



The IEEE

# Newsletter

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



## *No. Jersey Section Town Meeting With CCM Student Chapter:* **Assembly Speaker Haytaian To Address Section**

New Jersey Assembly Speaker Garabed "Chuck" Haytaian has agreed to address and participate in a "town meeting" of North Jersey Section IEEE members and other interested engineers. This event will take place December 15, 1993, 7:00 to 9:00 PM at the County College of Morris, Randolph Township, N.J.

### **About The Meeting**

Many IEEE members have both quietly and openly expressed concerns about the state of our profession and the state of our industry. This meeting was arranged to give the membership and the engineering community in general an opportunity to share their views, concerns and ideas directly with one of New Jersey's legislative leaders.

Mr. Haytaian will address the gathering with some remarks about what the legislature and the State of New Jersey has been doing to improve the business

and employment climate. He will also discuss how IEEE members might lend their voice on those issues most important to the electronics and software industries in New Jersey.

The speaker is clearly interested in hearing about the concerns of our membership, but more importantly, he would like to hear proposed solutions to the problems facing our profession and industry. Thus, attendees should come prepared to offer their ideas and suggestions for solving the problems confronting our industry and profession.

### **About The Speaker**

Chuck Haytaian is an electrical engineer by training, having graduated from the University of Alabama in 1961. He worked on missile guidance systems at White Sands Missile Range early in his career. Later, he took over the family dry cleaning business, which he operated as a small business entrepreneur for 16 years. He currently is the Marketing Director for Superior Graphics Inc. in New York City.

Mr. Haytaian won his first political office in 1976 as a Warren County Freeholder and, with re-election in 1978, held that position for six years. He served as Freeholder Director in 1977 and 1980. He won election to the New Jersey General Assembly in 1981 and is currently serving his sixth term. In January of 1992, he became Speaker of the New Jersey General Assembly.

Proud of his Armenian heritage, Chuck is a member of the Board of Directors of the Armenian Assembly of America and a member of the Board of Trustees of the Hovnanian Armenian School. Mr. Haytaian and his wife, Joan, were married in 1961 and have three children.

### **Who Should Attend**

This meeting is intended primarily for the engineering community. IEEE members and non-members who are engineers, including software engineers and programmers, and students who plan to enter the profession, are invited to participate.

**Time:** 7:00 - 9:00 PM, Wednesday, December 15, 1993.

**Place:** Carpeted Cafeteria, Student Community Center, County College of Morris, Randolph Township, N.J. Parking lots 6, 7 and 8. Faculty/Staff Parking areas may be used.

**Directions:** I-287 to Route 10 West, then approx. 7 miles to Randolph Township. Follow CCM signs to college entrance. Make left at Center Grove Road, then right onto College Avenue. Follow College Ave. to Parking lots 6, 7 or 8.

### **Information:**

Richard G. Estock, (908) 388-5110.

## **Congratulations New Senior Members**

Melbourne Barton

Lawrence J. Kelly

E. Fred Schubert

Frank Y. Shih

Terry Shimada

Alexander D. Stoyenko

Les J. Wu

Are you eligible for Senior Member grade? Get information by contacting Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201), 461-0900, ext. 3106.

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## NEWSLETTER STAFF

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## REPORT ADDRESS CHANGES TO:

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445 Hoes Lane, P.O. Box 1331  
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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 942-0048.**

**Elected Section Officers are listed above.**

# Land Mobile Radio And Personal Communications

The North Jersey Chapter, IEEE Vehicular Technology Society will present a talk on December 14, 1993. The talk and slide presentation will be on "Land Mobile Radio And Personal Communications From the Twenties To The Nineties." The speaker will be Stuart Meyer.

## About The Talk

This slide presentation will begin with the primitive personal radio systems of the twenties including the first point-to-point Business Radio System in the AM broadcast band. The early public safety (law enforcement, emergency services) systems, and Taxicab services, will also be described. Mr. Meyer will explain how, with the licensing of the 450 MHz band, the concept of the "community repeater" and the first manual handoff cellular system was launched in 1949-50. He will talk about the advent of the 800 MHz allocations and Cellular, SMRS, Skyphone and Railphone applications. The presen-

tation will detail the explosion of paging/personal portable communications, public service satellite systems, and satellite-aided emergency services.

## About The Speaker

Mr. Stuart Meyer is a Senior Life Member of the IEEE and past president of the Vehicular Technology Society, where he is now an active board member. He is past president of Hammarlund Mfg. Co., has held engineering and management positions at Link Radio, RCA, Allen B. DuMont Labs, and E.F. Johnson Co. In addition, he is currently a consultant to Ericsson GE Mobile Communications, Inc., Lynchburg, VA.

## All Welcome

You do not need to be an IEEE member to attend. Come, and bring your friends. There is no charge for admission. Light refreshments will be served.

**Time:** 7:30 PM, Tuesday, December 14, 1993.

**Place:** GEC Marconi, 164 Totowa Road, Totowa, N.J.

**Further Information:** Mr. Melvin Lewis (914) 968-2500, ext. 2304

# No. NJ Consultants' Network: IEEE Advantage— Insurance And Other Benefits

On December 2, 1993 the IEEE Consultants' Network of Northern NJ will present "The IEEE Advantage—Insurance And Other Benefits Available To Members," a talk by Michael J. Sosa, Staff Director-Finance of the IEEE, and Jeffrey S. Ray, Vice President of Seabury & Smith, the Administrators of the IEEE Insurance Program.

## About The Topic

The IEEE now sponsors a comprehensive package of financial services with unique advantages available only to IEEE members. Building on the successful Insurance Program, the Financial Advantages Program includes mutual funds, loans, annuities and credit cards.

The session will briefly review the variety of benefits available through the program with emphasis on those of special interests to individual consultants or small business owners, including: Disability Insurance; Term Life & Universal Life Insurance; Professional Liability Insurance; and Business Owners Property and Casualty Coverages.

## About The Speakers

Michael J. Sosa's many responsibilities include general oversight of the Financial Advantage Program. He has been employed by the IEEE for the past 32 years.

Jeffrey S. Ray has worked at Seabury & Smith for over 10 years and has been Account Executive responsible for managing the IEEE Program since 1986.

## 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 second annual Directory of Consultants in January '94. For a complimentary copy, call Alex Richardson (201) 992-0448.

## Optional Pre-Meeting Dinner

Members of the NJ Consultants' Network are invited to come and meet the speaker at the Steak and Ale Restaurant in the American Way Mall on Rte 46 Eastbound, (right next to Bennigans—after Passaic Ave. and before Willowbrook), in Fairfield, N.J. For directions, call (201) 227-2134. For reservations (REQUIRED), call Frank Scholten (201) 994-9819.

**Time:** 7:30 PM, Thursday, December 2, 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.



## North Jersey Section Activities DECEMBER 1993

### North Jersey Section PACE: New Financial Advantage Program

At the December 9, 1993, meeting of the North Jersey Section's Professional Activities Committee for Engineers, the topic will be "IEEE's Financial Advantage Program." The speaker will be Michael J. Sosa, Director of Financial Services at the IEEE. Mr. Sosa has been with IEEE for 32 years and has been a pioneer of this new program.

#### About The Talk

In a move that adds a significant new dimension to membership benefits, the IEEE now makes available a highly attractive package of financial products, including mutual funds, loans, credit card and annuities, all with special options and features.

Introduced on September 1, 1993, the IEEE Financial Advantage Program is only available to IEEE members and their immediate families. Here are just a few of the highlights of this new program:

- A choice of mutual funds including the Vista Family of Mutual Funds and the new IEEE Balanced Fund offered to IEEE members with no sales charge—a savings of up to 4.75%!
- Attractive loan options for home, auto, and education loans.
- Annuities with no annual fee for life and a wide choice of funds with a low minimum investment requirement.
- A choice of 12 medical, disability and life insurance plans to provide comprehensive coverage or supplement your existing insurance, all at extremely competitive rates.
- The No Annual Fee Gold Mastercard or Visa Gold Credit Card from Primerica Bank with an introductory 8.9% fixed rate locked in until March 28, 1995 on any balances transferred to the account by January 15, 1994, and a low 12.9% APR on new purchases.

Come learn more about the new Financial Advantage Program and what it has to offer.

**Time:** 7:30 PM, Thursday, December 9, 1993.

**Place:** JCP&L Co., 300 Madison Avenue and Punch Bowl Road, Morristown, N.J.

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

**Dec. 1, 1993**—"Hard X-Ray Camera On PBX-M"—IEEE Nuclear and Plasma Sciences Society, Princeton/New Jersey Coast Chapter, 8:00 PM, Princeton Univ., Engineering Quadrangle, Convocation Room C-217, Princeton, N.J. Charley Bowman (609) 490-2132.

**Dec. 2**—"IEEE Advantage—Insurance And Other Benefits Available To Members"—Consultants' Network of Northern N.J., 7:30 PM, GEC-Marconi Facility, 150 Parish Dr., Wayne, N.J. Jim Boyd (201) 584-0329.

**Dec. 2**—"Videoconference: Engineering Applications For Monte Carlo And Other Simulation Analyses"—NJ Section and FDU Student Chapter, 11:45 AM-3:00 PM, Edward Williams College Lecture Hall, 150 Kotte Place, Hackensack, N.J.

**Dec. 7**—"Use of OO Technologies In Science & Engineering Applications"—North Jersey Computer Chapter, 7:30 PM, Room M-207, Muscarelle Bldg., Fairleigh Dickinson University, Teaneck, N.J.

**Dec. 8**—"Pulse Power Supplies And Electromagnetic Accelerators"—North Jersey PES/IAS Chapters, 7:00 PM, JCP&L, 300 Madison Ave., Morristown, N.J. Ken Oexle (201) 455-8411.

**Dec. 9**—"IEEE's Financial Advantage Program"—NJ Section PACE, 7:30 PM, JCP&L Co., 300 Madison Ave., Morristown, N.J. Robert Sinusas (201) 228-3941.

**Dec. 9**—"Detection Of Gravitational Waves"—IEEE North Jersey Section MTT/AP Chapter, 7:00 PM, NJIT, ECE202, Newark, N.J. Dick Snyder (201) 492-1207.

**Dec. 14**—"Land Mobile Radio And Personal Communications From the Twenties To The Nineties"—NJ Chapter IEEE Vehicular Technology Society, 7:30 PM, GEC Marconi, 164 Totowa Rd., Totowa, N.J. M. Lewis (914) 968-2500, ext. 2304.

**Dec. 14**—"Optimizing Overcurrent Protection-Fuses vs. Breakers"—NY/LI PES & IAS, 5:30-7:30 PM, Con Edison Bldg., 19th Floor Aud., 14th Street & Irving Place, NYC. Rick Miller (908) 688-2900.

**Dec. 15**—"Assembly Speaker Haytaian To Address Section"—NJ. Section and CCM Student Chapter, 7:00-9:00 PM County College of Morris, Randolph, N.J.

**Dec. 15**—"Particle Beam Pumped Lasers"—IEEE Laser & Electro Optics Chapter, 7:00 PM, Stevens Institute of Technology, ECE Seminar Room, Hoboken, N.J. Haim Grebel (201) 996-3533.

### Upcoming Meetings

**January 5, 1994**—"North Jersey Section Executive Committee Meeting"—7:00 PM, Plant 11, GEC-Marconi, 164 Totowa Rd., Totowa, N.J. Mel Lewis (914) 968-2500, ext. 2304.

**Jan. 11**—"Preparing For The Future"—NY/LI PES & IAS, Student Activities, 6:00-8:00 PM, Con Edison Co., Rm. 1425, 4 Irving Place, NYC. S. Weaver, IEEE Student Branch CCNY, (212) 650-7154.

**Jan. 19**—"Electrical heat Tracing Methods And Applications"—NY/LI PES & IAS, 5:30-7:30 PM, NY Power Authority, Paramount Plaza Bldg., 1633 Broadway, NYC. Hazem A. Huss (201) 822-1016.

**Jan. 30-Feb. 3**—"1994 Winter Meeting"—NY/LI PES & IAS, Student Activities, New York Hilton Hotel, 53rd Street & Avenue of the Americas, NYC. S. Weaver, IEEE Student Branch-CCNY (212) 650-7154.

## Members and Non-Members Welcome PLEASE POST

## North Jersey PES/IAS: Pulse Power Supplies And Electromagnetic Accelerators

On December 8, 1993, the North Jersey Power Engineering/Industry Applications Society Chapters will present a talk on "Pulse Power Supplies And Electromagnetic Accelerators." The speaker will be Dennis Hildenbrand of Parker Kinetic Designs, Inc., Picatinny Arsenal, N.J.

### About The Talk

Since 1973, both government and industry have been pursuing the development of high current pulse power supplies for the principal purposes of electromagnetic accelerators and pulsed welding/forming. The presentation will describe the basic types, applications and operating principles of both the rotating machine and static charge energy storage devices. The discussion will also present fundamental guidelines for the proper grounding and shielding of instrumentation and control systems in a high EMI environment.

### About The Speaker

Dennis Hildenbrand received his BSEE in Power Systems and Computer Science from University of Texas at Austin. He is currently employed by Parker Kinetic Designs, Inc. as the Managing Engineer of Electromagnetic Army Research Center (EARC) Laboratory Support Group at Picatinny Arsenal, New Jersey.

As a government Research and Development contractor, PKD provides engineering and technical manpower services as well as equipment to support the U.S. Army daily research agenda in electromagnetic munitions propulsion. Mr. Hildenbrand is involved in the application, design, operation and analysis of high current/voltage (3MA/20Kv) pulse power supplies, electromagnetic accelerators and related diagnostics and control systems. He is a senior member of the Parker Kinetic Design's engineering staff and has been a Pulse Power Engineer and an IEEE member since 1980.

### Election Of PES Officers

Prior to the technical presentation there will be an election of officers. The North Jersey Chapter of the Power Engineering Society has been in existence for many years. This is an interactive group with varied interests in power generation, transmission, distribution, power systems engineering, in-plant electrical distribution, lightning protection, grounding, switching surges, alternative energy sources such as Co-Generation, wind and solar power, computers, fiber optics, SCADA, power semiconductors, electric machines, industrial drives, etc. The aim of the Society is to keep members abreast of the developments in the afore-

mentioned areas with quality speakers having detailed background in their respective areas. The North Jersey Chapter has scheduled several technical sessions in 1992, and is planning even more vigorous programs for the year 1993. This requires active participation by all IEEE members in the Metropolitan area. With this end in view, an executive committee election is scheduled at this meeting. All members with interest please join us and make our program an even greater success.

The following nominations have been submitted for Officers of the Power Engineering Society Chapter:

Chairman:	R.V. Rebbapragada (Ebasco)
Vice Chairman:	Joseph Kane (JCP&L)
Secretary:	Dennis Hildenbrand (PDK)
Newsletter Editor:	Keith Saricinello Ebasco
Professional Activities*:	Hady Salloum (Belcore)
Member Development*:	Dennis Sobieski (PSE&G)
Member At Large*:	Tom Piascik (PSE&G)
Member At Large*:	Ken Oexle (JCP&L)

\*(Past Chairman)

Each person has indicated they will serve in the position nominated. The official election of Officers will take place at the December 8, meeting. IEEE members in good standing may nominate other IEEE members or themselves for each of these positions. (The term of office is January 1, 1994 through December 31, 1994).

Additional nominations may be made from the membership. Such nominations must be signed by no fewer than 25 voting members of the North Jersey Section and transmitted to Edward P. Griffith prior to November 30, 1993. Mr. Griffith may be reached at (201) 455-8313. The petition must certify that the persons nominated have agreed to serve if elected.

### All Welcome

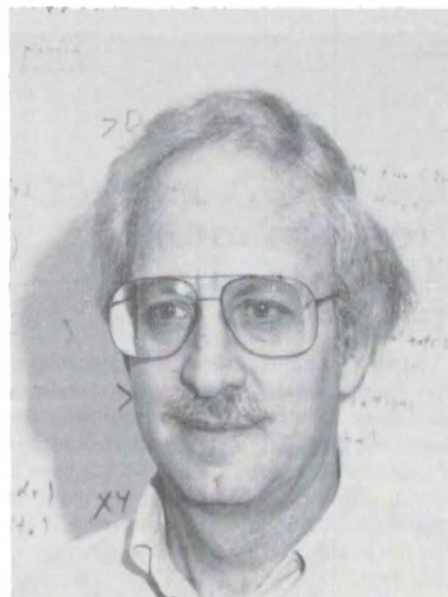
Members and guests interested in the meeting topic are invited.

**Time:** 7:00 PM, Wednesday, December 8, 1993.

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

### Reservations/Information:

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



## NJ Computer Chapter: OO Technology In Climate Prediction, Other Applications

On December 7, 1993 the IEEE NJ Computer Chapter will present a talk on "The Use Of Object-Oriented Technologies In Science And Engineering Applications" The speaker at this meeting will be Dr. Richard L. Peskin of the CAIP Center, Rutgers University, Piscataway.

### About The Talk

Object-Oriented software technologies have been promoted recently because of their possible impact on software engineering, primarily in the areas of code organization, control and reuse. Historically, object-oriented programming was developed because of its implications for simulations.

These "behavior-oriented" aspects of OOP may ultimately be more important to the scientist and engineer than its purely software features. OOP provides the simulation creator with a paradigm that clearly relates the components of physical world to their computational abstractions (as modelled by code objects). The dynamics of real world objects are simulated by the "behavior" of code abstractions in response to "messages."

In this talk, Dr. Peskin will discuss the OOP paradigm in the context of a real software system, SCENE (Scientific Computation Environment for Numerical Experimentation). SCENE is implemented as an OO system, and makes use of the OOP environment to allow distributed and/or parallel computing in a manner that is transparent to the user.

SCENE has been used at several university and industrial locations. Its OO features permit a flexibility not usually found in interactive data management tools. SCENE is implemented in



Smalltalk and C, and this talk will discuss some practical issues associated with this OOP implementation. The application of SCENE to the management of climate prediction simulation data will be discussed, and a video illustrating this application shown.

Finally, the experiences encountered in the SCENE development will be discussed in the context of the application of OOP to other scientific and engineering problems. Particular emphasis will be placed on language and environment choices, learning curves, performance issues, and portability.

#### About The Speaker

Dr. Peskin is Director of the CAIP Computational Engineering Systems Laboratory at Rutgers, and is a professor of Mechanical and Aerospace Engineering, as well as a member of the graduate faculty in Electrical and Computer Engineering.

He is also President of Landgrove Associates, Flemington, N.J., a computer technology consulting firm, specializing in the design and development of OO systems, interactive graphics and visualization, parallel algorithms and distributed systems, among others.

A graduate of MIT, he received his PhD from Princeton in 1960. He was a member of the research staff at the Princeton

Plasma Physics Lab and has been at Rutgers since 1961.

#### All Welcome

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

**Time:** 7:30 PM, Tuesday, December 7, 1993.

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

#### Optional Pre-Meeting Dinner:

5:30 PM. Come meet the speaker. Pero's New Bridge Inn, 105 Old New Bridge Road, New Milford. Restaurant directions (201) 836-6394. **Reservations for dinner required.**

**Information/Dinner Reservation:** Richard G. Estock (908) 388-5110.

#### North Jersey MTT/AP:

### Detection Of Gravitational Waves

The topic at the IEEE North Jersey Section MTT/AP Chapter meeting on December 9, 1993 will be "The Detection Of Gravitational Waves." The speaker will be Mr. Melvin A. Lewis of Loral, Inc.

#### About The Talk

This talk reviews the challenges involved in the detection of gravitational waves, a topic of research at many of the

world's leading universities. Described are the objectives, a brief history, some theoretical background information, the mechanisms of detection, first generation apparatus, technical antenna and signal extraction challenges and the current state-of-the-art in resonant mass and LASER Interferometer designs.

#### About The Speaker

Melvin A. Lewis is an electronics engineer with 30 years experience designing circuits and systems, including sophisticated instrumentation in the defense industry. He holds a BSEE degree from Fairleigh Dickinson University (1961) and has done considerable graduate work in engineering and physics at Columbia University, NJIT and Polytechnic University. He is a senior member of the IEEE, was chairman of the 1993 Vehicular Technology Conference held in May, and is a member of the Astron. Society of the Pacific, the New York Academy of Sciences, and the American Association for the Advancement of Science.

#### All Welcome

Members and guests interested in the subject are invited.

**Time:** 7:00 PM, Thursday, December 9, 1993.

**Place:** NJIT, ECEC202, Newark, N.J.

**Information/Reservations:** Dick Snyder (201) 492-1207; Willy Schmidt (201) 492-0371; Edip Niver (201) 596-3542.

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## IEEE VIDEOCONFERENCES SEMINARS VIA SATELLITE

### *North Jersey Section & FDU Student Chapter:* **Monte Carlo And Other Simulation Analyses**

The seventh and last videoconference of the year, "Engineering Applications For Monte Carlo And Other Simulation Analyses," will take place on Thursday, December 2, 1993. It will provide a practical introduction to analyzing the effects of uncertainty on complex systems. Simulation modeling can be done before a system is altered or a new one is built, to emulate the risk of unforeseen bottlenecks, cost overruns, or failure to meet specific system requirements.

These techniques work by subjecting computer models to repeated random inputs and monitoring the results. A basic overview of these techniques will be presented. Also to be shown will be how these techniques may be applied using a wide array of tools ranging from common electronic spreadsheets to highly specialized simulation software. The techniques presented are relevant not only to engineering problems but business and decision support applications as well.

#### **Course Objectives**

In this videoconference, participants will learn: 1) the basic theory of uncertain events (random variables); 2) how to assess the effects of uncertainty through Monte Carlo and discrete-event simulation; 3) how simulation can be used to improve the performance (throughput, delays, etc.) of a proposed or existing communications network; and 4) how to push simulation to the limits and extend your knowledge of the subject.

#### **About The Presenters**

Dr. Sam L. Savage, Consulting Professor at Stanford Univ., Stanford, CA, who will provide an overview of modeling uncertainty with simulation. The second presenter will be Dr. Averill M. Law, President of Averill M. Law & Associates of Tucson, AZ, a simulation consultant

and noted author, who will demonstrate how communication network is simulated. The final presenter will be Peter W. Glynn, Associate Professor at Stanford Univ., who will talk on pushing the limits of simulation.

#### **Next Videoconference**

The next videoconference will occur Wednesday, March 16, 1994, on "PC Workstation Operating Systems: A Comparative Analyses Including UNIX." While 1993 videoconferences were held on Thursdays, 1994 videoconference events will be held on Wednesdays. The full 1994 schedule will be published in the December Newsletter.

#### **New Admission Policy**

Due to increased expenses associated with bringing the videoconferences to the membership, a new admission policy is being instituted. The general public is now invited to attend. Admission for non-IEEE members is \$65 with pre-registration, \$75 at the door. IEEE members may attend for \$20 pre-registered, \$30 at the door (**IEEE membership card required**). All participants will receive a set of the conference notes; those planning to walk-in should telephone a day ahead to reserve a set of conference notes.

A special discount is being offered to non-IEEE attendees who are employees of companies who are members of the American Electronics Association: \$45 pre-registered, \$55 at the door (**company employee identification required**).

IEEE student members may continue to attend videoconferences at no charge, except that students will not receive a set of the conference notes. However, any student wishing a set may purchase same for \$10.

To pre-register, mail check payable to "IEEE North Jersey Section" to Richard G. Estock, c/o EDP Consultants Inc., 77 Meredith Road, Colonia, NJ 07067-3198. **Important!** Please include the following information on the front of your check: name, address, telephone number, IEEE membership number (if applicable) and name of videoconference. Pre-registrations must be received by the Monday preceding the broadcast date.

#### **Videoconference Playback**

Due to poor participation, the evening playback of the taped videoconference is being discontinued.

#### **Disabled Or Handicapped Members**

Any IEEE member who is disabled or handicapped and who is unable to attend the live broadcast may request to borrow the videotape of the conference for viewing on his or her home VCR. Cost will be at the IEEE member pre-registration rate of \$20. The Edward Williams College is not handicapped accessible.

**Time:** 11:45 AM - 3:00 PM, Thursday, December 2, 1993. Lunch not provided. Participants should plan to arrive by

11:30 AM to check-in and pick up their set of conference notes.

**Place:** Edward Williams College Lecture Hall (FDU Hackensack Campus), 150 Kotte Place, Hackensack, N.J. The Lecture Hall is not handicapped accessible.

**Directions:** Route 4 to Hackensack Ave. south, then first left onto Kotte Place (Roy Rogers Restaurant on corner).

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

### *Princeton/NJ Coast NPSS:*

## **Hard X-Ray Camera On PBX-M**

The IEEE Nuclear and Plasma Sciences Society (NPSS), Princeton/New Jersey Coast Chapter, will present a colloquium "The Hard X-Ray Camera On PBX-M: Observations And Studies." This meeting will take place December 1, 1993. The speaker will be Dr. Stephen E. Jones, Postdoctoral Research Associate, MIT.

#### **About The Topic**

Lower-hybrid-resonance coupling of r.f. electromagnetic waves into tokamak plasmas can generate substantial current by accelerating some of the electrons to velocities near the speed of light. These high-energy electrons produce X-ray bremsstrahlung as they collide with the background plasma. On the PBX-M experiment, a unique 2-dimensional X-ray camera has been developed to image the X-rays from the fast electrons, and thereby determine their distribution within the plasma. A knowledge of the radial density profile and the radial diffusion constant of these fast electrons is important for understanding advanced tokamak scenarios, such as access to second stability. It will facilitate current profile control, an important strategy in moving the design of the tokamak reactor toward smaller size and lower cost.

#### **About The Speaker**

After six months of postdoctoral work at the JET Fusion Laboratory in England, Dr. Jones began work at Princeton Plasma Physics Laboratory, as part of its collaboration with MIT, performing research on the PBX-M (poloidal beta experiment--modification), a medium-size tokamak that has been operated at PPPL for the past eight years in support of the overall effort to design tokamak fusion reactors.

**Time:** 8 PM, Wednesday, December 1, 1993.

**Place:** Princeton University, Engineering Quadrangle, Convocation Room C-217, Princeton, N.J.

**Information/Directions:** Charley Bowman (609) 490-2132; Dirk Plummer (908) 219-9553.



## IEEE LEO Chapter: Particle Beam Pumped Lasers

The topic of the IEEE Laser & Electro Optics Chapter meeting on December 15, 1993, will be "Particle Beam Pumped Lasers." The speaker will be Professor Dan Murnick from the Physics Department at Rutgers.

### About The Talk

Heavy ion beams (oxygen through uranium) having energies from about 100 keV to several GeV have been used in an ongoing program to develop new short wavelength laser systems. Thus far ir, visible and uv lasers have been studied with particularly interesting results obtained for excimer systems and recombination lasers. Experiments have been carried out in Germany, where intense heavy ion beams are available at the tandem accelerator, Munich and the National Heavy Ion facility, GSI in Darmstadt. Background, overview and outlook for this international research project will be presented.

### About The Speaker

Daniel E. Murnick is Professor of Physics, Chairman Department of Physics, Rutgers University, Newark, N.J.

Professor Murnick is on the scientific advisory boards of Diagnostics & Devices, Inc., Bernardsville, N.J., and Surgilase Inc. Warwick, Rhode Island. He is also a consultant to Titan Systems, Inc., San Diego, California, American

Standard Inc., Piscataway, New Jersey, and Cambridge Isotope Labs, Woburn, Massachusetts.

**Time:** 7:00 PM, Wednesday, December 15, 1993.

**Place:** Stevens Institute of Technology, ECE Seminar Room, Hoboken, N.J.

### Information:

Haim Grebel (201) 596-3533.

## NY/LI PES & IAS: Upcoming Meeting

The Power Engineering Society and Industry Applications Society NY/LI Chapter will present a Panel Discussion on December 14, 1993 on "Optimizing Overcurrent Protection-Fuses vs. Breakers." The focus will be on the issues facing electrical designers when deciding whether to specify fuses or circuit breakers for low voltage (600 volts and below) overcurrent protection. The meeting format will consist of a discussion panel made up of application engineers from major fuse and circuit breaker manufacturers as well as engineers from large electrical consulting firms.

The meeting will take place Tuesday, December 14, 1993, 5:30-7:30 PM at the Con Edison Bldg., 19th Floor Auditorium, 14th Street & Irving Place, NYC. Refreshments provided. All welcome. No fee required.

For information: Rick Miller (908) 688-2900.

## Engineers' Network Association Seeks Participants

All experienced engineers who are actively seeking employment or consulting positions of at least \$35,000 per year are invited to join the Engineers' Network Association, a forum for the exchange of job leads. To participate, bring at least one unpublicized job lead that you do not intend to pursue to share with others who might be interested. The Engineers' Network Association meets every Wednesday at 1:30 PM at Le Bistro Restaurant, corner of Elm and Orchard Streets, Elmwood Park, N.J.

If you would like additional information, call Merrill Rutman (Member, IEEE), at (201) 447-6041.

## NY/LI PES/IAS: Student Activities '94 Winter Meeting

The Power Engineering Society and Industry Applications Society, New York & Long Island Chapter Student Activities 1994 Winter Meeting will take place Sunday, January 30 through Thursday, February 3, 1994 at the New York Hilton Hotel, 53rd Street & Avenue of the Americas, NYC.

# Professional Activities Committees for Engineers NEWS

by Richard F. Tax

*The following is reprinted from the October 1993 issue of the "American Engineer" a publication of the American Engineering Association, with permission.*

## AEA Submits Proposal

The American Engineering Association has submitted a proposal to the Department of Labor to provide CAD training to out-of-work defense engineers. (See AE March 1993.) The proposal was submitted under the Defense Conversion Act to provide services to people who have lost defense-related jobs.

The proposal seeks to provide training for 96 individuals who feel this training would help in their efforts to gain employment. Our survey in the March AE brought over three hundred responses from people in thirty states and one U.S. possession (Puerto Rico) who were, or expected to be ex-defense engineers.

We initially thought we could qualify for a much more ambitious project but it did not work out. While this project is smaller than it was originally conceived, we believe it may be expanded as we begin to prove the concept.

These programs are normally funded through Private Industry Councils (PIC's) who in turn work through the state Job Service.

These are normally local efforts confined to a relatively small geographic area.

AEA's proposal contains what we believe are several innovations. First our program will be national in scope and is aimed at people with a specific set of skills. This is one of the first if not the first training programs initiated by an employees' organization. Third, this will be one of the first DOL-funded programs involving training in advanced CAD; the use of a relatively high-unit cost which we believe will provide large returns for both the individual and the government, and last but not least we have developed a new method of measuring the cost effectiveness of such programs.

The top ten CAD programs in the order of interest from the respondents of our March survey are as follows: CATIA, Autocad, Pro-Engineer, Unigraphics II, CADAM, Computer Vision 4, Mentor Graphics, Allegro, Integraph and CADDs.

*Bill E. Reed, President*

*American Engineering Association*

*(To receive a free copy of AEA's publication "American Engineer" send a SASE to: AEA, P.O. Box 820473, Fort Worth, TX 76182-0473.)*

Gapware Systems Inc. and SV Systems Inc. presents

# Object-Oriented Programming in C++

## 8 Week Course

Saturdays January 8 - February 26, 1994 9:00am - Noon

Tuesdays January 11 - March 1, 1994 6:00 - 9:00pm

This eight week course will introduce you to object-oriented programming techniques helping you remain competitive in today's rapidly evolving software development market. An object-oriented style of application development with real-world examples will be stressed using C++ as an implementation language. Particular attention is given to developing programs and modules that are adaptable, reusable and maintainable.

Rather than treating C++ as an improved version of C, this course focuses on C++ as an independent, object-oriented programming language. **YOU DO NOT NEED A BACKGROUND IN C PROGRAMMING TO ATTEND THIS COURSE.**

An object-oriented development methodology is becoming increasingly popular as a more natural way of describing various problem domains. Systems developed using an object-oriented language are generally more robust, flexible, maintainable and easier to evolve throughout their life cycle. C++ supports the core principles behind this methodology: encapsulation, data abstraction, polymorphism and inheritance. The first half of the course will be devoted to the core language and basics (which are very similar to C), while the second half of the course focuses on the object-oriented aspects of C++. This approach is ideal for students who are not familiar with C, or need a brief refresher. By the end of the 8 weeks, students should be able to think, design, and develop programs with C++ in an object-oriented framework. The major subjects covered are as follows: Benefits of object-oriented development, basic C++ elements, flow control and conditionals, structures, arrays, pointers, functions, objects and classes, operator overloading, polymorphism, inheritance, files and streams.

In addition to this course, several others are planned for the systems development professional including Object-oriented design, Advanced C++, MS Windows Development, OS/2 Presentation Manager, Client/Server Database technology (ORACLE / SYBASE) and LAN/Communications Systems.

**Introductory Price:**    with textbook and compiler - \$280;    non-IEEE Members - \$385  
                                 with textbook only- \$210;                non-IEEE members - \$315

Students must register by December 15th. Cancellations are not accepted after Dec 22nd.  
All classes will be held in the Days Inn Hotel, 3159 Rt. 46 East, Parsippany NJ.

For more information call SV Systems:                201/334-1375

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### *Registration Form for Object-Oriented Programming in C++*

Name: \_\_\_\_\_ IEEE #: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

Please detach this form and mail to:  
SV Systems, Inc.  
27 Winding Way  
Parsippany, NJ 07454

Amount Enclosed: \_\_\_\_\_

[ ] Saturdays Jan 8 - Feb 26 1994 9:00am - noon  
[ ] Tuesdays Jan 11 - Mar 1 1994 6:00 - 9:00pm