

IEEE
North Jersey Section Seminar
ADVANCED C LANGUAGE PROGRAMMING

Tuesday or Thursday Evenings, Starting September 25, 1990
Jersey Central Power & Light Co.,
Madison Avenue & Punch Bowl Road, Morristown, N.J.

The North Jersey Section is offering two evening classes (Tuesdays or Thursdays) for a course titled "Advanced C Language Programming." The course will focus specifically on the Microsoft QuickC compilers, on the IBM PCs and compatible computers with DOS.

The lecture will cover intermediate to advanced C programming techniques that will help experienced C programmers apply real world applications.

Students will be given assignments to do on their own IBM PC or compatible, if one is available; either at home or on the job. A **Microsoft QuickC compiler** and **two text books** will be supplied.

Prerequisites: The student should be familiar with the C Language.

The instructor is Mr. Tuan Q. Nguyen, a Systems Engineer at Jersey Central Power and Light Company.

The following list of topics to be covered will take place over 14 sessions:

(1) **Advanced C Warmup** - Basic Pointers; Function Basics; Array-Processing Functions; Functions and Strings; Functions and Two-Dimensional Arrays; Storage Classes; Function Scope; Pointers to Functions. Summary.

(2) **Binary and Text File I/O** - Text Files and Binary Files; Command Line Arguments; Low-Level I/O; Low-Level File Creation; Buffered I/O and the Standard I/O Package; Standard Files and Redirection: More Functions from the Standard Package. Summary.

(3) **Integer Forms and Bit Operations** - Integer Types; Integer Conversions and Sign Extension; Bit Operations; Using Bitwise Operators: Flag Work; Bit Fields. Summary.

(4) **Common I/O Problems and Solutions** - Buffers and Echoes; Interactive Programming; Interactive String Input; Cursor Control; Cursor Control and Interrupts. Summary.

(5) **Using Your PC's Memory** - Memory Models and Segments; Dynamic Memory Allocation; Video Memory. Summary.

(6) **Standard Library Functions** - File Permissions; Checking Files and Reporting Problems; Time with Time() ; Interrupt Handling; Signal() ; Environment; Conversions; Deleting Files; Unlink() ; Process Control: System() , Exec() , and Sprawn() ; More File-Related Functions; Setmode() , Fileno, and Fdopen() ; Text Processing with the Ctype Family; Text Processing with String Functions; Performing Math Operations. Summary.

(7) **IBM-Specific Facilities** - B10S Calls; DOS Interrupts; Ports; Inp() and Outp() . Summary.

(8) **Test and Graphic Displays** - Revisiting the Video Displays; The Color/Graphics Adapter; More B10S Calls; Revisiting Interrupt 10H; Nontext Use of the Graphics Mode. Summary.

(9) **Reaching into Memory** - Segmented Memory; Using Far Pointers; Buffer Functions; Direct Memory Access in the Text Mode. Summary.

(10) **Sorting and Searching** - Sorting; Searching.

(11) **Queues, Stacks, Linked Lists, and Trees** - Queues; Stacks; Linked Lists; Binary Trees.

(12) **Dynamic Allocation** - The C Dynamic Allocation System; Sparse-Array Processing; Choosing an Approach; Reuseable Buffers; The "Unknown Memory" Dilemma; Fragmentation.

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 11, 1990 will require an additional **late fee** of \$25.

Where: Jersey Central Power & Light Co., Madison Ave. & Punch Bowl Rd., Morristown, N.J.

When: Two Classes. Tuesday Evenings 6:30-9:00 PM and Thursday Evenings 6:30-9:00 PM. Fourteen sessions starting September 25, 1990.

Cost: With Text Books and QuickC compiler, IEEE Members \$270; non-IEEE Members \$345.

With Text Books only, IEEE Members \$200; Non-IEEE Members \$275.

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

Registration "Advanced C Language Programming"

To: Mr. John Baka, Distribution Engineering, JCP&L Company, Madison Avenue at Punch Bowl Road, Morristown, NJ 07960

Name _____ IEEE No. _____

Affiliation _____ Phone No. _____

Address _____

Course Date Preference: Tuesday _____ Thursday _____

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

Signature _____



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

*IEEE North Jersey MTT/AP &
New York I&M Society:*
**Nonlinear Noise
Model For MesFETs
And MM-Wave**

The New Jersey MTT/AP and NY/LI/North Jersey joint Instrumentation and Measurement Society will meet on September 6, 1990. The topic will be "New Nonlinear Noise Model For MesFETs Including MM-Wave Application." The speaker will be Dr. Ulrich H. Rohde.

About The Talk

This talk will cover a linearized time-domain approach for calculating the dynamic elements of the hybrid Pi, HesFET model. These elements in the traditional linear model have been used to calculate the noise correlation matrix. The model then supplies the required four-noise parameters. F_{min} , G_{opt} , and R_n . A novel enhancement to the basic equivalent circuit quarantees its use into the MM-wave area. This enhancement consists of an additional time delay in the drain source conductance G_{ds} . This approach has been incorporated into a simulator for the purpose of verification.

Members and guests interested in the subject are invited to attend.

About The Speaker

Ulrich L. Rohde is President of Compact Software and a partner of Rohde & Schwarz, Munich, West Germany, a multinational company specializing in test equipment and advanced communications systems. Previously, he was the business area director for Radio Systems of RCA, Government Systems division, Camden, N.J., responsible for implementing communications approaches for military secure and adaptive communications. Having studied electrical engineering and radio communications at the universities of Munich and Darmstadt, West Germany, he holds a PhD in electrical engineering and an ScD (hon.) in radio communications.

Presently he holds the position of research professor at New Jersey Institute of Technology, Dept. of Electrical Engineering. As a professor of electrical engineering at the University of

Florida, Gainesville, Dr. Rohde has taught radio communications courses, and as an adjunct professor on the faculty of George Washington University, he has given numerous lectures world-wide on communications theory and digital frequency synthesizers. Dr. Rohde has published more than 40 scientific papers in professional journals as well as three other books: "Communications Receivers: Principles and Design," McGraw Hill, 1987; "Digital PLL Frequency Synthesizers: Theory and Design," Prentice-Hall 1983; "Transistoren bei hoechsten Frequenzen," in German, 1965, (on microwave transistors). His latest book, "Microwave Circuit Design Using Linear and Nonlinear Techniques," with co-authors George Vendelin and Anthony M. Pavoio was published by John Wiley & Sons, N.Y., January 1990.

Pre-Meeting Buffet Dinner

There will be a free buffet dinner for attendees in the lobby commencing at 6:00 PM. **Reservations for the complimentary dinner are required.**

Time: 7:30 PM, Thursday, September 6, 1990. (Buffet starting 6:00PM.)

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

For Reservations and Questions: Dick Snyder (201) 492-1207; Willie Schmidt (201) 284-2255.

**Power System
Reliability
Evaluation**

The North Jersey Chapter of the Reliability Society will meet on September 19, 1990 to hear a talk on "Reliability In Public Service Power Systems." The speaker will be Dr. Murty P. Bhavaraju, Public Service Electric and Gas Company of New Jersey.

About The Talk

The talk will describe the concepts and methods used to evaluate electric power system reliability. Probabilistic methods for reliability assessment of bulk power transmission systems will be discussed.

About The Speaker

Dr. Bhavaraju received his BE (Hons) (1961) from Andhra University, India, his ME (1963), from the Indian Institute of Science and an MSc and PhD (1969), from the University of Saskatchewan, Canada. He is a registered professional engineer in New Jersey and has been with Public Service and Gas Company of New Jersey since 1969. He is currently Least Cost and Reliability Manager in the Transmission Systems Department. During 1978-79 he was on loan to the Electric Power Research Institute where he initiated several important research projects in power system reliability. From 1985 to 1987 he was a member of the North American Electric Reliability Council, Reliability Criteria Subcommittee, representing the mid-Atlantic region. He is a member of the System Reliability Task Force in the Pennsylvania-New Jersey-Maryland Interconnection of the Council.

Dr. Bhavaraju has authored more than 30 technical papers in power system reliability and system planning. He is a member of CIGRE, a Fellow of IEEE and a member of the IEEE Probabilistics Subcommittee. He was the Chairman of the IEEE Power System Engineering Committee during 1988-89.

Free Buffet

A free buffet will be provided starting at 6:00 PM, on a first-come-first-served basis.

Time: 7:00 PM, Wednesday, September 19, 1990. (Buffet starting at 6:00 PM.)

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

Further Information: Henry Moss (201) 785-6458.

SEPTEMBER, 1990

SEPTEMBER 1990
Volume 37, Number 3

Publication No: USPS 580-500
The North Jersey Section's "The IEEE Newsletter" is published monthly except June by The Institute of Electrical and Electronics Engineers, Inc. Headquarters: 345 East 47th Street, New York, N.Y. 10017-2394. \$1.00 per member per year (included in annual dues) for each member of the North Jersey Section. Second-class postage paid at New York, N.Y. and at additional mailing offices. Postmaster send address changes to: "The IEEE Newsletter," 445 Hoes Lane, P.O. Box 1331, Piscataway, N.J. 08855-1331. USPS 580-500.

NEWSLETTER STAFF
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Deadline for receipt of material is the 1st of the month preceding the month of publication. All communications concerning editorial and business matters, including advertising, should be addressed to: The Newsletter, c/o Girard Associates, Inc., 6 Robert Terrace, Mt. Arlington, N.J. 07856 (201) 398-5524.

REPORT ADDRESS CHANGES TO:
IEEE Service Center
445 Hoes Lane, P.O. Box 1331
Piscataway, N.J. 08854-1331
(201) 981-0060

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

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579-1610
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Jr. Past Chairman..... Howard Leach, Jr.

The North Jersey Section Executive Committee meets the first Wednesday (except holidays and December) of each month at 7 PM. These meetings (held at ITT, 500 Washington Ave., Nutley, N.J.) are open to all members. Information on each meeting agenda is available from David A. Dietsche, Section Secretary at (201) 579-1610.
Elected Section Officers are listed above.

North Jersey Section Activities
SEPTEMBER
September 6, 1990--"New Nonlinear Noise Model For MesFETs Including MM-Wave Application"--IEEE North Jersey MTT/AP and NY I&M Society Joint Chapter Meeting 7:30 PM, ITT, Tower Auditorium, 500 Washington Ave., Nutley, N.J. Dick Snyder (201) 492-1207.

September 11—"Writing And Your Consulting Career"--IEEE New York Section Consultants' Network, 7:00 PM, Con Edison, 4 Irving Pl., 14th Floor, NYC. For details call Jim Wetterau (212) 321-1999.

September 12--"Future Trends In And Evolutions Of Lithotripsy"--IEEE Metropolitan Section Engineering in Medicine and Biology Society, 7:30 PM, Rockefeller University, Tower Bldg., Room 305, 1200 York Avenue, NYC. Robert Heyman (914) 631-2600.

September 13—"Professional Needs—Can IEEE Deliver?"--North Jersey Section PACE, 7:30 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Robert Sinusas (201) 228-3941.

September 18--"Building A Quality Driven Project Team"--NY/North Jersey Engineering Management Society, 7:00 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Al Bottani (201) 265-7797.

September 19--"Power System Reliability Evaluation"--North Jersey Chapter Reliability Society, 7:00 PM, ITT Avionics Auditorium, 500 Washington Ave., Nutley, N.J. Henry Moss (201) 785-6458.

September 22--"Symposium: Reliability and Risk Assessment (RA) of Industrial Utility Systems"--IEEE North Jersey Section Industry Application Society, 9:00 AM-2:00 PM, Saturday, ITT Clubhouse, 417 River Road, Nutley, N.J. Vittal Rebbapragada (201) 804-2011.

September 25--"Seminar: Advanced C Language Programming"--North Jersey Section, Two classes, Tuesday & Thursday Evenings (14 Sessions), 6:30-9:00 PM, JCP&L Co., Madison Ave. at Punch Bowl Rd., Morristown, N.J. John Baka (201) 455-8534 (Business).

Sept. 25-Dec. 4--"10-Week Seminar: Advanced Microwave Component Design"--North Jersey Section IEEE, Tuesdays, 6:30-9:00 PM, ITT-Avionics, Auditorium or Clubhouse, Nutley, N.J. John Baka (201) 455-8534.

Sept. 26-Dec. 12--"Accent and Speech Improvement Course"--North Jersey Section IEEE, Wednesdays 6:30-9:00 PM, JCP&L Co., Madison Ave., & Punch Bowl Rd., Morristown, N.J. John Baka (201) 455-8534.

Upcoming Meetings

October 11--"Leading Edge Career Management"--North Jersey Section PACE, 7:30 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Robert Sinusas (201) 228-3941.

October 17--"Gas Insulated Switchgear (GIS)"--North Jersey Section IEEE Power Engineering Society, 7:30 PM, JCP&L, Punch Bowl Road and Madison Ave., Morristown, N.J. Augie Franzoni (201) 926-6923.

October 22-24--"International Conference: Directions In Electromagnetic Wave Modeling"--Weber Res. Inst of Polytechnic University, IEEE AP and MTT Societies and US National Committee of URSI, Penta Hotel, Manhattan. For details call Ann Drury (516) 755-4310.

October 23--"Software Reliability Engineering For The Development Managers"--NY/North Jersey Engineering Management Society, 7:00 PM, ITT, 500 Washington Ave., Nutley, N.J. Al Bottani (201) 265-7797.

November 14--"HighTech P/CWorkstation Applications Conference"--North Jersey Section and United Societies of Engineering & Science of New Jersey, Inc. (USES), 9:00 AM-8:00 PM, Governor Morris Inn, Morristown, N.J. Dave Perry (201) 325-8415.

December 6--"Non-Linear GaAsFET Modeling, A Mixture Of Art And Science"--North Jersey MTT/AP Chapter, 7:15 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Dick Snyder (201) 492-1207.

Members, Student Members and
Non-Members Welcome
PLEASE POST

IEEE
North Jersey Section Seminar
ADVANCED
MICROWAVE COMPONENT DESIGN

Tuesdays 6:30-9:00 PM - September 25-December 4, 1990
ITT-Avionics Auditorium or Clubhouse, Nutley, N.J.

This evening course offered by the North Jersey Section IEEE, is designed for those graduate Electrical Engineers who have taken the IEEE Introductory Microwave Component Design course (or the equivalent), and who are working in the microwave design field.

The course will go into depth in the particular combination of electromagnetic and network theory that is required for efficient passive and active microwave component design. Design problems will be assigned each week. Familiarity with PC usage is helpful but not required; however, the student will use matrix combination in the design process. Equivalent circuits will be developed that will be both network and E-M based. These will form the basis for the various designs of filters, couplers, ferrite and other non-reciprocal active and passive devices. Design philosophy will cover the frequency range from 1 MHz well into the millimeter region.

The instructor is Dr. Richard V. Snyder, RS Microwave (201) 492-1207.

- (1) September 25 - Review of electromagnetic wave theory, including temporal and spacial field variations as applicable to the "innards" of components.
- (2) October 2 - Scattering and other linear matrices, including mathematical theory and application to characterization of resonators, obstacles and structures.
- (3) October 9 - Chaining and cascading multiport networks. Application of equivalent circuit principles to lumped and distributed situations. Local equivalent circuits. Lumped networks coupled with field variables.
- (4) October 16 - Filter design from the lumped equivalent circuit point-of-view. Network transformations.
- (5) October 30 - Filter design from the distributed circuit point-of-view, including combination of lumped and distributed variables. Principles of optimization applied to active and passive filter design.
- (6) November 6 - Evanescent mode components, effects of dissipation, various printed structures. More optimization.
- (7) November 13 - Multiplexing. Common junction combinatory techniques, including crossover at less than 3 dB points. Active multiplexing.
- (8) November 20 - Coupled line principles. Directional couplers, hybrids, power dividers, magic tee, quadrature couplers, etc. Lumped and distributed versions of various coupled structures.
- (9) November 27 - Principles and equivalent networks for various ferrite and other non-reciprocal devices, including the principles of active circulators.
- (10) December 4 - Review and question week (topics of the day).

Class size will be limited to 35 maximum. Early registration is recommended. Phone reservations are NOT accepted. The course will not be held unless 15 registrations are received. Class notes handed out each week. Text: "Evanescent Mode Microwave Components," George Craven and Richard Skedd, Artech Books.

Where: ITT - Avionics Auditorium or Clubhouse, Nutley, N.J.
When: Ten sessions, Tuesday nights, starting September 25, 1990 from 6:30 PM to 9:00 PM.
Cost: IEEE Members \$175 (registration received by Sept. 7, 1990); non-IEEE Members \$250 (registration received by Sept. 7, 1990). Texts 1 and 2 included in the cost.
Contact: Mr. John A. Baka at (201) 455-8534 (Business)

Registration "Advanced Microwave Component Design"
To: Mr. John Baka, Distribution Engineering, Jersey Central Power & Light Co., Madison Ave. at Punch Bowl Rd., Morristown, N.J. 07960

Name_____ IEEE No._____

Affiliation_____ Phone No. _____

Address_____

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

North Jersey MTT/AP:
Nonlinear GaAsFET
Modeling—
Art And Science

On December 6, 1990 the North Jersey IEEE MTT-AP Chapter meeting will feature a talk on "Nonlinear GaAsFET Modeling, A Mixture Of Art And Science." The speaker will be Dr. Walter R. Curtice, W.R. Curtice Consulting, Princeton Junction, New Jersey.

About The Talk
It is a significant challenge for micro-wave scientists to develop large-signal models for the GaAsFET's since the models must be simple enough to execute rapidly in circuit simulation software but sufficiently sophisticated to accurately describe the complex behavior of these devices. The purpose of this presentation is to review the nonlinear FET modeling work directed toward development of computer-aided design techniques. Emphasis will be given to microwave applications although FET models for digital circuits will also be described.

The presentation has three major parts: 1. Introduction to active device modeling; 2. Equivalent circuit models: Complexity, calibration, and verification; 3. Applications of GaAsFET models in commercial simulators for the design and optimization of hybrid and MMIC circuits.

About The Speaker
Walter B. Curtice received the BEE, MS and PhD degrees from Cornell University in 1958, 1960, and 1962, respectively. Upon graduation, he joined the Microwave and Power Tube Division of Raytheon as a Senior Research and Development Engineer and participated in microwave tube development programs and experimental and theoretical research on linear-beam and cross-field devices.

In 1973, Dr. Curtice joined RCA Laboratories, Princeton, New Jersey, as a Member of the Technical Staff in the Microwave Technology Center.

Dr. Curtice was Manager of Computer-Aided Design and Modeling at Microwave Semiconductor Corporation, Somerset, New Jersey from April 1987 to December 1988. He became an independent consultant in 1989.

Free Buffet Dinner
There will be a free buffet dinner at 6:00 PM. Reservations for the complimentary dinner are requested.

Time: 7:15 PM, Thursday, December 6 1990.
Place: ITT Auditorium (at the Tower), 500 Washington Ave., Nutley, N.J.
Information/Reservations: Dick Snyder (201) 492-1207; Willie Schmidt (201) 284-2255.

IEEE North Jersey Section Seminar
ACCENT AND SPEECH
IMPROVEMENT COURSE

Wednesdays, 6:30-9:00 PM - September 26-December 12, 1990
Jersey Central Power & Light Co., Madison Ave., & Punch Bowl Rd., Morristown, N.J.

The North Jersey Section IEEE is offering an evening course titled "Accent and Speech Improvement." The format of this course is a combination of four seminars and eight small-group sessions. The 2-1/2 hour seminars will be attended by the entire class. The instructor is Dr. Anita E. Sicroff, Director, Corporate English.

Seminars 1 & 2: Basic principles of American English pronunciation.

Seminar 3:-Planning, chairing, listening, and participating more effectively in meetings.

Seminar 4: Techniques for improving oral presentations.

Small Group Sessions: Students will be divided according to their proficiency into three small work groups for one hour of individualized instruction on weeks 3, 4, 5, 7, 8, 9, 10, and 12.

Objectives: Lasting improvement in comprehensibility, fluency, and accent reduction.

Course Content: Primary focus is on pronunciation, with some attention to grammatical or vocabulary errors that interfere with fluency.

Assignments: Students will be given assignments and expected to make short weekly recordings which the instructor will review and comment on. The purpose of the tapes is to give feedback and monitor progress.

(1) **September 26** - Introduction: What constitutes accent; How it affects communication; How English differs from other languages; An overview of American English Pronunciation; Sounds, Rhythm, stress, & Intonation; Realistic individual goals for a 12-week course; How to practice and improve.

(2) **October 3** - Seminar. Speech organs and the articulation of vowels and consonants; Phonetic symbols; Voicing; Vowel lengthening; Ear training; Guidelines for reading phrases & sentences; Non-verbal language; Placement into groups.

(3) **October 10** - Practice with vowels according to group and individual needs. Stress patterns in compound words.

(4) **October 17** - Consonants and intonation patterns. Practice.

(5) **October 24** - Problem sounds. Rules for pronouncing -ed and -s, -es. Practice.

(6) **October 31** - Review. Pronouncing technical terms. Reading technical material.

(7) **November 7** - Seminar. Observation and videotaping of simulated meeting to discuss a chosen problem. Instructor and participant feedback and critique. Body language. Techniques for interrupting, getting a point across, opening and closing a meeting.

(8) **November 14** - Problem sounds, consonant clusters, and fluency practice.

(9) **November 21** - Contractions, blending, intonation. Practice.

(10) **November 28** - Problem sounds; fluency. How to get a point across in 30 seconds. Practice.

(11) **December 5** - Seminar: Oral Presentation Techniques: How to prepare for the presentation; How to deal with nervousness; Voice projection; position of feet and hands; eye contact; audio-visual aids.

(12) **December 12** - Wrap-Up. Small groups: individual short talks. Feedback from group to instructor and from instructor to group. Questions answered.

Class size will be limited to a maximum of 12 with a minimum registration of 8. Early registration is recommended. Phone reservations will **NOT** be accepted. Reservations accepted after September 7, 1990 will require an additional late fee of \$25.

Where: JCP&L Co., Madison Ave. & Punch Bowl Rd., Morristown, N.J.

When: Twelve sessions, Wednesday evenings, starting September 26, 1990 from 6:30 PM to 9:00 PM - Small group sessions may run to 9:30 PM.

Cost: IEEE Members \$260 (registration received by Sept. 7, 1990); non-IEEE Members \$335 (registration received by Sept. 7, 1990). Text Book included.

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

Registration "Accent & Speech Improvement Course"

To: Mr. John Baka, Distribution Engineering, Jersey Central Power & Light Co., Madison Ave. at Punch Bowl Rd., Morristown, N.J. 07960

Name _____ IEEE No. _____

Affiliation _____ Phone No. _____

Address _____

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

North Jersey Section-PES:

Gas Insulated
Switchgear

On October 17, 1990 the North Jersey Section IEEE Power Engineering Society will feature a special presentation on "Gas Insulated Switchgear (GIS)." Mr. Arun Arora will be the speaker.

About The Talk

SF₆ Gas Insulated Switchgear offered from 50 to 800 KV by ABB Power T&D Co. Inc., will be discussed. SF₆ GIS has gained worldwide acceptance as a viable alternative to the conventional open type, air-insulated High Voltage (HV) sub-station. Over 20 years of operational experience have established not only the greater reliability of SF₆ GIS over conventional switchgear, but also its lack of maintenance requirements and higher degree of safety. These factors, together with other advantages, such as freedom from all forms of environmental influence, space economy, environmental compatibility, etc., have established the SF₆ GIS to be the economic alternative to conventional open type HV switchgear.

About The Speaker

Mr. Arun Arora received the BSc degree in Electrical Engineering in 1959. He gained extensive experience in power generation, transmission, and distribution systems including transmission lines. He joined GEC (UK) and engineered sub-stations in all phases of work. In 1961, he joined the power plant division of M.A.N. in West Germany and did the electrical systems planning. In 1963, he joined ABB West Germany in the power plant electrical systems planning division and later covered all equipment until transmission end of power plants. Since 1978, he is responsible for the marketing of HV equipment in the U.S, and as of 1986, reponsible for the gas insulated switchgear equipment marketing with close ties to the engineering division.

He served as Secretary and Vice-Chairman of the IEEE PES, Princeton, N.J. and was an active IEEE working group member on surge arresters. He is a member of IEEE, VDE (Germany), and VDI (Germany).

Time: 7:30 PM, Wednesday, October 17, 1990.

Place: Jersey Central Power & Light Co., Punchbowl Room, Punchbowl Road and Madison Ave., Morristown, N.J.

Further Information: Augie Franzoni (201) 926-6923 or Hady Salloom (201) 829-5058.

NY/North Jersey-EMS:

Quality Driven
Teams For The 90s

The New York/North Jersey IEEE Engineering Management Society will meet on September 18, 1990. The topic will be "Building A Project Team Through The Integrated Planning Process." The speaker will be Dr. Deborah Kezsbom, President of MRA Management Resources Inc.

About The Talk

The nineties will be a decade in which we will experience flatter organizations, shorter market windows and an increased demand for leaner and more quality driven teams. Although the term "team" is applied to a variety of situations, the concept as it relates to effective project management continues to evade most team leaders and the very teams they are attempting to build. A project team "is a special designation awarded to a group" only when its members are aware of the nature of their independent roles, and how their respective skills complement their efforts to assure project success. Through participation in the integrated planning process, a group defines its project mission, determines respective tasks, and more importantly becomes a committed team.

In this presentation, Dr. Deborah Kezsbom shares her numerous experiences using this successful integrated planning process with a variety of leading engineering corporations to assure a more comprehensive project system and a more integrated, committed team. Based upon research conducted within several Fortune 500 engineering project teams, Dr. Kezsbom will present a model for applying the integrated planning process to a variety of project situations throughout the engineering industry.

About The Speaker

Dr. Kezsbom advises technical and management teams on Project Management techniques, software systems and implementation strategies. She is an expert in project team building approaches and developing project management systems. Her clients have included AT&T Bell Laboratories, AT&T Communications, 3M, General Instrument, Motorola, and various agencies within the Department of Defense. Dr. Kezsbom has also designed and delivered a variety of public seminars and skill building workshops for NJIT and RPI. She is coauthor of "Dynamic Project Management," a John Wiley publication. Dr. Kezsbom was associate editor for the IEEE Communications Society and responsible for a regular column on engineering management issues. She is a Phi Beta Kappa graduate, an active member of the Project Management Institute and the IEEE.

Refreshments will be available 6:30 to 7:00 PM.

Time: 7:00 PM, Tuesday, September 18, 1990.

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

Information: Al Bottani (201) 265-7797

NY/North Jersey EMS:

1991 Officer Slate

The New York/North Jersey Chapter of the Engineering Management Society ADCOM met on August 8, 1990 and nominated the following slate of officers for the 1991 year:

Chairman: Al Connelly
Vice Chmn./Secretary: Al Messano
Treasurer: Howard Basch

North Jersey Section PACE:

Leading Edge
Career
Management

The North Jersey Section's Professional Activities Committee for Engineers will meet on Thursday, October 11, 1990. The topic at this meeting will be "Leading Edge Career Management" a presentation on what is new in high tech career management. The speaker will be Dr. Nancy Russell

About The Talk

The presentation will cover the newest techniques for career management in the working environment, as well as up-to-date job search strategies. The talk will also touch upon global issues affecting work.

About The Speaker

Dr. Nancy Russell is a vice-president at Manchester, Inc. There she is involved with outplacement, career development, and corporate management development. She is active in the Management Forum which provides guidance and counsel to women in industry. She volunteers her time for career guidance and counsel of adolescents and young adults. She has a private practice in career, life, and work issues. Dr. Russell holds a PhD in Counseling Psychology from Fordham University and in 1988 she received the "Tribute to Women in Industry" Award.

Members and non-members are welcome.

Time: 7:30 PM, Thursday, October 11, 1990.

Place: ITT Auditorium (by the Tower), 500 Washington Avenue, Nutley, N.J.

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

NY/North Jersey-EMS:

Managing Software
Reliability
Engineering

The New York/North Jersey IEEE Engineering Management Society will meet on October 23, 1990. The meeting topic will be "Software Reliability Engineering For The Development Managers." The speaker will be Mr. John Adams from the AT&T Bell Laboratories Kelly Education and Training Center.

About The Talk

In this presentation, a new technology for managing the development of software of specified reliability will be discussed. Particular attention will be given to the management of the software development process and how Software Reliability Engineering can assist in that endeavor.

Topics to be discussed include: Issues typically faced by software development managers; Basic Software Reliability Engineering concepts; Applications of concept and values achieved.

About The Speaker

John "Jack" Adams has held a number of product development engineering, engineering management and product management positions in his 25 years at AT&T Bell Laboratories. He earned his undergraduate and graduate degrees in the fields of Electrical Engineering (NJIT 1969, 1974) and Computer Science (Stevens Institute 1978) respectively. His professional associations include Senior Membership in the IEEE Computer Society, and the Association for Computing Machinery. He is presently part of AT&T Bell Laboratories Kelly Education and Training Center. His current research interests are in technology transfer process of software engineering techniques with particular emphasis on Software Reliability Engineering.

Refreshments will be available 6:30 to 7:00 PM.

Time: 7:00 PM, Tuesday, October 23, 1990.

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

Information: Al Bottani (201) 265-7797.

NY/NJ-EMS: Calendar

November 20—Topic and speaker to be announced.

The Engineering Management Society is still looking for volunteers to help in the running of the Society. Increase your industry contacts by becoming involved.

Those interested should call Al Bottani at (201) 265-7797.

Metro EMBS:

Future Trends In And Evolution Of Lithotripsy

On September 12, 1990, the IEEE Metropolitan Section Engineering in Medicine and Biology Society, will present a program on "Future Trends In And Evolution Of Lithotripsy." The speakers will be Steven Mandrackie, RT and R. Arlyn Rayfield, MBA. Both speakers are associated with The Stone Center of New Jersey, Newark, N.J.

One of the most successful developments in recent biomedical technological innovations was the introduction of lithotripsy in the treatment of kidney stones

IEEE-IAS Chapter (NJ Section) Symposium Reliability And Risk Assessment Of Industrial Utility Systems

Saturday, September 22, 1990 — 9:00 AM - 2:00 PM
(Registration 8:30-9:00 AM)
ITT Clubhouse, 417 River Road, Nutley, N.J.

On Saturday, September 22, 1990 the IEEE North Jersey Section Industry Application Society will host a panel symposium on the fundamental techniques dealing with Reliability and Risk Assessment (RA) of Industrial Utility Systems. The symposium will focus on the basic concepts that the engineers need to understand the various techniques that will be used for making reliability assessment and failure prediction of components and/or systems encountered in industrial/utility systems. This analysis is relevant to the evaluation of designs and/or to analyze the causes of operating system problems through statistical means. The present day management methods are increasingly demanding such type of evaluation from the engineer, before making investment decisions or appropriating maintenance budgets. The seminar will be given by speakers having hands-on experience on reliability and risk analyses and will describe fundamentals and some practical applications. Mr. R.V. Rebbapragada of Ebasco Services Inc., Chairman of IAS/North Jersey Chapter, will serve as the chairman for this panel symposium. Selected topics include:

Fundamentals and Techniques of Reliability Analysis	Dr. M.P. Bhavaraju Fellow-IEEE PSE&G
Fundamentals and Techniques of Risk Assessment	Dr. A.J. McElroy Fellow-IEEE Ebasco Services Inc.
Failure Modes and Effects Analysis	(Speaker to be announced)
Reliability Improvement Techniques	Dr. R.W. Sears AT&T-Bell Labs
Key Statistical Estimation Concepts In Reliability Analysis	Dr. M. Liechenstein Integrated Technology Serv.
Probabilistic Risk Assessment (PRA)	Mr. R.V. Rebbapragada Ebasco Services Inc.
Failure Predictions	Dr. A.J. McElroy Ebasco Services Inc.

Registration will take place 8:30-9:00 AM. Coffee and Danish will be available. Presentation will commence soon after registration with the introduction by Mr. R.V. Rebbapragada.

The cost for this complete technical discussion—including materials, morning refreshments and luncheon is \$130 for Non-Members, \$90 for IEEE Members, and \$35 for students with valid I.D.

To reserve your place, make check or money order payable to "IEEE-North Jersey Section" and mail to Max Schramm, 8 Deerfield Rd., Whippany, NJ 07981. **Deadline: 9/10/90.**

For more information please call Vittal Rebbapragada at (201) 804-2011 or Max Schramm at (201) 887-1120.

Registration "Reliability and Risk Assessment of Industrial Utility Systems"

To: Max Schramm, 8 Deerfield Rd., Whippany, NJ 07981.

Name _____

IEEE No. _____

Affiliation _____

Phone No. _____

Address _____

and gall stones, a non-invasive intervention modality. The speakers have extensive experience in setting up independent diagnostic and treatment centers specializing in advanced technology therapeutic delivery systems. Their discussion will vary from the general to the detailed in the managerial technicalities of setting up and operating these treatment centers, including electrode technology.

Ms. Rayfield is The Stone Center's Executive Director and Mr. Mandrackie is a technician/operator at the center. They have lectured on lithotripsy throughout the United States and will be sharing with us their expertise in the hands-on delivery of this state-of-the-art medical technology. Additionally, they will cover recent

developments emerging from current research, such as the introduction of laser technology in lithotripsy. Incidentally, The Stone Center is affiliated with UMDNJ (The University of Medicine and Dentistry of New Jersey).

Informal get-together (optional) prior to meeting at 6:30 PM, Tower Bldg., First Floor Cafeteria, Rockefeller University.

Time: 7:30 PM, Wednesday, September 12, 1990.

Place: Rockefeller University, Room 305, Tower Bldg., York Ave., (Entrance at 66th St. Gate), NYC. Parking Available.

Further Information: Robert Heyman, (914) 631-2600; Joel Levitt (718) 891-6460; John Frederick (212) 595-2599; Edna Feher (212) 757-0610.

IEEE North Jersey Section and United Societies of Engineering & Science of New Jersey, Inc. (USES) HighTech PC/Workstation Applications Conference

Wednesday, November 14, 1990 - 9:00 AM—8:00 PM
Governor Morris Inn (Royce Hotel), Morristown, N.J.

On November 14, 1990, the IEEE North Jersey Section will sponsor a one-day conference on Hi-Tech PC/Workstation Applications. USES and it's affiliated societies are cooperating in the conference planning and operation. The sessions will be divided into six tracks as follows:

Track 1	Technology. Session Topics: HDTV, Local Area Networks, CAD/CAM/CASE, Network Control and Electronic Data Interchange.
Track 2	Physical Sciences. Session Topics: Chemistry, Chemical Engineering, Bio-medical, Pharmaceuticals.
Track 3	Manufacturing. Session Topics: Plant Operation, Product Design, Robotics, Mechanical Engineering, Statistics, Industrial Engineering.
Track 4	Systems. Session Topics: Traffic Control, Electro-optics, Cellular Phones, Transportation Work Stations.
Track 5	Analysis. Session Topics: Control System Design, Signal Processing, Finite Element Analysis, Energy Analysis and Control.
Track 6	Exhibits. Space is available for 50 exhibitors.

Registration will take place from 8:30 - 9:00 AM. Cost to the attendees registering before September 15, 1990 is \$75 for IEEE and USES Affiliates, including refreshments, lunch, and proceedings. The fee for non-members is \$100. The fee for late registration is an additional \$25. The \$20 fee for student members does not include lunch or proceedings.

USES Representatives

IEEE, D.P. Perry; ASME, Mel Human; SPSE, Maury Kahn; ISA, Robert Lindner; ISNA, Steve Lohm; TIMS/ORSA, Toon Six; NJIT, Dean George Pincus; Stevens, Audry Smith.

For further information

Dave Perry, Conference Chair (201) 325-8415
Donald Hsu, Exhibits Chair (201) 585-1226

Registration for "Hi-Tech PC/Workstation Applications Conference"

To: Jay Shah, Conference Treasurer, 7 Tonnele Avenue, Apt. 3Q, Jersey City, NJ 07306

Name _____

IEEE No. _____

Society _____

Member No. _____

Company _____

Phone No. _____

Address _____

City _____

State _____

Zip _____

Please make checks payable to "IEEE North Jersey Section"

PACE NEWS

By Richard F. Tax

PACE CHARTER

PACE is the acronym for the Professional Activities Committee for Engineers. This committee is dedicated to the improvement of the professional aspects and needs of our members. The primary need of our membership has been defined as "A Lifetime Engineering Career with Adequate Compensation and Retirement Provisions." While this goal is listed as the first and primary requirement of the USAB position paper entitled "IEEE Members' Professional Needs", we do not appear to be making any progress in this endeavor.

The North Jersey Section's PACE meeting on Thursday, September 13, will be dedicated to this subject. Leading members from the executive committees of the New York, Long Island and North Jersey Sections will be invited to participate. They will express their views and answer questions from the audience. You should attend this meeting to assure that your concerns will be addressed. Please note that this is not the time for complaisancy. This is your time and opportunity to act. Only your presence at these meetings will convince others that your problems are real. Please come and bring a friend.

MORE HELP? CAN WE SURVIVE?

There is only one act worse than an Act of God and that is an Act of Congress. An Act of Congress lasts for years. The latest Act, H.R.3999, will establish "The President's Economic Stabilization and Adjustment Council." The council shall consist of the Secretaries of Labor, Defense, Commerce; the Administrator of the Small Business Administration; the Assistant to the President for Economic and Domestic Policy; one defense industry representative; and one representative from an affected labor union. The council chair rotates among the secretaries of Labor, Defense and Commerce with one year terms which indicates that this could last forever. The council is kept small to facilitate decision making.

It gets worse. The President's Council gets a Coordinating Council for Economic Stabilization Adjustment. Is this a good idea? One council gets another council, and guess who is on this council. Of course, among others is the "shortage shouting (we need more engineers)," National Science Foundation—another Congressional creation of the 1950s. I can hear NSF officials lamenting about how we must train more engineers to replace those that were lost by the defense cuts. This 20 member Coordinating Council advises the President's Council on, among other things, spending.

There is funding for benefits, benefit programs, education groups, job search allowances, training and retraining, economic adjustment assistance, relocation allowances and more. There is money for everything but the creation of jobs for those displaced by the defense cuts. People will make a fortune providing useless services while those affected by the cuts go without jobs and lose their savings and homes.

Dr. Edward Bertnolli, past chairman of the USAB, testified before the House Armed Services Subcommittee on Investigations on H.R.3999. He did an excellent job of addressing the defense cuts, lay-offs and the unemployment issue. He expressed our support and said, "We believe that it is in the best interests of the Federal government to assist communities, businesses, and employees in making economic adjustments to the cutbacks in defense spending." He also said, "We hope and expect that any such legislation includes professional societies as representatives of the affected employees, in addition to other employee groups." He also stresses retraining and job search assistance. IEEE wants to help us?

Now, I'm more concerned. I don't know if we can survive any more help from the IEEE and the other professional societies. IEEE formed the USAB about 16 years ago to help engineers, but our professional needs seem to suffer even more under IEEE's influence. We are facing another setback. I believe our professional

needs are primarily influenced by supply and demand. While members of PACE are trying to help engineers, IEEE's *Spectrum*, the *Institute*, and Precollege Education Committee are publishing and disseminating engineer shortage publicity to attract more students to the engineering colleges. Note—this is only to the college level and not necessarily into the profession or industry. Apparently, they forget about these students once the students pay their tuition. This is where their pipeline ends and where your profession and hardships begin.

We need a commitment from IEEE's leadership. We also need a commitment from our members. We cannot leave the problem solving entirely in the hands of a few PACE volunteers. I have a few suggestions for a beginning. I would like to encourage you to act. Attend more PACE and Section meetings. Encourage other engineers to join IEEE and attend meetings. Make your presence known. Join and support the American Engineering Association. Give IEEE officials something to be concerned about. Make them work and compete for your membership. If they can't deliver then find an engineering society that can deliver.

A check for \$20.00 will get you a membership in the American Engineering Association and place you on their mailing list to receive their newsletter. They are at P.O. Box 18473, Ft. Worth, TX 76118. Do it! I did! They deliver.

PACE Committee Meets Monthly

The PACE Committee meets on the second Thursday of every month at the ITT Auditorium, 500 Washington Avenue, Nutley, N.J. (near the ITT Tower) at 7:30 PM. Our Section Executive Committee meets there on the first Wednesday of every month at 7:00 PM. Contact Richard Tax at (201) 664-0803 (after 7:00 PM) or write to: R. Tax, 630 Montview Place River Vale, N.J. 07675.

North Jersey Section PACE Meeting: Professional Needs—Can IEEE Deliver?

The North Jersey Section's Professional Activities Committee for Engineers will host a meeting on Thursday, September 13, 1990 for all members associated with the engineering profession. The subject is dedicated to the professional needs of our members—"A Lifetime Career With Adequate Compensation." A panel of representatives from the New York, North Jersey and Long Island sections will present their views and answer questions from the floor. Attendees will be given the opportunity to express their concerns.

Among the panelists will be Ray Sears Jr., Chairman of the North Jersey Section and Bill Wilkes, the Region I PACE Chairman. Richard Tax, editor of the North Jersey Section "PACE NEWS" column will act as moderator. The meeting agenda will be divided into two parts with a break for refreshments. The first hour is dedicated to comments and views by members of the panel. The second hour will be dedicated to questions and answers, and statements from the audience.

This meeting is important to all engineers and students concerned about their employability and the current and future demand for engineers. The defense cuts have reduced the demand for engineers and reduced your professional opportunities. How this situation is resolved will surely effect your future. Don't leave your future in the hands of others.

Our meeting is open to all members of IEEE and their guests. We also encourage engineers that are not IEEE members to attend. There will be plenty of room and refreshments for everyone.

Time: 7:30 PM, Thursday, September 13, 1990.
Place: ITT Auditorium (by the Tower), 500 Washington Avenue, Nutley, N.J.
Further Information: Robert Sinusas (201) 228-3941.