GETTING THE MOST OUT OF YOUR ELECTRIC POWER SYSTEM

How to Operate Higher Productivity, Lower Costs,
Presented by the IAS and PES Chapters, North Jersey Section
Thursday, May 17, 1996, 8:30 AM to 3:30 PM
390 Madison Ave., Metuchen, NJ 08840

A ONE-DAY SEMINAR ON

Speaker: George W. Reynolds, President, Investor-owned Utility Research Council (IURC)

This seminar, sponsored by the IEEE Power Engineering Society (PES) and the Institution of Electrical Engineers (IEEE), will focus on the latest developments in electric power technology and management. The event will feature a series of presentations by leading experts in the field, covering topics such as system reliability, demand-side management, and advanced metering. The program will also include a panel discussion and networking opportunities.

Registration:
- IEEE members: $100
- Non-members: $150

To register, contact the coordinator at 201-982-8915.

Kiawah Island, South Carolina, May 17, 1996

At the October 15, 1996 meeting, the IEEE North Jersey Section Systems, Man & Cybernetics Society will host a panel of demonstrations by Mike Liechtienehen, Mal Lewis, and The Video Professor® on accessing, navigating, and information retrieval/exchange (including E-Mail and the evolving video/voice communication technologies on the World Wide Web). The implications for cyber-job, tele-commuting, tele-education and potential entrepreneurial activities will be discussed. This presentation assumes no prior knowledge re Internet usage and is therefore oriented to novices. Experienced computer users will also profit from discussion of forward-looking trends in this rapidly advancing technology.

All Welcome
You need not be a member of IEEE to attend and there is no charge for admission. Light refreshments will be served.

Time: 7:00 PM, Tuesday, Oct. 15, 1996.
Place: Fairleigh Dickinson University, Vocational/Industrial Education, 833 Paterson Plank Road, Rutherford, NJ 07070.
Information: Dr. Mike Liechtienehen (201) 471-0721, or Email: M.LIECHTINEHEN@FORDHAMS.EDU.
Mervin Lewis (914) 988-2505, ext. 2304, E-Mail: MLEWIS@EWS.EDU.

IEEE NJ SECTION HOME PAGE
WWW at http://harrt.njit.edu/~leen

REPORT ADDRESS CHANGES TO:
IEEE Service Center, 445 Hoes Lane, Box 1331, Piscataway, NJ 08855-1331. Provide complete mailing address.

Golden Opportunity
A GOLD kick-off meeting is planned for Tuesday, October 22nd. (Recognizing that location is important, we want input in the selection of location). In addition, we intend to bring in some panels and some folks to meet.) Our first meeting will be held at the Robin Hood Inn, in Montclair. From Montclair take I-280 West to Exit 48. Right as you turn into Rt. 46, take the Valley Road Exit. If coming from Rt. 46 East, take the Valley Road Exit. For more information or to reserve a few spots for a bite of food for about a mile, it will be on your left.
Come right after work, at 6 PM, and we will start the Bay area dinner and conversation, then move into our meeting about 7:30 PM. There will be an overview of "IEEE Benefits for Today's Young Engineers." Specific ideas will be solicited for future meetings as well. Please come on one and all. We do encourage you to bring along any colleagues from work, whether IEEE members or not. Want details? Call Harvey Zikofsky at North Jersey GOLD Chair, Ms. Amy Galenowicz, (Glass of '99) at: a.galenowicz@iit.edu or work phone (1) 708-2348, ext. 24, or fax 742-1452.

IEEE LEO Chapter: Tunable Photonic Crystals
On October 31, 1996 the IEEE Laser and Electro-Optics Society of New Jersey will host a talk on "Tunable Photonic Crystals." Speaker at this meeting will be Anvar A. Zakhidov.

About the Talk
Photonic Bandgaps (PC), a new type of matter, in which the regular arrays of nanoscale size photonic bandgap (perpendicular to the propagation), making it forbidden in so called "photonic band gaps" (PBGs), have recently attracted significant attention both from fundamental and application points of view.

The main topic of this talk is the totally new type of photonic crystal in which the position, the width of the PBG and other physical properties are tunable due to the use of electro- and optically active polymeric materials, (particularly conjugated polymers) as building blocks of PCs. Up to now the photonic crystals have been fabricated in the optical domain only from the dielectric, transparent polymers, like polyethylene or co-polymers in deionized water. The recent theoretical and experimental study extends the concept of semiconductor quantum dots or from metallic shells to have new interesting photonic properties such as a dramatic increase in the optical nonlinearity, localization of light, quantum solitons and highly selective optical absorbance.

NJ CNS: Motor Drive Control Strategies
At the October 16, 1996 meeting of the IEEE North Jersey Section Control Society, the talk will be on "Embedded Real-time Time Control Of Motor Drives." The talk will be given by Dr. Maria Zamfirul Ciufila, Tulane University.

About the Topic
In this state-of-the-art motor drive control discussion, strategies will be presented with application areas including automotive, and various domestic systems such as available speed drives. The speaker will report on her recent work and results on fully embedded digital control of motor drives. She will also address the problems of the special time varying filters and motor dynamics will also be addressed.

Program Committee Members-at-Large:
Harold G. Meinel
Secretary:
M. Thomas Johnson

About the Speaker
Dr. Anvar Zakhidov is a Visiting Scientist at Allied Signal from Tashkeev, Uzbekistan. He is the head of Molecular System Laboratory at the Uzbek Academy of Sciences. Dr. Zakhidov obtained his PhD degree in Physics (Optics) from the Institute of Spectroscopy of USSR Academy of Sciences. He has more than 130 publications on molecular physics, low-dimensional phenomena, optical spectroscopy of molecular crystals and microwave spectroscopy.

Time: 5:00 PM, Thursday, October 31, 1996. Pizza & Soda will be served free of charge at 4:45 PM.
Place: SUITE 101, BLDG 202, ECE Bldg., Newark, NJ.
Information: Haim Grabel (1) 596-3553.

How To Become A Senior Member
You need at least 10 years experience. A Bachelor's degree counts for three years of those years and Masters and Doctoral degrees each count for one year.

GET INVOLVED. Get involved with the Society and work on becoming a Senior member by contacting Don Weinstain, Kulle Semiconductors, One Willow Tree Road, Leonia, NJ 07605-2239, (201) 461-0900, ext. 234 mornings or Amy Galenowicz, Videk Equipment Company, 17776 East Avenue, Paterson, NJ 07213, (201) 742-2381, ext. 24.

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OCTOBER, 1996
Volume 43, Number 4
Publication Number 6066

About the Speaker
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N.J. PES/AES The Flywheel Energy Storage
The November 21, 1996 meeting of the NJ PES/AES Power Engineering Society will present a program on the pros and cons of flywheel energy storage systems. Flywheel energy storage systems are electric energy storage devices that use direct current to rotate a flywheel. The speaker will be Steven B. Sanders, Product Development Specialist - Emerging Technologies for GPE Energy.

About the Talk
The program will focus on the role of large scale economic flywheel energy storage systems in the electric power industry. Due to recent advancements in technology, flywheel based electrical energy storage devices could present exciting opportunities in the wide electric power companies provide services in the future.

Time: 7:00 PM, Thursday, November 21, 1996.
Place: GPE Energy, 300 Madison Ave., Morristown, NJ.
Information/Reservation: Ken Ooxle (201) 455-8481.

Calling All Students!
Now’s the time to begin thinking about the next Student Paper contest.
The ability to communicate ideas well is a skill in demand for engineers more than ever before. Once again the North Jersey Section will host the student members to present electrical engineering related papers. Our local night in late February will help prepare the students for the long-running annual IEEE Region 1 Paper Contest. Any undergraduate student member of IEEE may enter. Subject matter should cover technical, engineering, management, or social aspects. The electrical engineering student should be discouraged from entering the contest due to a false requirement of technical sophistication. And in fact new this year are special awards for professional topics. Important thing is that students get the chance to practice presentation skills in front of an audience, supply some experience in creating and delivering presentations from many fields and backgrounds. Start framing out your subject now!
A One-Day IEEE Seminar on
SHORT CIRCUIT ANALYSIS
presented by the IAS and PES Chapters,
North Jersey Section
Thursday, November 21, 1996
8:30 AM to 3:30 PM
GPU Energy
300 Madison Ave., Morristown, NJ 07962

Topics
- Introduction
  Seminar overview
  Reasons for a short circuit study
  Basic concepts
  Types and causes of short circuits
  Per-unit system
  Equivalent circuits
  Symmetrical components
  Network analysis methods
- How to do a short circuit study
  Single-line diagram
  Defining study requirements
  Impedance diagram
  Determining system impedances
  Typical impedance data

Calculations
  Manual
  Computer
  * Interpreting and applying results
  * Interrupter evaluation
  * Circuit breaker application
  * Fuse application
  * Protection coordination
  * Specifying bus bracing
  * Inputs to other studies
  * Voltage regulation
  * Motor starting
  * Harmonics analysis
- Case studies
  Reviews of key concepts
  Questions and answers

Seminar Leaders
Richard H. McFadden, P.E., Fellow, IEEE, Chief Electrical Engineer, Advanced Technology Division, Science Applications International Corp.
Kenneth J. Oxele, P.E., Senior Member, IEEE, Director of T&D Engineering, Jersey Central Power and Light Company
R. Vittal Rebbapragada, P.E., Senior Member, IEEE, Senior Consulting Engineer - Electrical Power Systems, Raytheon Engineers and Constructors

Cost - including materials, morning refreshments, and luncheon:
IEEE members: $100.00
Non-members: $150.00
Students with valid ID: $50.00
$25.00 discount on full (non-student) registrations received by November 11

North Jersey Section Activities
October 1996
Oct. 2—“NJ Section Executive Committee Meeting”—7:00 PM, Plant 11, GRC-Marconi, 164 Totowa Road, Totowa, NJ. Serge Bogamo (201) 785-3673 (H).
Oct. 3—“Wireless Communications: Where It’s Been And Where It’s Going”—NJ Communications Society & NJIT’s Center for Communications and Signal Processing—4:00 PM, NJIT, 202 ECE Center, Newark, NJ. Nirwan Ansari (201) 596-3676.
Oct. 15—“Internet/World Wide Web Dynamic Tutorial”—N. Jersey SMC Society, 7:00 PM, Fairleigh Dickinson Univ., Muscarelle Bldg., Teaneck campus, NJ. Dr. Mike Liebenstein (201) 471-0721.
Oct. 16—“Embedded Real-Time Control Of Motor Drives”—NJ Section IEEE Control Systems Society, 5:00-6:00 PM, NJIT, 202 ECEC, Dept. of EE, Newark, NJ. Prof. Timothy Chang (201) 596-3519.
Oct. 17—“Magnetically Levitated Trains (MAGLEV)”—NJ IAS/PES Chapters, 7:30 PM, GPU Energy, 300 Madison Avenue, Morristown, NJ. Dennis J. Hildenbrand (201) 984-1200.
Oct. 17—“High Altitude Medicine”—Metropolitan Section EMBS, 7:15 PM, Rockeffer Univ., Room 301 (Tower), 1200 York Ave., NYC. Joel Levitt (212) 478-7803 (24hr Voice-Mail).
Oct. 22—“GOLDen Opportunity”—No. Jersey G.O.L.D. (Graduates Of The Last Decade), 7:30 PM, Robin Hood Inn, Montclair, NJ. Amy Galavrosi (201) 742-2381, ext. 24, or fax 742-1452.
Oct. 30—27th Annual Symposium and Mini-Show—MTT-S/AP-S/ED-S Chapters, 1:30 - 8:00 PM, Officers Club Fort Monmouth, Fort Monmouth, NJ. Dr. Chandra Gupta, (201) 833-4469 (GRC-Marconi).
Oct. 31—“Tunable Photonic Crystals”—IEEE LEO Chapter, 5:00 PM, NJIT, Rm. 202, ECE Bldg., Newark, NJ. Haim Grebel (201) 596-3633.

Upcoming Meetings
Nov. 6—“NJ Section Executive Committee Meeting”—7:00 PM, Plant 11, GRC-Marconi, 164 Totowa Road, Totowa, NJ. Serge Bogamo (201) 785-3673 (H).
Nov. 20—“Optics And Microwave Evening”—NJ MTT-S/AP-S Chapter, 4:00-6:00 PM NJIT, ECE C225, 2nd Floor Conference Room, (corner of Warren & Summer Sts., Newark, NJ. Dr. Chandra Gupta, (201) 683-4469 (GRC-Marconi). Details in November issue.
Nov. 21—“One-Day Seminar: Short Circuit Analysis”—NJ IAS/PES Chapters, 8:30 AM - 3:30 PM, GPU Energy, 300 Madison Ave., Morristown, NJ. Dick McFadden, (212) 239-8510.
Nov. 21—“Flywheel Energy Storage”—NJ IAS/PES Chapters, 7:00 PM, GPU Energy, 300 Madison Ave., Morristown, NJ. Ken Oxele (201) 455-8451.
Nov. 21—“Convergence Of Networks And Services”—NJ Chapter IEEE Communications Society, 9:00 AM-4:30 PM, United Engineering Center, 345 E 47th Street, NYC. Fee/registration: contact Jim Barbera (718) 816-6222 (voice mail); fax (212) 465-8977; or e-mail j.barbera@ieee.org

Members and Non-Members Welcome
PLEASE POST
NYNJ/LI EMBS:
High Altitude Medicine
On October 17, 1996, the Metropolitan Section Engineering in Medicine and Biology Society will present a lecture on "High Altitude Medicine." The speaker will be Shillee Cohen, M.S., MPH, G.S., CGRN.
About the Lecture
Many people enjoy sports activities that will take them to high altitudes. Hiking, skiing, and mountain climbing to name a few, commonly occur at altitudes greater than 8000 ft. Many travelers, unaware of the threats of high altitude, may not be able to recognize the signs and symptoms of illness in themselves or in others. Acute Mountain Sickness (AMS) is the common name for the syndrome that occurs when one is unable to acclimatize to high altitude. AMS commonly occurs in any age group, irrespective of physical ability, physique, or history of previous exposure. Those afflicted with pulmonary or cardiac disorders may be at greater risk, or have more severe symptoms at lower altitudes. Moderate and severe mountain sickness may cause morbidity and mortality in both direct and indirect ways. High altitude medicine involves the study of AMS and its more severe states High Altitude Pulmonary Edema (HAPE) and High Altitude Cerebral Edema (HACE) including management and prevention of these conditions. This lecture will discuss these disorders, signs and symptoms of these conditions, first aid treatment and medical management.
About the Speaker
Shillee Cohen is a Nurse Practitioner with seventeen years of experience in Health Care. She currently works at Mount Sinai Medical Center within the Department of Surgery. She is also a Clinical Adjunct Instructor in the School of Nursing at New York University, where she teaches in the Graduate School Nurse Practitioner program. Shillee received her Bachelor in Nursing and a Masters in Public Health at Columbia University. Ms. Cohen regularly lectures throughout the city on topics related to Health Care and the Nurse Practitioner role. (Nurse Practitioners may legally prescribe medications).
Place: Rockefeller Univ., Room 305 West (Tower), 1200 York Avenue, NY. Information: Joel Levitt (212) 748-7635 (24 hr. Voice-mail).

NJ PES/IAS:
Magnetically Levitated Trains
The October 17, 1996 meeting of the NJ Section Industrial Applications and Power Engineering Society will feature a talk on the state-of-the-art in research and development efforts of MAGLEV transit systems. The speakers will be Dr. Kent Davye and Mr. Tony Morris of American Maglev Technology (AMT) Corporation. The presentation will cover both the technical and market analysis of the technology.
About the Talk
Mr. Morris will speak on the status of two of the AMT technologies, Magnetic Levitation (Maglev) and Flywheel Energy Storage. The engineering and technology program, technology advantages and innovations, test results, grants received, technology partners and marketing/ project efforts to date will be presented. Also discussed will be the present proposal to the State of Florida and the new recent demonstration project proposal submitted to the US DOT. Current theoretical work on Flywheel Energy Storage, the technical partners and recent proposals will also be presented.
About the Speakers
The AMT and associated family of technologies have arisen from the collaboration of two individuals: Dr. Kent Davye and Mr. Tony Morris. Together, Mr. Morris and Dr. Davye have developed a revolutionary new form of magnetic levitation transportation technology, secured substantial public and private funding and constructed the only full-scale maglev demonstration vehicle and test track. Mr. Morris is an Atlanta-based engineering graduate of Georgia Tech who has run a highly successful construction management and scheduling consulting firm for the past 15 years.
Time: 7:00 PM, Thursday, October 17, 1996.
Place: GPU Energy, 300 Madison Ave., Punchbowl Room, Morrisstown, NJ. Information/Reservation: Dennis J. Hildenbrand (212) 784-1200, Email: thj4dkin@gtl.net

IEEE
North Jersey Section & New Jersey Coast Section
MTT-S/AP-S/ED-S Chapters present
12th ANNUAL SYMPOSIUM AND MINI-SHOW
Lectures and Booth Exhibits
FOCUS:
Industrial & Commercial Applications of Microwaves
Wednesday, October 30, 1996 Hours: 1:30 PM to 8:00 PM
Place: Officers Club Fort Monmouth, Fort Monmouth, NJ
Refreshments and free dinner
to all attending the Symposium and Mini-Show
ALL WELCOME!
Engineers, Technicians, Purchasers And Administrators.
You do not have to be an IEEE member to attend.
For more information, reservations, directions or questions call:
Dr. Chandra Gupta (201) 633-4469 (GEC-Marconi)
Wille Schmidt (201) 492-0371
Dr. Edip Niver (201) 596-3542 (NJIT)

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