



The IEEE

Newsletter

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

NJ Computer Chapter: **IBM's PowerPC Architecture**

On September 14, 1993 the IEEE NJ Computer Chapter will present a talk on "The Evolution Of IBM's PowerPC Architecture." The speaker at this meeting will be Richard Oehler of the IBM Thomas J. Watson Research Center in Yorktown Heights, N.Y.

About The Talk

RISC was invented at IBM's Thomas J. Watson Research Center. This talk will show the evolution of this RISC architecture from these early days to IBM's Power Architecture as embodied in the RS/6000. Recently, IBM along with Motorola and Apple has developed the Power PC architecture, an evolutionary step from Power. Details of the PowerPC and its implementations will also be given.

About The Speaker

Richard Oehler has worked at IBM Research since 1970. He was a member of the original 801 team (the first RISC), where he was responsible for the system and I/O architecture. Mr. Oehler was the chief architect of the RS/6000 and PowerPC. He is currently director of systems software in IBM's recently announced Personal Power Systems division, whose mission is to exploit PowerPC in the PC space.

All Welcome

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

Time: 7:30 PM, Tuesday, September 14, 1993.

Place: Room M-207, Muscarelle Bldg., Fairleigh Dickinson Univ., Teaneck, N.J. Handicapped or disabled attendees please call number below for special arrangements.

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. **Reservation required.** (908) 388-5110.

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

No. Jersey Section IAS: **Intrinsic Safety**

On October 21, 1993, the North Jersey Section Industrial Applications Society will host a presentation on "Intrinsic Safety." The speaker will be Stephen V. Norako.

About The Talk

In the 1990 National Electric Code, Intrinsic Safety was officially recognized as a method of applying certain types of electrical equipment in areas hazardous as defined by article 500 (due to the presence of combustible substances). To date, new article 504, as well as the whole topic of Intrinsic Safety, have lead to much confusion and misunderstanding. This presentation will address this alternate method by:

a) Briefly discussing hazardous areas and other methods currently used to prevent external ignition and explosion

b) Explaining intrinsic safety basics, the circuit components, benefits, design criteria, and some examples.

About The Speaker

Stephen V. Norako of the Crouse-Hinds Division of Cooper Industries, serves on the Executive Advisory Board of the New Jersey chapter of the International Association of Electrical Inspectors (IAEI) where he chairs the codes and standards committee and is also on the Executive Committee of the Metropolitan Electrical League of New Jersey, chairing the educational program committee. Mr. Norako holds a BSEE from Fairleigh Dickinson University.

Time: 7:00 PM, Thursday, October 21, 1993.

Place: Jersey Central Power & Light Co., 300 Madison Ave., Morristown, N.J.

Information: Ken Oexle (201) 455-8481.

North Jersey Section PACE: **Solutions For The Sandwich Generation**

At the September 9, 1993, meeting of the North Jersey Section's Professional Activities Committee for Engineers the topic will be "Solutions For The Sandwich Generation." The speaker will be Ed Landau, Financial Planner with IDS Financial Services, an American Express Company.

About The Talk

This one-hour, video-driven seminar is targeted to people who may find themselves sandwiched between their parents' and children's financial concerns, while trying to address their own financial needs for today and the future.

About The Speaker

Mr. Landau is a financial planner licensed by the National Association of Securities Dealers in addition to holding NJ Insurance and Securities licenses. Before becoming a financial planner, Mr. Landau spent over twenty years as an RF Design Engineer, Consultant and Engineering Manager.

All IEEE members and guests are invited to attend.

Time: 7:30 PM, Thursday, September 9, 1993.

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

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

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NEWSLETTER STAFF

Editor M.M. Perugini
Business Manager A.M. Beattie

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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 633-6129

Elected Section Officers are listed above.

Engineering Reliability In Software

There will be a joint meeting of the North Jersey Reliability and Computer Chapters on September 21, 1993. The topic at this meeting will be "Engineering Reliability In Software." The speaker will be Dr. William W. Everett, of AT&T Bell Laboratories in Holmdel, N.J.

About The Talk

Reliability engineering has been an integral part of designing and developing hardware devices. With the growth of software in the products we build and use, the rate at which software contribute to product failures is on the increase and with some products are beginning to dominate failures caused by hardware. The discipline of hardware reliability engineering has had the opportunity of evolving over the past 40-50 years to where it is today. A discipline for measuring, modelling and managing reliability of software products is relatively new, perhaps tracing its beginnings to the mid seventies with the pioneering work of Musa, Schneidewind, Littlewood, Goel, Moranda, and others.

Recognizing the importance of Software Reliability Engineering (SRE), AT&T initiated work in mid 1991 in drafting a handbook defining a practice for SRE. In October of 1992, a council of senior AT&T Bell Laboratories managers approved it as a "Best Current Practice" (BCP). This talk will highlight what the AT&T Software Reliability Engineering BCP is. The practice covers the entire life-cycle of software product development. It associates a set of SRE activities that need to be carried out in each phase of the life-cycle:

- Feasibility and Requirements
- Design and Implementation
- System Test and Field Trial
- Post Delivery and Maintenance

These activities are focused at first defining reliability requirements for software products, then engineering for reliability, managing the introduction and propagation of faults across development stages. During system test and field trial phase, activities focus on verifying reliability requirements are met. The activities continue after delivery of the product and focus on tracking reliability in customer's environments and supporting maintenance activities.

The role of measurement and modelling in the practice will be described in the talk. Finally, the talk will summarize some areas where the technology and practice supporting SRE are being extended.

About The Speaker

Bill Everett is a Distinguished Member of Technical Staff in the Quality Process Center at AT&T Bell Laboratories. He has over 20 years experience in software



development and engineering and has been involved in Software Reliability Engineering since 1985. He is the leader of the team who drafted the SRE BCP handbook. He has not only applied SRE on projects he has been associated with, but has also been instrumental in the technology transfer of SRE within AT&T.

Bill has implemented an MS-DOS and UNIX version of SRE TOOLKIT, a set of software tools which support the application of SRE and are an integral part of the AT&T SRE courses.

He has published several papers and given a number of talks and tutorials on Software Reliability. He is a coauthor of AT&T's "Reliability by Design" and along with John Musa, contributed a chapter in the recently published "Software Engineering Productivity Handbook" (Jessica Keyes ed., McGraw Hill).

Bill is a member of SIAM, IEEE Computer Society and is an Associate Editor for "IEEE SOFTWARE" magazine. He received a PhD degree in Applied Mathematics from the California Institute of Technology and an Engineer's Degree from the Colorado School of Mines.

All Welcome

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

Time: 7:30 PM, Tuesday, September 21, 1993.

Place: Room M-207, Muscarelle Bldg., Fairleigh Dickinson Univ., Teaneck, N.J.
Optional Pre-Meeting Dinner: Come meet the speaker. Pero's New Bridge Inn, 105 Old New Bridge Rd., New Milford, 5:30 PM. Restaurant directions (201) 836-6394. Reservation required, (908) 388-5110.

Further Information: Richard G. Estock (908) 388-5110; Henry Moss (212) 674-5048.

North Jersey PES/IAS: Designing Plant/Substation Ground Grids

On September 23, 1993 the North Jersey Power Engineering/Industry Applications Society Chapters will present a talk on "Technical Considerations In The Design Of Plant/Substation Ground Grids." The speaker for this presentation will be R.V. Rebbapragada, Ebasco Services Incorporated.

About The Talk

It has been acknowledged by many that Grounding is a very complex subject. Many consider that designing a ground grid system for a plant/substation is as much art as science because of the unknowns associated with the classification and distribution of the soil. However, this does not relieve the engineer of the responsibility for seeking a design that will provide an economically feasible ground resistance for fault current and limit ground potentials to safe values for personnel. This discussion will describe technical considerations associated with the design of plant/substation grounding, based on the principles recommended in IEEE Standards 80 and 665, and outline issues to be considered in reaching an optimal design.

About The Speaker

R.V. Rebbapragada received a BSEE from the Indian Institute of Science (1959), MSEE from Purdue University (1969), and MS (Operations Research) from Polytechnic Institute of Brooklyn (1972).

Mr. Rebbapragada is employed by Ebasco Services Incorporated as a Senior Consulting Engineer in the Nuclear/Advanced Technology Department and is responsible for technical consulting services involving the engineering/design of power generation, transmission and distribution facilities and substations. He is a senior member of IEEE and is the Chairman of the "Power Engineering Society" chapter of the North Jersey Section. He is a registered professional engineer.

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 7:00 PM.

Time: 7:00 PM, Thursday, Sept. 23, 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 ; Keith Saracinello (Ebasco) (212) 839-2267.

North Jersey Section Activities SEPTEMBER

September 1, 1993—"North Jersey Section Executive Committee Meeting"—7:00 PM, Plant 11, GEC-Marconi, 164 Totowa Rd., Totowa, N.J. Art Greenberg (201) 633-6129.

Sept. 9—"Solutions For The Sandwich Generation"—North Jersey Section PACE, 7:30 PM, JCP&L Co., 300 Madison Ave., Morristown, N.J. Robert Sinusas (201) 228-3941.

Sept. 14—"IBM's PowerPC Architecture"—NJ Computer Chapter, 7:30 PM, Fairleigh Dickinson Univ., Teaneck, N.J.

Sept. 21—"Engineering Reliability In Software"—Joint NJ Reliability & Computer Chapters, 7:30 PM, Fairleigh Dickinson Univ., Teaneck, NJ.

Sept. 23—"Technical Considerations In The Design Of Plant/Substation Ground Grids"—North Jersey PES/IAS, 7:00 PM, JCP&L, Punch Bowl Room, 300 Madison Ave., Morristown, N.J. Ken Oexle (201) 455-8481.

Sept. 23—"Electronics And The Environment"—Engineering in Medicine and Biology Society (NY/NJ/LI Chapter), 7:30 PM, Rockefeller University, Tower Building, Room 305, 1200 York Ave., NYC. Joel Levitt (718) 891-6460.

Sept. 29-Dec. 8—"Seminar: Introductory C Programming"—IEEE North Jersey Section, Wednesday Sessions, 6:30-9 PM, JCP&L, 300 Madison Ave., Morristown, N.J. John Baka (201) 455-8534.

Sept. 30—"Clinton And The Consultant"—No. NJ Consultants' Network, 7:30 PM, GEC-Marconi Facility, 150 Parish Dr., Wayne, N.J. Jim Boyd (201) 584-0329.

Sept. 30—"Videoconference: Improving Product Engineering"—North Jersey Section and FDU Student Chapter, 12 Noon-3 PM, Edward Williams College Lecture Hall (FDU Hackensack Campus), 150 Kotte Place, Hackensack, N.J.

Sept. 30-Dec. 9—"Seminar: Object-Oriented C++ Programming"—IEEE North Jersey Section, Thursday Sessions, 6:30-9 PM, JCP&L, 300 Madison Ave., Morristown, N.J. John Baka (201) 455-8534.

Upcoming Meetings

October 6—"North Jersey Section Executive Committee Meeting"—7:00 PM, Plant 11, GEC-Marconi, 164 Totowa Rd., Totowa, N.J. Art Greenberg (201) 633-6129.

Oct. 12-Dec. 14—"Seminar: Technical Writing For Engineers"—IEEE North Jersey Section, Eight Tuesday Sessions, 6:30-9:00 PM, JCP&L, 300 Madison Ave., Morristown, N.J. John Baka (201) 455-8534.

Oct. 19—"Reducing Product Cycle Time"—Joint NJ Communications & Computer Chapters, 7:30 PM, Fairleigh Dickinson Univ., Teaneck, N.J.

Oct. 21—"The World Trade Center Bombing"—North Jersey PES/IAS, JCP&L, 7:00 PM, Punch Bowl Room, 300 Madison Ave., Morristown, N.J. Ken Oexle (JCP&L) (201) 455-8481.

Oct. 21—"Review Of Modern Filter Technology"—North Jersey Section MTT/AP Chapter, 7:00 PM, ITT Avionics, 100 Kingsland Road, Clifton, N.J. Dick Snyder (201) 492-1207.

Oct. 21—"Intrinsic Safety"—North Jersey Section IAS, 7:00 PM, Jersey Central Power & Light Co., 300 Madison Ave., Morristown, N.J. Ken Oexle (201) 455-8481.

Oct. 22—RESERVE FOR SECTION AWARDS RECEPTION

Oct. 23—"Seminar: Reliability Assessment—An Essential Ingredient Of Managing Quality And Cost"—IEEE NJ Section IAS/PES Chapters, Saturday, 9:00 AM-2:00 PM, Meadowlands Hilton, Secaucus, N.J. V. Rebbapragada (201) 804-2011.

Oct. 28—"21st Century Views Of Telecommunications, Television And Computers"—North Jersey Section and NJIT Student Chapter, 12 Noon-3 PM, Guttenburg Information Technologies Building, NJIT, Newark, N.J.

Nov. 16—"Plan 9 Software Development System"—NJ Computer and NJIT Student Chapters. Look for details in next Newsletter.

Members and Non-Members Welcome
PLEASE POST



IEEE VIDEOCONFERENCES SEMINARS VIA SATELLITE

North Jersey Section & FDU Student Chapter Improving Product Engineering

On September 30, 1993, the fifth videoconference of the year sponsored in conjunction with the FDU Student Chapter, will be "Product Engineering As A Process." The three presenters will be Marvin L. Patterson, Samuel J. Keene, and Don Reinertsen.

About The Videoconference

In today's market, it is not enough to simply meet customer requirements. Today's engineer must anticipate unknown customer needs and expectations to produce viable products. This videoconference will examine, and graphically represent, the ways to re-engineer and improve the process through documentation, study, streamlining and innovation. Attendees will see techniques for improving process output, brainstorming, story-boarding, using market research, using focus group feedback, quality function deployment and using groupware or shareable software.

Learning objectives include: 1. How to define the immense business opportunities available through reduced innovation cycle; 2. Specific strategies for improving the innovation process at the single project level; 3. Actions that will improve performance across an entire portfolio of projects; and 4. Key success factors in applying improvement programs to new product development processes.

About The Presenters

The lead presenter is Marvin L. Patterson, Director of Hewlett-Packard's Corporate Engineering in Palo Alto, CA. Mr. Patterson is responsible for improving the effectiveness of product development activities throughout the company.

The second presenter is Samuel J. Keene. For the past five years, Dr. Keene has been deeply involved in software process development, software safety,

and software reliability aspects of system reliability for IBM. He is president of the IEEE Reliability Society, a Senior member of the IEEE and author of 60 papers in the "Quality and Reliability Journal."

The final presenter is Don Reinertsen, President of Reinertsen & Associates, a consulting firm specializing in the management of the product development process. His contributions to the field of product development have been recognized internationally.

Next Videoconference

The next videoconference in the 1993 series will occur October 28 on "2020 Vision: The Future Of Engineering Technology" which will take attendees to the engineering future—well into the 21st century. It will examine how virtual reality and ubiquitous computing will combine with other development tools for network and manufacturing processes, to make the solutions we anticipate feasible.

The lead presenter will be famed futurist Irwin Dorros, Executive Vice-President of Bell Communications Research. For this video conference only, the venue is being changed to NJIT in Newark.

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: 12 Noon - 3 PM, Thursday, September 30, 1993. 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.

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.

Metro EMBS: Electronics And The Environment

On September 23, 1993, the Engineering in Medicine and Biology Society (NY/NJ/LI Chapter) will present a talk on "Electronics And The Environment." The speaker will be Diana J. Bendz.

About The Talk

Environmental issues, from regulatory facts through sustainable development concepts are playing an ever increasing role in the electronics and other industries. The most desirable way of dealing with these issues for an electronics engineer is to consider appropriate attributes in the product and process design phase. For example, CFC elimination is much less costly if done early in the design process. Since a product's environmental attributes most definitely will become a competitive issue as well, it is even more important to provide for these design considerations.

This discussion will describe the environment as a global issue and offer some ideas to consider as solutions at a corporate level, and at an engineer's level. For example, some computer parts can be designed so that they can be recycled. The talk will also address the rolls of the IEEE and of academic institutions.

About The Speaker

Diana J. Bendz is Director of Integrated Safety Technology for IBM Worldwide Development and Environmental Affairs, Purchase, N.Y. She holds a Bachelor of Science degree in Polymer Chemistry from Syracuse University. She has managed package development organization, manufacturing operations, site planning, and site assurance within IBM. In 1987, Mrs. Bendz became Program Manager for Cost Performance Products in IBM's

Technology Products business. She has received the company's patent award and is a member of the IBM Academy of Technology.

Election Of Officers

The Metropolitan Section of the EMBS will hold its annual election of officers at this meeting.

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, Thursday, September 23, 1993. (Pre-lecture get-together 6:30.)

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

Further Information: Joel Levitt (718) 891-6460; Sol Manber (516) 585-8200.

Open Letter To Company Management

The purpose of this article is to encourage you to talk to your company management about supporting employee membership in the IEEE, the world's largest international technical society. Perhaps you could send this page (or even this entire newsletter) to them. Or, you could explain to them that there are many benefits to the company to

have their engineers be active in the Institute of Electrical and Electronics Engineers. One such benefit is low cost education. The IEEE recently ran a C programming course for only \$300. A college course, on the other hand, would cost up to \$1500. In addition, on an average of one a week, the technical chapters in the North Jersey section conduct one-evening technical talks on a wide range of topics ranging from fractals, to microwave filters, to programming, to topics in medical electronics. These presentations familiarize the attendees with some of the details as well as an overview of the subject.

In addition, involvement in the IEEE by the employees provides a connection to the neighboring universities, and their pool of technical and research talent. A joint venture between the two would provide a synergism that benefits both. This could be important, for example, during a state-of-the-art proposal or perhaps an analysis intensive conceptual design requiring familiarity with a math speciality not available in the company.

High-achieving engineers tend to be more active in technical societies, developing contacts outside their working groups that could lead to otherwise elusive solutions. In addition, members of IEEE technical societies have access to information resources (technical journals, data bases,

etc.), and are therefore, able to stay current in their own field, and become knowledgeable in technical fields beyond their immediate work responsibilities.

Members also have the opportunity to participate in conferences either as a presenter or as a committee member. These experiences can be beneficial at the project level in the workplace. Attendance at IEEE sponsored trade shows and the associated tutorials gives the engineer a first-hand look at the latest innovations and a quick introduction to (or refresher on) specialized technical areas. Active, qualified IEEE members may even have the opportunity to referee technical papers written by their peers, enhancing their involvement at the leading edge of technology. They can be considered for medals, awards, certificates, and prizes that honor outstanding contributions by individuals and corporations.

The bottom line is this: An engineer that is a participating member of the IEEE is more valuable to the company and to him/herself. Companies should encourage membership, and perhaps even underwrite all or part of the membership fees. An engineer that participates in advancing the theory and practice of the art through the IEEE is reshaping our world and making it a better place for all of us.

Submitted by Melvin A. Lewis

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No. NJ Consultants' Network: Clinton And The Consultant

On September 30, 1993 the IEEE Consultants' Network of Northern NJ will present "Clinton And The Consultant," a summary of the new tax implications for technical consultants. The speaker will be Robert S. Sherlock, Jr., Certified Public Accountant.

About The Talk

This presentation will detail the new tax laws enacted by Congress, as well as other tax-related subjects. Among the topics will be: New tax brackets and tax rates; Increased Wages subject to Medicare; Additional expensing deductions for fixed assets; Increased Social Security Benefits subject to tax.

Also discussed will be the benefits of pension and profit sharing plans for the self-employed and corporate shareholders, the

"pitfalls" of professional service corporations, the New Jersey corporate tax changes and tax planning steps that can be taken before December 31st to minimize tax liability.

About The Speaker

Robert S. Sherlock is a CPA with a practice in Kendall Park, N.J. Prior to entering private practice, he held positions as a tax consultant with Price Waterhouse and as a tax manager with Ernst & Young. He is a member of both the American Institute of Certified Public Accountants and the NJ Society of Certified Public Accountants.

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 distributed its first Directory of

Consultants in March '93. For a complimentary copy, call Alex Richardson (201) 992-0448.

Time: 7:30 PM, Thursday, September 30, 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 re-garding the meeting or the Consultants Network, call Jim Boyd (201) 584-0329.

PACE NEWS

The following articles are reprinted from the July 1993 issue of the "American Engineer" newsletter, the publication of the American Engineering Association, with permission. For information about the AEA write to AEA, P.O. Box 820473, Fort Worth, TX 76182-0473 or call (817) 431-1319. Information may also be obtained by calling Richard Tax at (201) 664-0803.

Smith Introduces Immigration Plan

Representative Lamar Smith (R.-Tx) has introduced a bill which would tie immigration to the national unemployment figures. Smith describes the bill as a "common sense" approach to immigration. Smith said "...when the economy is struggling—and Americans are out of work—we should cut back" (immigration).

Smith's bill, H.R. 2259, would use the numbers used as a basis for the 1990 legislation as a basis for computing the reductions. Those numbers, 770,000 immigrants and an unemployment rate of 5.5% are the baseline for computing reductions in future immigration.

Smith's formula states "Change in immigration level = current immigration level - [(change in unemployment rate/5.5%) x 770,000]." The bill would kick in when unemployment either goes up or down by at least .5%. The bill would not affect admissions of immediate relatives of citizens (who are not numerically limited) or refugees.

AEA believes this bill is a step in the right direction, albeit a small one. We support H.R. 2259 and urge each of our readers to do the same. Rep. Smith's office urged AEA to have our members and readers of the "American Engineer" to contact their Representative and ask that he or she co-sponsor H.R. 2259.

In addition, we suggest you contact your friends and neighbors as well as your technical society and ask them to support H.R. 2259.
Billy E. Reed, AEA President

Work Harder, Not Smarter

Engineers have long complained about the problem of heavy uncompensated overtime. One example is the "25% solution" that was introduced by a Silicon Valley electronics company in the early '80's: 25% unpaid overtime for everyone in the company. If recent workplace trends are any indication, this problem is now growing worse as companies downsize drastically and at the same time increase the workload of the survivors.

An article on page 64 of the Nov. 30, 1992 issue of *Fortune* magazine, titled "Welcome to the Age of Overwork," states "daily headlines announce a steady drumbeat of impending layoffs," citing

examples at such large employers of engineers as General Motors, Pratt & Whitney, IBM and Digital Equipment. The article notes that "according to a survey of 2,400 U.S. companies by New York City consultants, Wyatt & Co., 29% laid off people last year; 27% will do so this year, and 18% are freezing all new hiring." Meanwhile the companies are trying to have their cake and eat it, having drastically reduced workforces and getting the same work that was provided by the original workforces.

The article notes "...anecdotal evidence and a raft of surveys strongly suggest that many white-collar Americans are approaching the Japanese tradition of 12-hour days and work-filled evenings. Priority Management, a Seattle consulting firm, recently polled 1,344 middle managers on a variety of topics and reported that the number of hours people said they are working was the study's 'single most startling finding.' While about one third work 40 to 45 hours weekly, 57% are routinely at their desks from six to 20 hours more than that, and 6% say they work upwards of 60 hours."

The article notes that a long workweek is only one of the major factors contributing to job stress. One of the extreme consequences of job stress is what the Japanese call "karoshi," which means "death by overwork," usually a heart attack. The article notes that the main cause of karoshi "is not hours put in but the attitude of the worker." The article continues, "The health risks of hating one's job have been known in the United States since 1972, when a Massachusetts study showed that the surest predictor of heart disease was not smoking, cholesterol, or lack of exercise, but job dissatisfaction."

The article notes that excessive hours can even result in reduced productivity, because fatigue impairs workers' thinking ability. This is an especially important consideration in engineering, because engineering often involves the most advanced thought processes. Another problem is that many engineers have little or no control over how they solve problems and are thus often unable to make the best use of the available working time. An example is the case of the engineer who switched to medicine when he "found himself in a room with fifty other engineers who watched the clock with one eye while working on little projects that offered no flexibility and no influence on one's career." And, as always, gross underutilization is a major cause of engineers' inefficiency in the performance of their work.

The article also mentioned two books concerned with the growing phenomenon of overwork: "You Don't Have to Go Home from Work Exhausted!" by Ann McGee-Cooper, a Dallas consultant; and "The Overworked American," a best-seller by Juliet Schor, a senior lecturer in economics at the Harvard Business School.

NJ Comm/Comp Chapters: **Reducing Product Cycle Time**

On October 19, 1993, Dr. Andy Salazar, Vice-President of AT&T Paradyne (Largo, FL) and its Chief Technical Officer, will present a talk on "Innovation Cycle Time In Computers And Communications."

About The Talk

Today, a U.S. enterprise knows that its property is dependent on a profitable and timely delivery of value to its customers. For a technology-based company, this means that it must bring products and services to bear on customer needs faster and more efficiently than its competitors.

Many products are the result of incremental enhancements achieved over a period of time. For example, in the auto industry a platform on which yearly enhancements were released lasted about eight years during the 1960's and 1970's. Today, that platform interval has shrunk, but it still remains several years in length.

Innovation is the result of both a "breakthrough" invention and time. An invention not delivered in a timely manner to the marketplace can lose great value. Hence, innovation connotes delivery of value to a customer in a novel and creative way that has not been effectively used before.

This talk will focus on the process and cycle time of technology innovation in the fields of computers and communications. Examples of breakthrough inventions in these fields will be given along with a review of their ultimate developments.

The rate at which technology conversion occurs is directly related to how quickly products can be created. Other segments of the value chain to the customer include the presentation, support and servicing of the product. Although new ways in which the value is delivered to the customer can result in innovation. Dr. Salazar will concentrate on the technology stages in which innovation can occur.

The definition of innovation in computers and communications will be reviewed from both a business and technology perspective. Metrics will be presented which can be used to track the level of innovation in such technology-based companies.

About The Speaker

Dr. Andres C. Salazar joined AT&T Paradyne in 1991, where he has served as Vice-President Digital Network Services Development and Product Management, General Manager of Network Connectivity Products and more recently as Chief Technical Officer.

Prior to AT&T he was with Avanti Communications Corp., a private T-1 networking company in Norwood, MA. He ultimately became responsible for the



manufacturing, customer service and engineering operations of the company.

Dr. Salazar received a PhD in electrical engineering from Michigan State University in 1967. He is also a graduate of the AEA Advancement Management Institute at Stanford University. Author of numerous technical articles, Dr. Salazar was also the editor of "Digital Signal Computers and Processors," an IEEE Press book.

Optional Pre-Meeting Dinner

Come meet the speaker at Pero's New Bridge Inn, 105 Old New Bridge Road, New Milford, N.J. 5:30 PM. Restaurant directions (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, Tuesday, October 19, 1993.

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

Information: Richard G. Estock (908) 388-5110; Dave Dietsche (201) 628-3264.

North Jersey PES/IAS: **Talk On World Trade Center Bombing**

On October 21, 1993 the North Jersey Power Engineering/Industry Applications Society Chapters will present a talk on "The World Trade Center Bombing." The speaker will be Jack A. Buchsbaum, Chief Electrical Engineer of the Port Authority of New York and New Jersey.

About The Talk

A blast occurred in the B2 level at the south side of the World Trade Center in New York City on Friday, February 26, 1993. The powerful bomb ripped out sections of three structural slabs and their

columns in the basement levels under the Vista Hotel, and under the space between the hotel and the two towers.

This explosion raised important questions about the vulnerability of attack on public buildings. And since the blast knocked out most power and emergency systems trapping occupants for several hours, it also raised questions about the design of electrical power systems and vital life safety systems.

Don't miss the opportunity to hear Mr. Buchsbaum report on how the restoration of the World Trade Center was accomplished so fast. See his fascinating slides and video of the disaster. Listen to his amazing story of the cooperation that existed among suppliers, law enforcement authorities, manufacturers, utilities, and departments within the Authority.

Hear Mr. Buchsbaum tell his miraculous story and pick up a few hints and ideas for your own implementation, should you ever be faced with having to "get back up" quickly.

About The Speaker

Jack A. Buchsbaum, P.E., directs a staff of 100+ Electrical and Electronics Engineers in the design of capital projects for all of the Port Authority facilities including Kennedy, LaGuardia and Newark Airports, the Lincoln and Holland Tunnels, the George Washington, Bayonne, Outerbridge and Goethals Bridges and the World Trade Center. A Professional Engineer in New York, New Jersey and Maryland, Mr. Buchsbaum is a graduate of the CCNY School of Engineering and has over 24 years of experience in the public and private sectors. He is a senior member of the IEEE and a member of the NSPE.

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 7:00 PM.

Time: 7:00 PM, Thursday, October 21, 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.

North Jersey MTT/AP: Review Of Modern Filter Technology

On October 21, 1993 the IEEE North Jersey Section MTT/AP Chapter will present "A Review Of Modern Filter Technology." The speaker will be Dr. Richard V. Snyder of RS Microwave Co. Inc.

About The Talk

"FILTER: a device or material for suppressing or minimizing waves or oscillations of certain frequencies"...per Webster. Such a short definition to describe the myriad of techniques and tricks which pertain! All microwave components or systems exhibiting Q values of greater than 1 are in fact filter networks. Circulators, switches, mixers, amplifiers, etc. include "imbedded" matching and filtering properties which must be incorporated into the design.

At least three fundamental changes have had, are having, or very well could have significant impact on filter design and realization. These impact items are the desktop computer, active implementations of passive designs, and superconductivity. On top of these, a host of smaller developments in efficient network design (generalized cross-coupling, use of three dimensional coupled networks), dielectric resonators and materials, processing capability, machining precision, nanotechnology, surface mount technology and others have emboldened the filter designer to seek better performance, smaller size and reduced manufacturing cost. As digital circuits increase in speed and complexity, a fourth major change area is likely to impact the design of RF filters, which have traditionally been analog in implementation.

About The Speaker

Richard V. Snyder is the President and founder of RS Microwave, a well-known manufacturer of RF and Microwave filters. He is the author of numerous papers on the subject of filters and couplers and the holder of 11 patents. He was 1992 IEEE North Jersey Section Chairman and is Chapter Chairman for the MTT and AP Societies. He is a reviewer for several MTT publications, teaches various filter and network courses and serves MTT-ADCOM on special assignments.

All Welcome

Members and guests interested in the subject are invited. Refreshments will be served. Reservations are not required for this meeting.

Time: 7:00 PM, Thursday, October 21 1993.

Place: ITT Avionics, 100 Kingsland Road, Clifton, N.J. (New auditorium across from Tower.)

Information: Dick Snyder (201) 492-1207; Gary Fontaine (201) 284-3068; Willy Schmidt (201) 492-0371.

IEEE North Jersey Section Seminar TECHNICAL WRITING FOR ENGINEERS

Tuesdays, October 12 - December 14, 1993 - 6:30-9:00 PM
JCP&L Co., 300 Madison Ave., Morristown, N.J.

The North Jersey Section IEEE is offering an evening course entitled "Technical Writing for Engineers." This course is structured as five modules delivered in eight 2.5 hour sessions. The instructional approach adheres strictly to an objective-driven format. Each module is geared to a Terminal Objective and several supporting Enabling Objectives.

An Evaluation exercise is completed by the Participant at the end of each module. Each Evaluation challenges the Terminal Objective of the module.

The course is taught by alternating 20-35 minute lecture segments with hands-on exercises. The exercises are provided on typeset handouts, complete with tables, graphs, illustrations, photos, etc. Work Aids accompany each exercise to provide necessary reference materials, standards, formats, procedures, etc.

Lectures are supported by overhead transparencies. Hardcopies of session overheads will be distributed to the Participants before each session.

Instructor: David S. Greenspan of Montville Data Services, Pine Brook, N.J.

Session 1 & 2 - Module 1

Fundamentals of Technical Writing: Introduction; Elements of a Technical Writing Project; Technical Writing Principles.

Session 3 & 4 - Module 2

Contract Solicitations, Specifications, and Proposals: Writing Contract Solicitations, Work Statements and Requests for Proposals; Writing Technical Specifications; Developing Proposal Strategies; Proposal Writing Principles; Standard Proposal Structures.

Session 5 & 6 - Module 3

Technical and Procedures Manuals: Writing Technical Manuals; Writing Procedures Manuals.

Session 7 - Module 4

Technical Reports and Articles: Writing Technical Reports; Writing Technical Articles.

Session 8 - Module 5

Promotional Technical Writing: Writing Technical Copy for Brochures and Catalogs; Preparing Effective Technical Presentations.

Class size will be limited to a maximum of 15 with a minimum registration of 12. Early registration is recommended. Phone reservations will **NOT** be accepted. Reservations accepted after October 6, 1993 will require an additional late fee of \$25.

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

When: 8 sessions, Tuesday evenings, starting October 12, 1993 6:30-9:00 PM.

Cost: IEEE Members \$200; non-IEEE Members \$280.

Contact: Mr. John A. Baka at (201) 455-8534 (Business)

Registration "Technical Writing for Engineers"

To: Mr. John Baka, Distribution Engineering, Jersey Central Power & Light Co.,
300 Madison Ave., Morristown, N.J. 07962-1911.

Name _____ IEEE No. _____

Affiliation _____ Phone No. _____

Address _____

Please enclose required fee made payable to "North Jersey Section IEEE"



IEEE VIDEOCONFERENCES SEMINARS VIA SATELLITE

North Jersey Section & NJIT Student Chapter 2020 Vision: The Information Era

On October 28, 1993, the sixth videoconference of the year sponsored in conjunction with the NJIT Student Chapter, will be "2020 Vision: The Information Era." The presenters will be Irwin Dorros, Howard N. Miller and Paul Saffo. The three presenters are visionaries from the telecommunications, television and computer industries.

About The Videoconference

This videoconference will take attendees to the engineering future and give them a view of the information era in the year 2020 and beyond. Telecommunications, computing, and entertainment are merging into one "information industry" due to the digital revolution and other enabling technologies. The possibilities brought about by easy access to information will change all facets of our daily lives.

About The Presenters

The lead presenter will be Irwin Dorros of Bell Communications Research (Bellcore). As Vice President of Technical Services, Dr. Dorros is responsible for all technical activities, comprising applied research, systems engineering and software development, on behalf of the seven regional Bell companies. Dr. Dorros has led the creation of the technical services portion of Bellcore and has guided the execution of its programs. Bellcore's role now is recognized as a key technical resource to the Bell exchange carries and to the industry.

The second presenter will be Howard N. Miller, Senior Vice President, Broadcast Operations, Engineering and Computer Services for the Public Broadcasting System (PBS). He is responsible for operating public television's satellite interconnection system, overseeing the computer services department, and directing the satellite replacement project. He is also responsible for pro-

viding technical leadership and support for, as well as sponsoring technical innovations on behalf of the 346 public television stations throughout the US.

The final presenter will be Paul Saffo, Research Fellow of the Institute for the Future. The Institute is a 25 year-old not-for-profit management consulting foundation that provides long-range planning and forecasting services to Fortune 100 companies and government agencies. A specialist in long-term commercial impacts of new information technologies, Paul devotes much of his time to making sense of structural shifts occurring at the intersections of the computer, consumer electronics, and communications industries.

Next Videoconference

The next and last videoconference in the 1993 series will occur December 2nd on "Engineering Applications For Monte Carlo And Other Simulation Analyses" which will show how to apply Monte Carlo Analysis at two levels: 1. in the design of analog, digital and radio frequency/microwave systems, and 2 in the determination of circuit/system sensitivities. The lead presenter will be Dr. Sam Savage of Stanford University. The venue will also return to FDU, Hackensack.

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.

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 Guttenburg InfoTech building at NJIT is otherwise fully accessible to the handicapped.**

Time: 12 Noon - 3 PM, Thursday, October 28, 1993. Participants should plan to arrive by 11:30 AM to check-in and pick up their set of conference notes.

Place: Room 1400, Guttenburg Information Technologies Bldg., NJIT, Newark, N.J. **The lecture hall and rest rooms are handicapped accessible.**

Parking: Arrangements are being made for attendees to have access to one of the nearby parking lots. Check the October newsletter for details.

Directions: The Guttenburg InfoTech building is located at the corner of Central Avenue and Lock Street, with the main entrance on Bleeker Street (south side of building). Bleeker Street is closed to vehicular traffic.

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

Metro EMBS: Election Of Officers

The Engineering in Medicine and Biology Society (NY/NJ/LI Chapter) announces Election of Officers for 93-94 at the meeting on September 23, 1993. Listed below are the officers who are running for re-election as well as nominations for new officers received as of July 28th. Nominations will still be accepted up to the election meeting and at the meeting. For positions with more than one candidate running, the candidates will be asked to briefly state their qualifications and their goals. Members interested in serving on the Board of Advisors now being formed, please come to the meeting.

| | |
|------------------|----------------|
| Chairman: | Joel H. Levitt |
| Vice Chairman: | Sol Manbar |
| Secretary: | Andrew Baxt |
| Treasurer: | Joe Bogovic |
| Member-at-Large: | Susan Baxt |

See meeting notice elsewhere in this newsletter for details of the talk on "Electronics And The Environment."

IEEE North Jersey Section Seminar Object-Oriented C++ Programming

Thursdays September 30 - December 9, 1993 6:30-9:00 PM
Jersey Central Power & Light Co., 300 Madison Avenue, Morristown, N.J.
& GEC Marconi, Totowa Road, Totowa, N.J.

The North Jersey Section is offering an evening course entitled "Object-Oriented C++ Programming." Object-Oriented programming has been described as the biggest advance in computer programming since the creation of higher level languages 30 years ago. Instead of focusing on functionality (what the programs do) it focuses on the natural objects comprising the problem and how they, and their capabilities, are modeled in the program. C++ is, by far, the most widely used language today for object-oriented design and programming. This course will cover both the concepts of OOD and their implementation in C++ code. The course will begin with a review of common aspects of C and C++ but this time will be too brief to learn C. **THEREFORE ONLY THOSE WHO ARE FAMILIAR WITH C SHOULD REGISTER FOR THE C++ COURSE.**

There will be 9 weekly lectures and homework will be assigned and corrected. The topics listed below will be covered. The instructors are Dr. Edward (Ted) Byrne, owner of a software consultant business, and Dr. Donald Hsu, Professor of Business Administration at Dominican College, Orangeburg, NY.

- (1) - Review common elements of C and C++: punctuation and keywords, variable naming, typing and scope, functions and subfunctions, arguments, operators and assignments, conditionals and logical variables, looping and testing, handling text strings, arrays and structures, pointers.
- (2) - Concept of Object-Orientation: objects and classes of objects, methods and messages, encapsulation and abstraction, overloading of functions and operators, inheritance and polymorphism.
- (3) - C++ improvements to C: new commands and operators, comments, stream I/O, function prototypes, more explicit typing and linking.
- (4) - C++ implementation of objects: what is a C++ object, data and method functions within an object, public, private and friend, static and dynamic objects, constructors and destructors.
- (5) - Encapsulation and abstraction within C++ objects: references and aliases, scope control operator, 'this' object, overloading, functions, operators.
- (6) - Inheritance and polymorphism among C++ objects: parent class or object, extending classes, redefining object data and methods, multiple inheritance, templates.
- (7) - C++ I/O streams: standard I/O, formatted I/O with manipulators, disk and device I/O.
- (8) - C++ library classes and their use: characteristics of a good library class, conversion base classes, video base classes, window base classes, database base classes.
- (9) - Overall program structure with C++ objects: how to lay out a C++ program, how to reuse classes in a program, how to test and evolve a C++ program, how to find errors and debug C++ object programs.
- (10) - Object-Oriented design methodologies: Booch method, Coad Yourdon Nicola method, Shlaer Mellor method.

The Thursday class will be limited to a maximum of 20 with a minimum registration of 15. Early registration is recommended. Phone Reservations will not be accepted. Reservations accepted after September 15, 1993 will require an additional late fee of \$25. No reservations will be accepted after September 22, 1993.

Where: Jersey Central Power & Light Co., 300 Madison Avenue, Morristown, N.J.
& GEC Marconi, Totowa Road, Totowa, N.J.
When: Nine sessions, Thursday evenings, starting September 30, 1993, 6:30 PM to 9:00 PM.
Cost: With Text Books and Borland Turbo C++ Compiler, IEEE Members \$280; non-IEEE Members \$360.
With Text Books only, IEEE Members \$200; Non-IEEE Members \$280.
Contact: Mr. John A. Baka at (201) 455-8534 (Business)

Registration "Object-Oriented C++ Programming"

To: Mr. John Baka, Distribution Engineering, JCP&L Company, 300 Madison Avenue, Morristown, NJ 07962-1911

Name _____ IEEE No. _____

Affiliation _____ Phone No. _____

Address _____

Check if Borland Turbo C++ Compiler is needed or not Yes [] No []

Signature _____

Enclose required fee made payable to "North Jersey Section IEEE"

IEEE North Jersey Section Seminar "Introductory C Programming"

Wednesday Evenings, September 29 - December 8, 1993
6:30-9:00 PM

Jersey Central Power & Light Co.,
300 Madison Avenue, Morristown, N.J.

The North Jersey Section is offering an evening course entitled "Introductory C Programming." C is one of the most widely used computer programming languages because it is powerful, portable and permissive. It is also the basis for C++, the popular object-oriented programming language. This course will be an introduction to C and will cover all the basics of the language as well as emphasizing C's philosophy or world view. The course will cover ANSI C on the PC but, because there are C compilers for most computers, the expertise will be applicable from PC through mainframe. The C techniques learned will be useful on their own, and also will be a preparation for either an advanced C course or a C++ course. There are plans to offer both in the future.

There will be 8 weekly lectures and each will be followed by a short optional work session. Homework will be assigned and corrected. The topics listed below will be covered. The instructor is Dr. Edward (Ted) Byrne, owner of a local software consultant business.

- (1) - Background of computers, operating systems, compilers and high-level languages.
- (2) - Introduction to C and the parts of a real C program: philosophy of C vs other languages, ANSI vs older C nature and constituents of a simple C program, C program examples (ongoing).
- (3) - Reserved words, variables, declaration and definition, parameters, permanent, temporary, local and global data.
- (4) - Branching: simple and compound statements, relational operators and expressions and their use in branching, various kinds of branch statements.
- (5) - Loops and Conditions: various ways to enter and exit a loop, auto-incrementing, statement labels, goto.
- (6) - Formatted and character I/O: output to screen, input from keyboard, formatting, file and device input and output.
- (7) - Defensive programming and debugging: debugging levels, asserts, lint, case tools.
- (8) - Functions, subfunctions and arguments: names, arguments, return value, main program arguments, exit, return levels.
- (9) - Text and Libraries: character data type, string data type, characteristics of strings, libraries, and header files, #include statement, common functions, #define.
- (10) - Groups of similar and dissimilar data items: arrays, structures, indexing, items.
- (11) - Introduction to pointers: concept of a pointer, addresses, pointer arithmetic, indirection.
- (12) - Introduction to some advanced topics in C: touch on graphics, unions and enums, casts, typedefs, bit variables and operators, switch statement and case and default, conditional assignment.

Class Size will be limited to a maximum of 25 with a minimum registration of 15. Early registration is recommended. Phone Reservations will not be accepted. Reservations accepted after September 15, 1993 will require an additional late fee of \$25. No reservations will be accepted after September 22, 1993.

Where: Jersey Central Power & Light Co., 300 Madison Avenue, Morristown, N.J.
When: Eight sessions, Wednesday evenings, starting September 29, 1993 from 6:30 PM to 9:00 PM.
Cost: With Text Books and QuickC compiler, IEEE Members \$275; non-IEEE Members \$350.
With Text Books only, IEEE Members \$ 200; Non-IEEE Members \$275.
Contact: Mr. John A. Baka at (201) 455-8534 (Business)

Registration "Introductory C Programming"

To: Mr. John Baka, Distribution Engineering, JCP&L Company, 300 Madison Avenue, Morristown, NJ 07962-1911

Name _____ IEEE No. _____

Affiliation _____ Phone No. _____

Address _____

Check if QuickC Compiler is needed or not Yes [] No []
Enclose required fee made payable to "North Jersey Section IEEE"

Signature _____

IEEE AWARDS RECEPTION

**North Jersey
Section
October 22, 1993
Birchwood Manor**

A time to relax, unwind and enjoy

**A time to pay tribute to our
New Fellows —**

**A time to honor our new
Senior Members —**

**YES it's time for the
Annual Section Reception**

The Annual Section IEEE Awards Reception will be held this year again at the Birchwood Manor in Whippany. The affair is scheduled for Friday evening, 7 - 9 PM, October 22, 1993. Tickets are \$25.00 each and this includes a complete prepaid, two-hour open bar, hors d'oeuvres, buffet, and dessert. Spouses and all guests are welcome.

Reservations required by October 12, 1993. Complete the reservation form below and return it with your payment. If any additional information is required concerning the Reception, contact Anne Giedlinski at 455-8556.



IEEE-IAS and PES Chapters, NJ Section Seminar on "Reliability Assessment - An Essential Ingredient of Managing Quality and Cost"

Date: Saturday, October 23, 1993 - 9AM - 2PM (Registration 8:30-9:00 AM)
Place: Meadowlands Hilton, Two Harmon Plaza, Secaucus, NJ 07094
Phone: (201) 348-6900

On Saturday, October 23, 1993 the IEEE North Jersey Section Power Engineering and Industry Application Society Chapters will host a panel seminar on the fundamental techniques dealing with Reliability Assessment and its crucial role to manage quality and cost of complex electrical equipment and systems forming an integral part of Industrial/Commercial/Utility power distribution system.

Equipment failures are major causes and contributors to the degradation of electrical plant/system performance leading up to increased product costs and reduction in quality of the process. The symposium will focus on the basic concepts that the engineers need to understand and the various techniques that will be used for making reliability assessment with the objective of improved plant capacity factors, quality of service and maintenance.

WHO SHOULD ATTEND: Electrical Plant Design Engineers, Maintenance Engineers, Electrical Substation/Distribution Engineers and Plant Power System Planners.

The seminar will be given by speakers with in depth knowledge and experience covering reliability analyses, reliability centered maintenance and application of reliability techniques to manage quality and costs. R. V. Rebbapragada, Ebasco Services Inc., Chairman of PES North Jersey Chapter and Ken Oexle, Jersey Central Power & Light are the Co-Chairmen for this symposium.

The Seminar will cover the following topics:

| | |
|---|--|
| Introduction: | Mr. Ken Oexle, Chairman, Sr. Member - IEEE JCP&I. |
| Electrical Equipment & Systems. Their contribution to Plant Unavailability and Revenue Loss - An IEEE Std. 493 perspective. | Mr. R. V. Rebbapragada, Sr. Member IEEE Ebasco Services Incorporated |
| Fundamentals and Techniques of Reliability Assessment and Evaluation Benefit | Dr. M. P. Bhavaraju, Fellow - IEEE, PSE&G |
| Reliability Measurement for Management Decision Making | Dr. M. Liechenstein, Fellow-IEEE Integrated Technology Serv. |
| Management and Analysis for Reliability Growth | Dr. L. H. Crow, Sr. Member - IEEE, AT&T Bell Labs |
| Reliability Centered Maintenance, RAM Data Development and Human Reliability Analyses | Dr. R. McFadden Fellow-IEEE, Science Applications International Corporation |
| Models for Managing Cost of Reliability | Dr. R. W. Sears, Sr. Member - IEEE, AT&T Bell Labs |
| Case Study/Example: Reliability Analysis of an Industrial Plant Electrical Distribution System | Mr. R. Bucci, Sr. Member IEEE Ebasco Services Incorporated |

Registration will take place 8:30-9:00 AM. Coffee and Danish will be available. Seminar Speaker Presentations will commence following a brief introduction by Mr. Ken Oexle.

Cost - including materials, morning refreshments and luncheon: \$195 for Non-Members, \$150 for IEEE Members, and \$50 for students with valid I.D. All registered attendees will receive a complimentary copy of IEEE Std. 493, "Design of Reliable Industrial and Commercial Power Systems."

To reserve your place, make check or money order payable to "IEEE-North Jersey Section" and mail it to Vittal Rebbapragada, Ebasco Services Inc., 1280 Wall Street West, Lyndhurst, NJ 07071, to reach on or before 10/8/93.

For further information and or late registration contact Vittal Rebbapragada (201) 804-2011; Ken Oexle (201) 455-8481. For Directions to Meadowlands Hilton call (201) 348-6900

Use this form for Reception reservations enclosing a stamped self-addressed envelope. **Reservations required by October 12, 1993.** Mail reservation request to:

Anne Giedlinski
299 Brooklake Road
Florham Park, NJ 07932

Enclosed is _____ Please forward _____ tickets at \$25.00 each (make checks payable to **North Jersey Section IEEE**) to:

Name: _____

Address: _____

Zip: _____