On Saturday, December 8, 1990 the IEEE New Jersey Section Industry Application Society will host a panel symposium on the fundamental techniques dealing with Reliability and Risk Assessment (RA) covering various aspects of Electric Utility Systems (Power Systems and Nuclear Plants), Communication Systems and Industrial Electric Distribution 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 electric utility, communication and industrial 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 practical applications. R.V. Reb戛paratora, Ebasso Services Inc., Chairman of IAS/New Jersey Chapter, is panel symposium chairman.

**Selected topics include:**

- Fundamentals and Techniques of Reliability Analysis
- Fundamentals and Techniques of Risk Assessment, Electric Utility and Industrial Systems
- Failure Modes and Effects Analysis With Examples
- From Electric Utility Industry
- Reliability Improvement Techniques With Applications In Communication Industry
- Key Statistical Estimation Concepts In Reliability Analysis
- Probabilistic Risk Assessment (PRA) Of Electric Distribution System In Industrial And Nuclear Plants
- Failure Predictions

**Registration Information:**

- For information: Vital Reb戛paratora (201) 804-2011; Max Schramm (201) 887-1120.

**To:** Max Schramm, 8 Deerefield Rd., Whippany, NJ 07981.

**Further Information:**

- EEIEE No.
- Affiliation
- Phone No.
- Address

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**North Jersey IAS:**

**Officer Election And Talk On Electrical Distribution Design**

On December 12, 1990, the North Jersey Section Industrial Application Society will host a presentation on “Electrical Distribution Design With Advanced Technology Applications.” The speaker will be Vital Reb戛paratora. There will be an election of officers prior to the start of the technical presentation.

Mr. Vital Reb戛paratora is presently a Senior Consultant at Ebasso Services, Inc., and has done studies and worked on projects requiring advanced technology transfer and applied technology and utility plant electrical distribution systems.

**Election Prior to the technical presentation there will be an election of officers. The North Jersey Chapter of the Industrial Application Society has been in existence for many years. This is an interactive group with varied interests in power generation, in-plant electrical distribution, lightning protection, grounding, switching surge, alternative energy sources such as Co-Generation, wind and solar power, computers, fiber optics, SCADA, semiconductors, electric machines, industrial drives, etc. The aim of the Society is to keep members abreast of the developments in the aforementioned areas with quality speakers having detailed background in their respective areas. The North Jersey Chapter has scheduled seven technical sessions in 1989, and is planning even more vigorous programs for the year 1991. This requires active participation by all IEEE members in the Metropolitan Area. With this end in view, an executive committee election is scheduled at this meeting. All members must check in prior to the meeting to participate and make our program an even greater success.

**Meet-In-Dinner**

A complimentary buffet dinner starts at 6:00 PM with the Election taking place prior to the technical presentation.

**Time:** 7:00 PM, Wednesday, December 12, 1990, 8:00 PM, buffet dinner.

**Place:** IT Auditorium, 500 Washington Ave., Nutley, NJ.

**Further Information:**

- Vital Reb戛paratora, Chairman, IAS Chapter (201) 804-2011; Max C. Schramm (201) 887-1120.

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**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.” This will include several items from the AT&T Bell Laboratories Key Education and Training Center.

**About The Talk**

The talk 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. She is involved with a software development manager, Basic Software Reliability Engineering applications/concepts of concept and values.

**About The Speaker**

John “Jack” Adams has held a number of product development engineering, engineering management and product management positions 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 of Technology 1974). He is a professional associate in Senior Membership in the IEEE Computer Society, and the Association for Computing Machinery. He is presently part of AT&T Bell Laboratories’ Key Education and Training Center. His current research interests in technology transfer processes 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:** IT Auditorium, 500 Washington Ave., Nutley, NJ.

**Further Information:** Robert Sinunas (201) 229-3941.

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**North Jersey Section PACE:**

**Career Management**

The North Jersey Section’s Professional Activities Committee for Engineers will meet on Thursday, October 11, 1990. The topic for discussion 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 Speaker**

The talk 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 a software development manager, Basic Software Reliability Engineering applications/concepts of concept and values.

**About The Speaker**

John “Jack” Adams has held a number of product development engineering, engineering management and product management positions 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 of Technology 1974). He is a professional associate in Senior Membership in the IEEE Computer Society, and the Association for Computing Machinery. He is presently part of AT&T Bell Laboratories’ Key Education and Training Center. His current research interests in technology transfer processes 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, Thursday, October 11, 1990.

**Place:** IT Auditorium (by the Tower), 500 Washington Ave., Nutley, NJ.

**Further Information:** Robert Sinunas (201) 229-3941.

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**Metro EMS:**

**Panic Attacks And Sugar Metabolism**

On October 17, 1990, the IEEE Metro Section Seminar in Medicine and Biology Society, will present a program on “Panic Attacks And Sugar Metabolism—What’s The Connection?” The speaker will be Professor Josef H. Levitt.

A therapy will be a tutorial rather than a research-report session. The intent is to explain and clarify in non-technical some important concepts from the viewpoint of the Bioengineer.

Some of the topics to be reviewed:

- Function of Adrenaline, relation to anxiety and panic
- The Feedback Control System Concept; Hypoglycemia vs. Diabetes; Allergic Response and sugar metabolism; Dietary Manipulation and Supplementation Benefits.

Professor Levitt is a member of the faculty of the School of Engineering, Pratt Institute, Brooklyn, and is an officer of the EMB Society. He studied Bioengineering and Biophysics as part of an interdisciplinary program in Electrical Engineering and Physics at Columbia University.

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

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

**Place:** Rockefeller University, Room 305, Tower Bldg., York Ave., (Entrance at 68th St. Gate), NYC. Parking Available.

**Further Information:** Robert Heyman, (212) 320-8550; John Frederick (212) 953-5899; Edna Fisher (212) 757-6810.
North Jersey Section Activities

OCTOBER


October 10—"Equipping The Consultant's Office"—IEEE NY Section Network, 6:30 PM, Con Edison, 4 Irving Place, 14th Floor, NYC. Jim Wettern (212) 321-3289.


October 17—"Panic Attacks And Sugar Metabolism—What's The Connection"—NY/LI/North Jersey Chapter Engineering in Medicine & Biology Society, 7:30 PM, Rockefeller University, York Ave., NYC.

Robert Heyman (410) 611-3800.

October 18—"Trouble Shooting Programmable Logic Controllers"—North Jersey Section Control System Society, 7:30 PM, Fairleigh Dickinson University, Teaneck Campus, 1000 River Road, Teaneck, N.J. Professor V. Gogata (201) 692-2120.


Upcoming Meetings


November 14—"HighTech PCWorkstation Applications Conference"—North Jersey Section and United Societies of Engineering & Science of New Jersey, Inc. (USBE), 9:00 AM-8:00 PM, Governor Morris Inn, Morristown, N.J. Donald Hau (201) 585-1226 or (914) 359-7800.


December 6—"Symposium: Electric Utility, Communication and Reliability and Risk Assessment of Industrial and Utility Systems"—IEEE North Jersey Section Industry Application Society, 9 AM-2 PM, Saturday, Howard Johnson Plaza Suite Hotel, 240 Rte. 3 West, Mill Creek Drive, Secaucus, N.J. (Please note this is rescheduled from September 22nd and is at a new location.) Vitali Reppagranda (201) 804-2011.

December 12—"Officer Election And Talk On Electrical Distribution Design With Advanced Technology Applications"—North Jersey Section Industrial Application Society, 7:00 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Vitali Reppagranda (201) 804-2011.

Members, Student Members and Non-Members Welcome

PLEASE POST

Student Awards Presented

The National Energy Foundation sponsored its annual Student Exhibition on Energy Resources at the Morrisstown Armory on May 11, 1990. The North Jersey Section sponsored three awards, one in each age category, which were presented by Kenneth J. Osele, Past Chairman of North Jersey Section.

The purpose of the annual competition is to develop student proficiency in research and scientific experimentation. Nearly 300 students participated in the program.

WINNER—Brian Sullivan is from Hopatcong Middle School.

WINNER—Heather Kirby, receives award from Past Chairman Ken Osele at Student Exhibition on Energy Resources.

International Conference Oct. 22-24, 1990:
Directions In Electromagnetic Wave Modeling

An International Conference on "Directions In Electromagnetic Wave Modeling" will be held October 22-24, 1990 at the Penta Hotel in Manhattan. This conference is sponsored by the Weber Research Institute of Polytechnic University, in cooperation with IEEE AP and MTT Societies and the US National Committee of URSI. Its purpose is to provide a critical in-depth assessment of the state-of-the-art, new directions, and potential of modeling of electromagnetic wave radiation, guiding, propagation and scattering.

The focus will be on analytical, numerical and combined techniques for modeling wave interactions in applications ranging from integrated circuits to remote sensing. In order to foster a well-balanced discussion of this conference is devoted to the mathematics of electromagnetic wave modeling as such, in order to integrate specialized approaches into a broader perspective, in order to foster an integrated view of the area, there will be two parallel sessions, and one session will be held in a poster format.

An assessment of future needs and goals for electromagnetic wave modeling, as seen by government agencies, will be discussed by agency scientists. Also, some speakers will provide a broad perspective in their area of interest. These include Professor D.C. Chang of the University of Colorado, Professor A. Ishimaru of the University of Washington, Dr. E.K. Miller of Los Alamos National Laboratory, Professor R. Mittra of the University of Illinois, Professor H. Schmidt of MTT and Professor L.B. Felsen of Polytechnic University.

Registration for the conference can be done by mail before the conference, or at the conference itself. The registration fee is $140 prior to October 6, and $160 thereafter. This fee includes costs of the hard-bound Conference Proceedings. Students with a valid I.D. may register at the conference for $40.00 not including the cost of the proceedings.

The Co-chairmen for the conference are Professors Henry L. Burtoni and Lapchi K. Felsen of Polytechnic University. Further information and registration forms may be obtained by contacting the Conference Secretary, Ann Drury at (212) 765-4310.
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 - 8:30 PM
Governor Morris Inn (Roxbury Hotel), Morristown, N.J.

On November 14, 1990, the IEEE North Jersey Section and United Society of Engineering and Science (USES) will host a conference on the high-tech PC and workstation applications for business. This conference will focus on the PC and workstation applications in science and engineering. Five tracks will be held concurrently and the six exhibits for the conference. Selected topics and speakers are:

- **HDTV**
  - Karen Frank, ACM
- **Statistics**
  - F.M. Julian, du Pont de Nemours & Co.
- **DNA analysis**
  - N.O. Elizaga, Sharp & Kenwood
- **CAD medicine**
  - V.L., Houston, NY Medical Center
- **Mech. Engineer**
  - R. Smith, AFAG Co.
- **Load factors**
  - W.J. Bigley, FMC Corp.
- **Finite Elements**
  - T. Rizzo, AT&T
- **Optoelectronics**
  - E. Whittaker, Stevens Inst. of Technology

Registration will take place from 8:30 - 6:00 AM. Cost to the attendees registering before October 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 EIC student member fee is $10 and does not include lunch or proceedings. To register, make check payable to “IEEE - North Jersey Section” and mail it to Jay Shah, Conference Treasurer, 7 Tonella Avenue, Apt. 3Q, Jersey City, N.J. 07306.

**USES Representatives**
IEEE, D.P. Perry; ASME, Mel Human; SPSE, Maury Kahn; IBA, Robert Lindner; ISNA, Steve Lohm; TIMSORSA, Tom Sic; NJAT, Dean George Pincus; Stevens, Audrey Smith.

For further information
Donald Hsu (201) 555-1262 or (914) 359-7800

**Registration for “HiTech PC/Workstation Applications Conference”**
To: Jay Shah, Conference Treasurer, 7 Tonella Avenue, Apt. 3Q, Jersey City, N.J. 07306
Name: IEEE No.
Society: Member No.
Company: Phone No.
Address: City State Zip

Please make checks payable to “IEEE North Jersey Section”

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**NY Consultants’ Network: Equipping The Consultant’s Office**
**About The Speaker**
The discussion will cover some of the typical tools needed to support the consultant practice as well as some of the emerging trends in technology and how consultants can utilize these to enhance their practices.

If you’re considering your first PC acqui- sition, or whether to upgrade, or what to upgrade to, or whether to wait, come get some practical advice on current, cost effective technology.

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**North Jersey ASSP: Modeling Time Varying Systems**
John Conti has been active in the area of personal computer hardware, software and networking for several years. He has installed systems for both small and large users in the New York area, including being an independent consultant, has helped many small businesses automate their practices.

Time: 9:00 AM, Wednesday, October 10, 1990 (Please note the earlier meeting time for our members convenience.)
Place: Con Edison, 4 Irving Place, 4th Floor, (one block East of Union Square, just off 4th St), NYC.
Further Information: Jim Watson (212) 321-2999; Hulian jack (212) 206-3049.

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**North Jersey Section-PES: Gas Insulated Switchgear**
Mr. Arun Anor is the speaker. Election of Officers for 1990 will be held after presentation.

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**North Jersey MTT/AP: Nonlinear GaAsFET Modeling—Art and Science**
On December 6, 1990, the 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 A. 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 linear models for GaAsFET’s since the models must be simple enough to execute efficiently 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 towards the 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 using equivalent circuit models; Complexity, calibration, and verification; 2. Description of GaAsFET models in commercial simulators for the design and optimization of hybrid and MMIC circuits. The discussions will be illustrated with examples.

Walter A. Curtice received the BEE, MEE, and PhD degrees from Cornell University in 1965, 1969, and 1992, respectively. Upon graduation, he joined the Bell Telephone Laboratories in Holmdel, New Jersey as a Research Engineer. He joined GEC (UK) and engineered sub- sistencies for all phase locking networks. After 1,000 days, he joined ABG Wexford in the power plant electrical systems planning and division and covered all equipment until transmission end of power plants. Since 1976, he is responsible for the marketing of HV equipment in the U.S., and as of 1986, he has been in charge of the gas insulated switchgear 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, Tuesday, December 10, 1990
Place: Jersey Central Power & Light Co., Punchbowl Road, Madison Ave., Morristown, N.J.
Further Information: Augie Forenczi (201) 392-6203 or Hady Sallum (201) 829-5058.
IEEE
North Jersey and Princeton
Presents
MTT-S & AP-S
SYMPOSIUM AND MINI-SHOW
TWO LECTURES 7 BOOTH EXHIBITS
Thursday - NOVEMBER 8, 1990
1:30 PM to 9:30 PM

DOOR PRIZES

DISTINGUISHED LECTURERS
1:30 - 2:45 - Ron Schineller and Tony Pospishil
“The Phase 1 MIMIC Program - An Update”
7:30 - 9:30 - Barry S. Perlman and Lorna Carmichael
“Pursuit of an Hardware Description Language for Analog/Microwave Design”

BOOTH EXHIBITS: 2:30 to 7:00 PM
BIGGER AND BETTER
FREE BUFFET 6:00 to 7:15 PM
ENGINEERS, TECHNICIANS, AND PURCHASING PEOPLE WELCOME!
For Details Call:
Dick Snyder (201) 492-1207 — Willie Schmidt (201) 284-2255
In Memoriam: Dan Brodow

MTT-S & AP-S Symposium
And Mini-Show

The Phase 1 MIMIC Program - An Update
Speakers:
Ron Schineller and Tony Pospishil
The three year MIMIC program is now in its third year, and significant progress has been made by all four contractor teams. This talk will present an overview of the MIMIC program and then describe in more detail the status of the work at ITT. This will include a description of the MIMIC chips and modules being developed for two EW systems. Measured data will be shown for a variety of broadband chips including amplifiers, power dividers, switches, variable attenuators, mixers and oscillators. The benefits of MIMIC technology will be shown by examples taken from the demonstrations. Finally, the status of MIMIC Phase 3 and MIMIC phase 2 programs will be discussed.

About The Speakers:
E. Ronald Schineller received his BSEE degree from Manhattan College in 1965 and his MSE degree from the Polytechnic Institute of Brooklyn in 1966. From 1965 to 1970, he was employed by Wheeler Laboratories, where he was engaged in microwave, antenna and electro-optic laser work. From 1972 to 1978, he was employed by Hazeltine Corp., where he worked on various antenna subsystems including the microwave landing system. Since joining ITT in 1978, Schineller has been engaged in the development of MIC and MIMIC circuitry. Currently, he is manager of the Design Technology Department and is responsible for planning and directing advanced technology programs, both internally funded and government sponsored. Since 1986, he has served as engineering manager for the MIMIC program at ITT, with direct responsibility for the EW system basboard development.

Anthony Pospishil received his BSEE degree from CONV in 1981 and his MSE degree from CONV in 1984. He has been associated with ITT Avionics since 1981. As a Principal Member of the Technical Staff, he is currently responsible for the design, development, packaging, and test of MIMIC EW circuitry on the MIMIC Phase I program as well as management of several ongoing IR&D projects including the development of the RF subsystem used in an Advanced RF Memory. Mr. Pospishil has over eight years experience in the design and development of MIC and MIMIC broadband EW components, as well as the RF subsystems they are used in.

Pursuit of an Hardware Description Language for Analog/Microwave Design
Speakers:
Dr. Barry S. Perlman and Lorna Carmichael
An effort has been organized to develop an Analog-Microwave Hardware Description Language (A-MHDL). This is a DARPA/Tire Service DoD initiative supported by both the MIMIC and VHSIC Programs. The ultimate objective of this effort is the development and acceptance of a language suitable to describe analog circuits and systems operating at frequencies from dc to microwave/millimeter-wave. The intent is that such a language would develop as a commercial standard supported by DoD and not a DoD standard incompatible with industry. For this reason, industry is invited to participate in all phases of its development. The immediate task is to formulate language requirements and definitions. While the requirements for a A-MHDL will be developed independently from the requirements of VHDLS (IEEE Std. 1990-1987), VHSIC Hardware Description Language (VHDL), every effort will be made to make A-MHDL compatible, if not an extension of VHDL. This will allow both analog and mixed mode analog-digital electronic systems.

A-MHDL will provide a standard, common language. A-MHDL will provide a means for engineers to efficiently and unambiguously specify, document, communicate, exchange designs and complex models between multiple components/system designers, test engineers, manufacturers and DoD. It will enable the description of the behavior and functional structure of analog circuits and systems, and hierarchic semantic representation of microelectronic hardware at various levels of abstraction. Use of hierarchic design descriptions will enable top-down design tradeoffs and decisions to be made at the highest level where needed. Parts manufacturers, replacement, and continued life cycle support can be more efficiently facilitated. Use of A-MHDL will complement the CAD tools that aid the rapid development of circuits and systems.

About The Speakers:
Dr. Barry S. Perlman is Chief, Microwave/Lightwave Technology Branch, Electronics Technology and Devices Laboratory, USA LASCOCOM, Ft. Monmouth, N.J. He is responsible for the development and evaluation of microwave/millimeter-wave and photonic components for radar, EW, communications, and smart weapons. He is also leading development of advanced design and test automation techniques and use of computational methods for electromagnetic analysis, physical and phenomenological modeling and MIMIC CAD. Prior to his current position, he was the Group Head, Design Automation Research in the Microwave Laboratory at the David Sarnoff Research Center (formerly RCA Laboratories) in Princeton, N.J.

Dr. Perlman is an IEEE Fellow, a member of Sigma Xi, a member of the IEEE Societies on Microwave Theory and Techniques, Circuits and Systems, the MTT AdCom, the Educational and Financial Committee and is a co-chairman of subcommittee MTT-11 (CAD). He is also a Vice-President of the Automatic RF Techniques Group (A/RFTG) and is Deputy and Technical Chairman of IEEE SSC 30: ARLD, to develop an analog hardware descriptive language. He is a member of the IEEE advancement committee and Princeton Chapter Awards Committee and is listed in Who’s Who in Science and Technology and Who’s Who in the East. He is a member of the NSF Advisory Board for the MIMIC CAD Center at University of Colorado and the Policy Board for CAEME (Computer-Aided Electromagnetics Education) at University of Utah. He holds four U.S. patents and has published over 40 technical papers on solid-state circuits and devices, microwave networks, signal processing, computer-aided design and automated testing, and has received four RCA Outstanding Engineering Achievement Awards awarded to the Hall of Fame of INTEREX, a computer users group and received the Automated Measurements Technology Award from AFIPG. He received a BEE degree from Electrophysics College of New York in 1961 and an MSEE and PhD in Electrophysics from the Polytechnic Institute of New York in 1964 and 1973, respectively.

Lorna Carmichael is an Electronics Engineer with the U.S. Army Laboratory Command (LABCOM), Electronics Technology & Devices Laboratory (ET&D). Microwave/Lightwave Technology Branch at Ft. Monmouth, N.J. She is the Technical Area Specialist for Computer-Aided Design and Databases in support of the MIMIC program and related IR&D research. She is also the Project Engineer for the Microwave/MIMIC/Analog Hardware Description Language (A-MHDL) effort. Ms. Carmichael received a BSEE from North Carolina A&T State University and is currently pursuing an MSE from Rutgers University.