meeting Dinner

Come meet the speaker. Fireside Inn, 70 W. Passaic St., Rochelle Park, 5:15 PM. For directions (201) 845-8333. Reservations required, (908) 388-5110.



All Welcome

You do not need to be an IEEE member to attend. Come and bring your friends.

Time: 7:30 PM, Thursday, June 10, 1993.

Place: Fairleigh Dickinson Univ., Room M-207, Muscarelle Bldg., Teaneck N.J.

Information: Richard G. Estock (908) 388-5110.

SPRING INTO ACTION

Become a Senior Member

Get information and an application by contacting Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, N.J. 07605-2239, (201) 461-0900, ext. 3106.

Videoconference Calendar for 1993

The dates for the 1993 IEEE Seminars via Satellite Videoconferences have been announced. They are:

June 17 -

"Maintaining the Technical Currency of The Engineering Workforce"

September 30 -

"Product Engineering"

October 28 -

"2020 Vision: The Future of Engineering Technology"

December 2 -

"Monte Carlo Analysis"

Any questions should be directed to: Richard G. Estock (908) 388-5110.

North Jersey Section Activities Meetings in May and June

May 5—"North Jersey Section Executive Committee Meeting"—7:00 PM, Plant 11, GEC-Marconi, 164 Totowa Rd., Totowa, N.J. Al Connelly (201) 616-0755.

May 10—"Handling Data Structures And Processor Allocation In A Dataflow Environment"—North Jersey Section COMP/COMM/LEO Chapter, 7:30 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck, N.J. Richard G. Estock (908) 388-5110.

May 11—"VDT Radiation: Assessing The Science"—IEEE Metropolitan Chapter EMBS, NY Academy of Medicine's Sections on Occupational Medicine and Biomedical Engineering, and NY Occupational Medicine Assoc., 6:00 PM, NY Academy of Medicine, 5th Ave. at 103rd St., NY. Office of Medical Education, NY Academy of Medicine (212) 876-8200, ext. 235.

May 14—"Spring '93 Get-Together"—NY/LI PES & IAS, Chapter Related Activities Committee, Meadowlands Racetrack, Pegasus East Buffet. For information: Wm. Coyne, c/o Con Ed Energy Serv., 708 First Ave., Rm. 515, NY, NY 10017

May 18—"The VISION Project—Automated Mapping and Facilities Management"—PES/IAS NY/LI Chapter, 5:30-7:30 PM, Con Edison Bldg., 19th Floor Auditorium, 14th St & Irving Place, NYC. For information: Ray Amara (212) 576-2941.

May 18-20—"1993 Vehicular Technology Conference"—Vehicular Technology Society, Meadowlands Hilton, Secaucus, N.J. Melvin Lewis (914) 968-2500, Ext. 2304.

May 20—"Delivering Software Products For The Global Marketplace"—Videoconference, North Jersey Section, 12 noon-3:00 PM, Edward Williams College Lecture Hall, (FDU Hackensack Campus), 150 Kotte Place, Hackensack, N.J. For playback location see article. Richard Estock (908) 388-5110.

May 26—"Fuzzy Logic And Computational Neural Networks"—North Jersey Section COMP/COMM/LEO Chapter, 7:30 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck, N.J. Richard G. Estock (908) 388-5110.

June 10—"Understanding Knowledge-Based Systems"—North Jersey Section COMP/COMM/LEO Chapter, 7:30 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck, N.J. Richard G. Estock (908) 388-5110.

June 17—"Maintaining The Technical Currency Of Our Workforce"—Videoconference, North Jersey Section, 12 noon-3:00 PM, Edward Williams College Lecture Hall, (FDU Hackensack Campus), 150 Kotte Place, Hackensack, N.J. See details in May issue of Newsletter. Richard Estock (908) 388-5110.

Members and Non-Members Welcome

PACE NEWS by Richard F. Tax

The following is from the February 1993 issue of IEEE's "IMPACT." I had mentioned in previous issues that our North Jersey Section members should request to be put on "IMPACT's" mailing list. We try to keep you up to date but, we can't print everything. Call (202) 785-0017 or write to IEEE-USA, 1828 L St., N.W., Washington, DC 20036 and request to be put on the list to keep abreast of IEEE's activities.

Engineering R&D Policy Committee Supports National Science Foundation

1992 USAB Chairman Arvid G. Larson submitted a statement to the Special Commission on the Future of the National Science Foundation (NSF) on behalf of IEEE-USA's Engineering R&D Policy Committee. In a letter to Commission Co-Chairmen Robert W. Galvin and William H. Danforth, Larson said the IEEE-USA supports the science and engineering research and education missions of the NSF and applauds the Foundation for its willingness to examine its role in the new competitiveness challenges confronting the nation.

With respect to NSF's research program, IEEE-USA recommended that the Foundation broaden its research objectives. Especially pleased with the proposal that NSF help foster links between research and technology, IEEE-USA encouraged the National Science Board and the Commission to concentrate on strategies to make this link possible.

IEEE-USA recommended that the Foundation encourage universities to work more closely with industry, but NSF should not directly fund industrial research. (Emphasis added.) IEEE-USA supported direct Federal funding of industrial applied research and development of precommercial technologies through such established programs as the Advanced Technology Program within the Department of Commerce. Further, IEEE-USA recommended that NSF improve its technology transfer efforts by expanding seminar programs that bring together NSF-funded researchers to present their results to invited industries. (Editor's Note: Funny, I thought we should cut funding to NSF.)

The following article, also from "IMPACT", indicates that IEEE is aware of the unemployment crisis for engineers but, they are still applying band aids to the problem. Try their suggestions and then let us know if they work.

IEEE-USA's Employment Assistance Committee Has A Vital Role In Helping Unemployed Engineers

By Alan B. Showalter

Region 4 Coordinator, Employment Assistance Committee

Unemployment among engineers has risen dramatically during the past several years. In addition to more engineers being out of work, the duration of unemployment is greater. Some engineers report unemployment periods of one to two years.

Many engineers are unemployed through no fault of their own, as a result of plant closings, mergers, and staff reductions. Particularly true in at least three areas of the country—Boston, Long Island (New York), and Southern California—younger engineers have been laid off, and many older engineers have been offered early retirement, which in most cases they dare not refuse.

In times past, when engineers were laid off they were given the opportunity to resign with at least two weeks' notice. No longer the norm, many workers are given less than a day after notification to clear out their desks, turn in their badges, and vacate the premises. Traumatized and discouraged, these engineers find it very hard to conduct an intelligent and effective job search. In addition, engineers who have been employed in the defense industry may find it difficult to change to commercial, industrial, or consumer engineering.

Some jobs are available, but many engineers are competing for them. The engineers who will get the jobs will be the best trained and most skilled in conducting job searches.

Many members need help in overcoming their discouragement and in improving their job search techniques. Chaired by John E.

Martin, IEEE-USA's Employment Assistance Committee (EAC) can help. EAC provides U.S. members with two groups of products. Job search materials are available at no charge to IEEE's unemployed members above student grade, and group activity materials are available for IEEE Sections to help their unemployed members.

Materials sent to individuals include the updated two-volume *Employment Guide for Engineers and Scientists*, a PEER II brochure, a Job Search Record Book, and a packet of employment assistance articles.

The *Employment Guide For Engineers and Scientists* is, as it claims, "a practical job hunter's manual." An organized collection of writings by experienced authors, the first volume includes practical information on coping with job loss, writing effective letters and resumes, networking, interviewing, and workplace law. The second volume lists employers who hire engineers.

PEER II is an engineering employment registry, providing U.S. members access to an independent, nationwide job bank that is constantly updated. The registry also enters resumes into a national data bank accessible to employers.

IEEE-USA's Job Search Record Book is a convenient, pocket-sized notebook for carrying to interviews and keeping important information relevant to a job search. Members can record all contact names, dates, and scheduled appointments.

The packet of employment assistance articles continually changes. A recent mailing included an IEEE Position Paper on IEEE Members' Professional Needs; a *Washington Post* article on "Bringing Job Searches Into the Computer Age"; a description by Chairman Martin of a trial program called Resumes-on-Computer; "We'll Keep Your Resume On File," and an article by Charles B. Stott; a description of the Los Angeles Area's Consultants Group; the *Electronic Engineering Times* article "Contacts for Work Abroad"; and a list of upcoming job fairs cosponsored by local IEEE Sections and commercial operators.

Upon request, the IEEE-USA Office in Washington, D.C. will send this packet of materials to unemployed IEEE members. Mail your request to William R. Anderson, IEEE-USA, 1828 L St., N.W., Washington, DC 20036-5104; phone (202) 785-0017; or fax (202) 785-0835.

EAC also provides publications and help for local IEEE Sections to assist their unemployed members. Materials include a self-help group guideline, a Job Search Workshop for presentation by Sections, a facilitator's manual for the Job Search Workshop, contacts for commercially operated job fairs and workshops, and a videotape, "How To Get a Better Job Quicker."

The group guideline, "Self-Help Groups—A Program For Today," outlines steps for setting up and operating a successful self-help group for unemployed engineers. Research and experience have shown that people in similar situations can be supportive of one another and can network to find new jobs.

The Job Search Workshop, "Successful Job Hunting Today," is designed to be presented by local IEEE Sections. Consisting of a manual and accompanying transparencies, a facilitator's guide is also included. With a bit of ingenuity, the workshop can be tailored for lengths ranging from five to eight hours.

I am available to assist in future workshop presentations. I have presented the workshop twice, and both times it was well-received. You can make arrangements by contacting the IEEE-USA Office.

Since each IEEE Section usually negotiates with a job fair operator to put on its own job fair, EAC has recommendations on operators and possible cosponsors. Contact the IEEE-USA Office for information.

A number of copies of the Lendman Group's video, "How to Get a Better Job Quicker," is also available from EAC. Each of IEEE's Regional Coordinators has a copy for loan to individuals or to Sections in their Region.

With the assistance of IEEE-USA volunteers and staff, EAC has assembled an abundance of material to help U.S. members in their searches for rewarding positions in engineering. Help is only a letter or a phone call away.

DON'T MISS

ELECTRO/93

April 27 thru 29, 1993
See Page 3

1993 Vehicular Technology Conference

May 18 thru 20, 1993
See Page 9

NJ Comp/Comm/LEO Soc: **Neural Networks And Fuzzy Logic**

On May 26, 1993, the North Jersey Section Computer/Communication/LEO Chapter will present "Fuzzy Logic And Computational Neural Networks." The speaker at this meeting will be Dr. James C. Bezdek of the University of Western Florida, Pensacola, a Fellow of the IEEE and a Distinguished Lecturer. A significant portion of this talk will be tutorial in nature.

About The Talk

This talk considers areas of potential interaction between fuzzy sets, logic and models and computational neural networks (CNNS). Following overviews of the areas of fuzzy sets and neural networks, Dr. Bezdek discusses the use of CNNs in Fuzzy Models (functional approximation, set operations, extension and rule based systems); and then considers the converse problem, the use of fuzzy sets in CNNs (e.g., fuzzy neurons, fuzzy partitions). Finally, he discusses several applications areas in control and pattern recognition where recent developments and results corroborate the idea that these two areas are technologically synergistic.

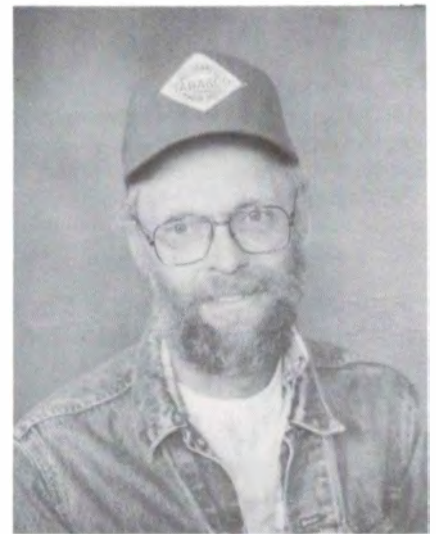
About The Speaker

James Bezdek has held academic positions at SUC/Oneonta, Marquette University, Utah State University and the University of South Carolina. At the latter, he was Chair of Computer Science. Dr. Bezdek was a visiting research scientist at Boeing Aerospace in 1982, and was Director of the Information Processing Laboratory at the Boeing Electronics High Technology Center from 1987 to 1989.

Dr. Bezdek currently occupies the Nystul Florida Eminent Scholar Chair with the Division of Computer Science at the University of West Florida. His research interests include pattern recognition algorithms, neural networks, image processing and machine vision, medical diagnosis, and expert systems.

He has authored or co-authored many technical papers, written the book "Pattern Recognition with Fuzzy Objective Function Algorithms" (Plenum, 1981), and edited the three volume series: 1) "The Analysis of Fuzzy Information" (CRC Press, 1985); 2) "Advances in Artificial Intelligence" (World Scientific, 1990); and 3) "Fuzzy Models for Pattern Recognition" (IEEE Press, 1992).

Bezdek is the founding editor of the *Intl. J. of Approximate Reasoning* and the *IEEE Trans. on Fuzzy Systems*, and is an associate editor of the *IEEE Trans. on Systems, Man and Cybernetics*. He is also associate editor of the *Intl. Journals of Man-Machine Studies, Applied Intel-*



ligence, General Systems, and Fuzzy Sets and Systems.

He is a past president of IFSA (Int'l Fuzzy Systems Assoc.) and NAFIPS (North American Fuzzy Information Processing Society), and has been an ACM lecturer for the 1990-93 program years. Dr. Bezdek was the General Chair of the First IEEE International Conference on Fuzzy Systems (FUZZ-IEEE '92), San Diego, in 1992.

Optional Pre-Meeting Dinner

Come meet the speaker. Stoney Hill Inn, 231 Polifly Rd., Hackensack, 5:30 PM. For directions (201) 342-4085. Reservations required, (908) 388-5110.

All Welcome

You do not need to be an IEEE member to attend. Come and bring your friends.

Time: 7:30 PM, Wednesday, May 26, 1993.

Place: Fairleigh Dickinson Univ., Room M-207, Muscarelle Bldg., Teaneck N.J.

Information: Richard G. Estock (908) 388-5110.

VISION Project

The Power Engineering Society and Industry Applications Society NY/LI Chapter will meet on Tuesday, May 18, 1993 to hear a talk entitled "VISION—Automated Mapping And Facilities Management." The speaker will be Mr. Mike Casella, Con Edison's Senior Project Specialist, VISION Project. **Please note change in meeting date for this topic.**

The VISION Project is an automated mapping and facilities management (AM/FM) vector based system. Utilizing UNIX workstations and Facilities Rule-based Application Model Management Environment (FRAMME), the system's capabilities will include analyses, map generation, work order processing and database management.

The meeting will take place 5:30-7:30 PM at Con Edison Bldg., 14th St. & Irving Place, 19th Floor Auditorium, NYC. Refreshments provided. For information: Ray Amara (212) 576-2941.