



The IEEE

Newsletter

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

NJ EDS, C&S Chapters:

Carbon Nanotube Arrays & Non-lithographic Nanofabrication for Future Electronics

On February 2nd, 2000, the IEEE NJ Section Electron Devices, and Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "Carbon Nanotube Arrays & Non-lithographic Nanofabrication for Future Electronics." The speaker will be Jimmy Xu.

About the Talk

The celebrated microelectronics technology has known a one-dimensional path: Miniaturization. It has now come to a crossroads. Looking down the road to nanoelectronics, one sees exponentially increasing cost and diminishing return with billion dollar IC fab costs doubling every generation. The high cost is on the one hand squeezing out all but the largest players, and on the other slowing down innovation from within. Troubles at the physical foundation of the technology are as concerning, if not more so. The wiring challenge and the power dissipation crisis are only going to get worse with each further step of miniaturization. These problems are rooted in the much hyped Digital (i.e. von Neumann's binary and serial computing) paradigm which has remained unchanged for decades. The time has come to look for alternative paths; a view shared by many. Alternatives do exist, both on the fabrication front, as attested by the recent successes of "natural" approaches in nanofabrication, and on the architecture front, as advocated by von Neumann himself in his later years and many others. In this talk, the speaker will use a recent success in fabricating highly ordered arrays of carbon nanotubes with the best uniformity yet reported as an example of the capabilities enabled a non-lithographic nanofabrication technique being developed. Also highlighted will be additional examples of efforts on two fronts "in search of alternative paths" to future evolution of microelectronics:

1. Non-lithographic fabrication of highly-ordered arrays of nanotubes, nanowires and nanodots; their fundamental properties and device applications;
2. The Prospects of extracting computational functions from the collective behavior of large and highly ordered arrays of simple nanoelements.

About the Speaker

Currently a professor of Engineering and Physics at Brown University, Jimmy Xu, was Director of the Nortel Institute for Telecommunications and the Nortel Chair Professor in Emerging Technologies at the University of Toronto. He received a number of awards including the 1995 Steacie Prize of Canada, and served as editor of IEEE Transactions on Electron Devices and on a number of national and international committees and boards, including the National Research Council of Canada's advisory board. He has published over 120 papers in refereed journals and over 80 conference papers; been granted 15 patents; given numerous seminars, colloquia, invited talks; and supervised many PhD and Master's students, seven of whom received national or international awards/prizes for their research accomplishments.

All Welcome!

You do not have to be a member of the IEEE to attend.

Time: 7:00 PM, Wednesday, February 2, 2000. Free buffet will be starting at 6:15 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Directions are available at www.njit.edu.

Information: Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Durga Misra or Dr Edip Niver (973) 596-3542 (NJIT).

New Online Grad School To Train Telecom Execs

A new online program--one of the first in the nation to recognize the need for technically sophisticated managers in the tumultuous telecommunications industry--will begin training graduate students early this year. Stevens Institute of Technology is offering the four-course certificate program, Telecommunications Management, on WebCampus.Stevens, a new Internet distance learning site, starting in January.

For additional Information, see
<http://www.webcampus.stevens.edu>

Or contact:

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IEEE NJ SECTION HOME PAGE

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The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7:00 PM. Meetings are open to all members. For information on meeting agenda contact Secretary Wayne Owens at mlwo@aol.com.

NJ PES/IAS:

Induction Motor Drives & Applications Seminar

The IEEE North Jersey Section Chapters of IAS/PES will host a one day Seminar on "Induction Motor Drives & Applications" on March 17, 2000 at a location (to be determined) in Morris County, New Jersey. The seminar duration will be 9:00 AM to 4:00 PM, with breaks for lunch and coffee. The seminar will cover the following topics:

- Fundamentals of Energy Conversion- Induction Motors
- Mathematical Modeling of Motors to Simulate Dynamics of its Performance
- Standards Governing the Selection & Application of Motors
- Application of Motors for Centrifugal Pumps, Fans, and Chillers
- Variable Speed Drive Applications
- Technical Issues Associated with Variable Speed Drive Applications
- Protection of Motors - IEEE Std. C37.96 perspective
- Digital Relays for Motor Protection

The speakers for this Seminar have over 20 years of experience in the design, selection & application of the motors drawn from different organizations. The registration fee for this seminar will be \$200 (non-IEEE members), \$150 (IEEE Members), and \$100 (Students with valid ID). The registration fee includes lunch, refreshments and handouts. Non-members joining IEEE within 30 days of the seminar will be rebated \$50 of the \$200 registration charge.

Please look for further details in the February, 2000 Newsletter of the IEEE North Jersey Section.

Time: 9:00 AM to 4:00 PM, Friday, March 17, 2000.

Place: To be determined.

Information: R. Vittal Rebbapragada, PE, at (609) 720-3209 or via e-mail at r.rebbapragada@ieee.org.

IEEE Member - Get - a - Member Campaign

Recruit new members and get a credit voucher and a chance to win 1 FREE IEEE membership.

Campaign dates are September 1, 1999 to August 15, 2000.

Recruit	US\$ credit voucher amount
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6 - 9 new members	\$20.00 + a chance to win 1 year of FREE IEEE membership
10 or more new members	One year FREE IEEE membership for the year 2001

Get complete information and the number of membership applications you need by contacting Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201) 461-0900, ext. 234 mornings, FAX (201) 461-0990, email: don@kulite.com.

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OF NORTHERN NJ**

www.hicom.net/~cnnnj

North Jersey Section Activities January 2000

Jan. 6–“NJ Section Executive Committee Meeting” – 7:00 PM, ITT, 100 Kingsland Road, Clifton, NJ. Wayne Owens at mlwo@aol.com.

Jan. 27–“Writing a Book - What's in it for You?” - NJ Consultants' Network, 7:30 PM, KDI Triangle, 60 S. Jefferson Road, Whippany, NJ. (973) 728-4500.

Upcoming Meetings

Feb. 2–“NJ Section Executive Committee Meeting” – 7:00 PM, ITT, 100 Kingsland Road, Clifton, NJ. Wayne Owens at mlwo@aol.com.

Feb. 2–“Carbon Nanotube Arrays & Non-lithographic Nanofabrication for Future Electronics” – EDS/C&S Chapters, 7:00 PM, NJIT, Room 202, ECE Building, Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Durga Misra or Dr Edip Niver (973) 596-3542 (NJIT).

Feb. 2–“Tele-Rehabilitation: Prospects and Progress”– NY/NJ/LI EMBS, 7:15 PM Registration, 7:30 PM Program, New York Academy of Medicine, Fifth Avenue at 103rd Street, NY, NY. Joel H. Levitt (212) 479-7805 (24 hr voice mail).

Feb. 25–“Fee Setting for Consultants” - NJ Consultants' Network, 7:30 PM, KDI Triangle, 60 S. Jefferson Road, Whippany, NJ. (973) 728-4500.

Mar. 17–“Induction Motor Drives & Applications Seminar” – NJ IAS/PES Chapters, 9:00 AM to 4:00 PM, location TBD. R. Vittal Rebbapragada (609) 720-3209 or via e-mail at r.rebbapragada@ieee.org.

May 7–“NJ Section Awards Reception”–3:00 to 6:00 PM at the Birchwood Manor, 111 North Jefferson Road, Whippany, NJ. Anne Giedlinski (973) 377-3175.

Members and Non-Members Welcome

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IEEE
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Tele-Rehabilitation: Prospects and Progress

On February 2nd, 2000, the North Jersey, New York, and Long Island Chapters of the Engineering in Medicine and Biology Society (EMBS) of the IEEE together with the New York Academy of Medicine's Sections on Biomedical Engineering and Physical Medicine and Rehabilitation will host a program on "Tele-Rehabilitation: Prospects and Progress." The speaker will be Dr. Michael Rosen.

About the Talk

Tele-rehabilitation is the application of telehealth tools and techniques to deliver rehabilitation services to both practitioners and patients in remote clinics and homes. In this presentation, Dr. Rosen will discuss the concepts, distinctions, terminology, and technologies that define the new field of Tele-rehabilitation. He will provide examples of the clinical services that can be provided via tele-rehabilitation, including: (1) Counseling, (2) Training, (3) Assessment and monitoring of function and health status, (4) Delivery of therapeutic interventions. Dr. Rosen will also outline the technical, regulatory and economic obstacles that need to be overcome to fully realize the potential of tele-rehabilitation. A demonstration of current methods for real-time video interaction and sharing of data over telecommunication lines, with and without benefit of computers, will be given. Attendees will have an opportunity to interact with individuals remote from New York City via these links. Finally, the speaker will present a sample of the research and development projects now underway at the Rehabilitation Engineering Research Center on Tele-rehabilitation at the Catholic University of America, National Rehabilitation Hospital and Sister Kenny Institute in Washington, DC, sponsored by the Department of Education National Institute on Disability and Rehabilitation Research.

About the Speaker

Michael J. Rosen, PhD, is the Director of the Rehabilitation Engineering Service at the Catholic University of America, National Rehabilitation Hospital and Sister Kenny Institute in Washington DC. He received his undergraduate education at Brown University, and did his graduate work at Northwestern University, completing his PhD in Electrical Engineering, with a specialty in Biomedical Engineering in 1972. In 1975 he joined the Mechanical Engineering Department at MIT. He has specialized in understanding the mechanisms of disability and applying engineering

science and design to reduce the functional deficits which result. His areas of particular interest are communication technologies for motorically non-vocal individuals, mechanics and orthotic modification of pathological tremors, design of assistive products, and tele-rehabilitation. Dr. Rosen has held teaching positions at MIT, the University of Tennessee in Memphis, where he was an Associate Professor in the Department of Biomedical Engineering and Orthopedics, and at the Catholic University of America. He has collaborated with physiatrists, neurologists, orthopedists, and allied health professionals in his teaching and research efforts, emphasizing a friendly team approach to solving patients' problems.

Time: 7:15 PM Registration (no charge), 7:30 PM Program, Wednesday, February 2, 2000.

Place: New York Academy of Medicine, Fifth Avenue at 103rd Street, Manhattan. TRAVEL HINTS: If coming by car, there may be limited free parking in NYAM enclosed lot at 2 East 103rd Street. By subway, take #6 to 96th St (Lex. Ave line). Walk to 5th Avenue, walk to 103rd St. [a better route than the wavy path through a housing project on 103rd St.]

Information: Joel H. Levitt (212) 479-7805 (24 hr voice mail).

NJ Consultants' Network:

Writing a Book -

What's in it for You?

On Thursday, January 27, 2000, the IEEE Consultants' Network of Northern NJ will host a presentation by Dudley R. Kay, "Writing a Book -- What's in it for You?"

About the Talk

Who authors professional books and how are arrangements made with a publisher? Assumed to be the province of academics and professional writers, consultants may be surprised to learn how attractive their Real World experiences are to numerous publishers. Why is this so? Who are these publishers? What are the financial and non-tangible benefits of book authorship? What are the ramifications of publishing in The Digital Age? What questions might YOU have about the authoring process? Dudley R. Kay will share his insights into the evolving business of traditional and online publishing, from running with The Big Dogs, through association publishing, to the growing phenomenon of self-publishing.

About the Speaker

Dudley Kay has 27 years of academic and professional book publishing experience with positions in sales, marketing, editorial, and upper management. He started his publishing career with Prentice-Hall, rising to the position of Director of Product Marketing Management in the College Division. He joined medical publishing leader W. B. Saunders as Publisher for five years and later established the professional book marketing programs for Macmillan. After starting his own professional book Agency to help authors, he was hired by IEEE to bring the IEEE Press into a more prominent and active program. From 1990 - 1996 the IEEE Press grew from 6 books a year and less than \$1 million in annual revenue to over 50 books a year and over \$3 million in sales. After founding his own company SciTech Publishing in 1997, involved with publishing, agenting, and marketing technical books, Dudley was recently recruited and hired to be Vice-President and Publisher of William Andrew Publishing, a fast-growing book and Internet publisher of technical books and software with offices in Park Ridge, NJ, and Norwich, NY.

All Welcome!

You do not have to be a member of the IEEE or of the Consultants' Network to attend. Networking after the meeting is encouraged.

Time: 7:30PM, Thursday, January 27, 2000.

Place: KDI Triangle, 60 S. Jefferson Road, Whippany, NJ.

Information: Please call (973) 728-4500 for meeting-site directions and for information on the IEEE Consultants' Network, or visit our Web Site at www.hicom.net/~cnnnj.