

THE IEEE NORTH JERSEY SECTION NEWSLETTER

Vol. 58, No.4 AUGUST 2011

In this issue

- Calendar of Upcoming Meetings, Events and Section Activities
- Meetings and Upcoming Events
- IEEE Co-Sponsored NIKSUN World Wide Security & Mobility Conference (WWSMC) 2011
 A Big Success
- Welcome to New Members
- Announcement:
 26th Annual
 Symposium and
 Mini-Show
- 2011: North Jersey Section Roster

Calendar of Upcoming Events and Section Activities:

• Aug 10, 2011: 6:30 PM - 8:30PM:

ENGINEERS MEET FOR AN AUGUST SOCIAL No Speaker! Just Conversation and Hospitality

Location: Clifton Memorial Library, 292 Piaget Ave. Clifton NJ 07011

Contact: Paul Ward, 973 790-1625 peward@ieee.org, or Richard F. Tax, 201- 664-6954. rtax@verizon.net

• Aug 24, 2011: 7:00 PM - 8:30PM:

Mobile or Terminal Antennae Design - Dr. Marta Martínez-Vázque, IMST GmbH, Kamp-Lintfort, Germany Location: Rutgers University, Fiber Optics Auditorium, Busch Campus

Contact: Filomena Citarella: fcitarella@aol.com

• Sept 07, 2011: 6:00 PM - 8:30 PM

North Jersey Section EXCOM Meeting

Location: Clifton Public Library - Allwood Branch, Activity Room, 44 Lyall Road, Clifton, NJ 07012

• Sept 14, 2011: 4:30 PM - 6:15 PM

The Perspective of Nanotechnology and its Convergence with Future Information Technology

- Jong Min Kim of Samsung Advanced Institute of Technology, South Korea

Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102

Contact: Dr. Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver (973) 596-3542

• Sept 20, 2011: 4:30 PM - 5:30 PM

Control System Society Seminar "On Improving Fuel Efficiency of Hybrid Electric Vehicles"

- Dr. Felicia Sun of the Ford Motor Company

Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ 07102

Contact: feliciaxsun@gmail.com

• Oct 6, 2011: 9:00 AM TO 5:00 PM

26th ANNUAL SYMPOSIUM AND MINI-SHOW

10-12 LECTURES FEATURING SPEAKERS FROM LEADING COMPANIES, WITH EMPHASIS ON MILITARY ELECTRONICS, WIRELESS TECHNOLOGIES AND MICROWAVE COMMUNICATIONS.

Location: Hanover Manor, 16 Eagle Rock Ave., E. Hanover, NJ 07936. Ph#973-992-7425

Contact: Kirit Dixit - kdixit@ieee.org or Har Dayal - dayalhar@gmail.com

• October 27, 2011:

The North Jersey Section Life Grade Lunch will be held at Hamilton Park. Reservations are required. Details to follow in the September Newsletter

For updates of events please visit:

http://webinabox.vtools.ieee.org/wibp_calendar/index/R10327

Meeting Announcements:

August 10, 2011

North Jersey Section Professional Activities Committee presents:

ENGINEERS MEET FOR AN AUGUST SOCIAL
No Speaker! Just Conversation and
Hospitality

Meeting Agenda: Informal Social with Pizza, soda & refreshments!

This is the lighter side of the profession. Come, bring your friends and beat the heat. July brought in five new members. This meeting is to unite members of the Section for an evening of conversation, hospitality and refreshments. Our PACE meetings offer opportunities for lively discussions. Historically, once members get started they just don't want to leave. Our meetings are entertaining, thought provoking and provide opportunities to network.

Job Notices: Bring any job notices or employment information to the meeting.

Employment Opportunities are always welcome.

All are invited. We encourage North Jersey Section Ex-Com officers to attend. When they do, our Section membership can meet with them on a first name basis.

Bring your associates, friends and spouses and we will talk about the Profession.

Welcome: Members and students from other IEEE Sections, professional societies and engineering disciplines are always welcome. We now include members from IEEE, ASME and AEA. For more information about these groups see:

www.asme.org/sections/northjersey

www.ieeeusa.org, www.aea.org

http://web.njit.edu/~ieeenj/,

www.programmersguild.org

Location: Clifton Memorial Library, 292 Piaget Ave.

Clifton NJ 07011

Contact: Paul Ward, 973 790-1625 peward@ieee.org, or Richard F. Tax, 201-664-6954. rtax@verizon.net

Time: 6:30 PM - 8:30PM

For more details and registration please visit:

ENGINEERS MEET FOR AN AUGUST SOCIAL No

Speaker! Just Conversation and Hospitality

August 24, 2011

IEEE JOINT CHAPTERS MEETING
PCJS AP/ED/MTT, NJ Coast EMC/VT/AP &
WIE, NNJ AP/MTT, and Rutgers WIE
present:

Mobile or Terminal Antennae Design

By: Dr. Marta Martínez-Vázque, IMST GmbH, Kamp-Lintfort, Germany



Abstract: Nowadays, the access to mobile communications not only through mobile telephones, but also other kind of portable devices such as notebooks or PDAs, equipped with PCMCIA cards, allows providing almost universal connectivity, with access to public or private networks. Therefore, both cellular standards, such as the GSM family and third generation standards such as UMTS, as well as unlicensed networks, like WLAN, should be accessible with a single device. However, the limited space foreseen for the antenna and the small overall size of the terminal are often the reason of the narrow band characteristics of the resulting antennas. This problem becomes even more serious when a multiband or an ultra-wideband antenna has to be designed. Also, only a careful design of the antenna taking into account the interaction both with the handset components and the human user can lead to satisfying solutions that fulfill the given requirements for mobile communications handsets. Their design is, however, no trivial task due not only to the extensive requirements of modern antennas but also to plethora of physical factors that impinge on their performance, such as the close proximity of electronic components. However, in the design of antennas for commercial applications, the designer has to take into account many issues not directly related to the antenna itself. Antenna engineers have to interact with other departments, to satisfy all the requirements in terms of, for example, mechanical stability, aesthetical design or compliance testing. Thus, the design must be able to adapt the antenna concept to eventual changes in the device or the specifications. Although the use of powerful software packages has allowed to precisely simulate the antennas in such a complex environment, they are useless without an in-depth knowledge of electromagnetic theory and experience in solving such problems. Dr. Martínez-Vázquez has been involved in the design of antennas for mobile communications both from the academic and the industrial point of view, which allows her to have a global view on the problems related to this topic.

Bio: Marta Martínez-Vázquez was born in Santiago de Compostela, Spain, in 1973. She obtained her Dipl.-Ing. and Ph.D. degrees in Telecommunications from the Universidad Politécnica de Valencia, Spain, in 1997 and 2003, respectively. In 1999 she was granted a fellowship from the Pedro Barrié de la Maza Foundation for postgraduate research at IMST GmbH, in Germany. Since 2000, she is a full-time staff member of the Antennas and EM Modeling department of IMST. Her research interests include the design and applications of antennas for mobile communications, planar arrays, sensors, RF systems, and Electromagnetic Bandgap (EBG) materials. Dr. Martínez-Vázquez was awarded the 2004 "Premio Extraordinario de Tesis Doctoral" (Best Ph.D. award) of the Universidad Politécnica de Valencia for her dissertation on small multiband antennas for handheld terminals. She has been a member of the Executive Board of the ACE (Antennas Centre of Excellence) Network of Excellence (2004-2007) and the leader of its small antennas activity. She has also been the vice-chair of the COST IC0306 Action "Antenna Sensors and Systems for Information Society Technologies" (2007-2011). She is a member of the AdCom of the IEEE Antennas & Propagation Society, of the Board of Directors of the European Association of Antennas and Propagation (EurAAP), and of the Technical Advisory Panel for the Antennas and Propagation Professional Network of IET. She has over 50 publications, including books, journal and conference papers and patents. She is a Distinguished Lecturer for the IEEE Antennas and Propagation Society, an Associate Editor of IEEE Antennas and Wireless Propagation Letters and a member of the editorial board of the Radioengineering Journal.

Location: Rutgers University, Fiber Optics Auditorium,

Busch Campus

Contact: Filomena Citarella: fcitarella@aol.com

Time: 7:00 PM - 8:30PM

For more details and registration please visit:

Mobile or Terminal Antennae Design

September 07, 2011

IEEE North Jersey Section presents: North Jersey Section EXCOM Meeting

Abstract: The next Excom meeting is at the Allwood Branch of the Clifton Public Library.

Normal meeting agenda times and buffet all still the same, both in the main activity room

Section Business Discussion/Planning for all chapters, groups, committee chairs

Location: Clifton Public Library - Allwood Branch, Activity Room, 44 Lyall Road, Clifton, NJ 07012

Time: 6:00 PM - 8:30 PM

For more details and registration please visit:

North Jersey Section EXCOM Meeting

September 14, 2011

Electron Devices Society presents:

The Perspective of Nanotechnology and its

Convergence with Future Information

Technology

By: Jong Min Kim of Samsung Advanced Institute of Technology, South Korea

Abstract: This talk will present the current and future of nanotechnology, especially focusing on the convergence of nanotechnology with electronics, photonics, energy, and biology. Nanoelectronics aspect will address the nano-carbon such as graphene and carbon nanotubes in flexible and transparent electrodes, transistors, and in switching devices. This will further address displays, lighting, THz radiation, network transistors and many other applications. As a part of nanophotonics, quantum dot and its related application for LED and displays will be addressed. The talk will also discuss nano-energy generator for energy harvesting. Concept of e-nose and e-tongue with nano wires will be presented. Printable and flexible electronics is discussed with nano materials. The convergence of nanotechnology is covered in

Biography: Dr. Jong Min Kim is a Samsung Group Fellow and a Senior Vice President of Samsung's Frontier Research Labs, Samsung Advanced Institute of Technology (SAIT) at Seoul, South Korea. He has authored and co-authored more than 225 refereed journal publications and 144 Conference presentations and several articles are in the journals "Nature" and "Science" in quantum dot photonics area. He received numerous awards in display technology and in nanostructure science including

Special Achievement Award by Nano Korea'09 by Korean Government and Best paper Award from Samsung for his paper in 'Science.' He received his BSEE in 1980 from Hong-ik University, M.S.E.E. and Ph.D. in Electrical Engineering from New Jersey Institute of Technology in 1986 and 1992 respectively. He has worked at the US Army Research Laboratory and during 1992-94 for FED Corporation. He is listed as an Inventor on 72 domestic patents and 107 international patents.

Location: ECE 202, NJIT, 161 Warren Street, Newark,

NJ 07102

For Directions: Getting to NJIT, For Street Map please click here

Contact: Dr. Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver (973) 596-3542

Time: 4:30 PM - 6:15 PM

For more details and registration please visit:

The Perspective of Nanotechnology and its Convergence with Future Information Technology

September 20, 2011

Control Systems Society presents:

<u>Seminar: "On Improving Fuel Efficiency of Hybrid Electric Vehicles"</u>

By: Dr. Felicia Sun of the Ford Motor Company

Abstract: With increased concern for energy sustainability, foreign oil dependency and climate changes, new technologies are required to improve the efficiency and reduce the emission of the conventional fossil-fuel based vehicles which are propelled by internal combustion engines. This talk will discuss hybrid electric vehicles from the aspect of improving fuel efficiency. The talk will first discuss the efficiency loss of the conventional vehicles; describe the principle of hybrid electric vehicles to recovery and storage wasted energy, and EPA fuel economy testing. Finally some of the battery control strategies are described to make the drive safe and fun.

Biography: Felicia Sun has been a Production Engineer at Ford Motor Company since January 2010. Prior experiences included the position of senior software engineering in Continental Automotive System Inc. from 2005 to 2010 and in Motorola Company from 2000 to 2005. Felicia received her Ph.D. in Electrical Engineering from NJIT in 2001. She started working in Automotive Industry in Detroit, Michigan in 2000. During her first years at Motorola, Felicia's responsibilities were to design, implement and test the control strategies for battery charging and discharging in electrical vehicles, as well as the control strategies for fuel injection and spark control for internal combustion engines.

Upon joining Continental Automotive System Inc., she devoted the next five years to vehicle fault code diagnostics and gateway communication. Felicia started a new venture with Ford Motor Company in 2010; she has been working on multidiscipline areas to support vehicle launch, such as defining test specifications, analyzing vehicle test data, diagnosing vehicle issues, and verifying control strategy using hardware in the loop.

Felicia's current research interests include hybrid vehicle architecture and system interface, software control strategy, hardware electronics, and mechanical and thermodynamics.

Location: ECE 202, NJIT, 161 Warren Street, Newark, NJ

07102

For Directions: Getting to NJIT,
For Street Map please click here
Contact: feliciaxsun@gmail.com

Time: 4:30 PM - 5:30 PM

For more details and registration please visit:

<u>Control System Society Seminar "On Improving Fuel Efficiency of Hybrid Electric Vehicles"</u>

October 27, 2011: The North Jersey Section Life Grade Lunch will be held at Hamilton Park. Reservations are required. Details to follow in the September Newsletter

IEEE Co-Sponsored NIKSUN World Wide Security & Mobility Conference (WWSMC) 2011 – A Big Success

During July 25-27, 2011, over 280 industry leaders, security and mobility experts, government officials, and academia attended the first World Wide Security & Mobility Conference (WWSMC) 2011, at Princeton, NJ exchanging mindshare, discussing futures, and building key relationships to further strengthen the cyber security initiatives that were formerly confined to silos.

Cyber Security and Mobility are two of the most important topics of the day. Most conferences today do not focus on in-depth topics providing insights and learning opportunities. It is for this reason that NIKSUN, along with IEEE Communication Society of Princeton / Central Jersey Section, IEEE MGA Industry Relation, CTIF-USA and Princeton University organized this 3-day conference focusing on security and mobility. NCSC (NIKSUN Cyber Security Consortium's)

premier three-day conference provided a dynamic platform for security and mobility professionals to connect and share the latest innovations in cyber security and mobility vision, practice, and technology.



In a packed room, attendees listened to prestigious speakers, such as the Honorable Michael Chertoff, former Secretary of Homeland Security; Dr. Parag Pruthi, Founder & CEO of NIKSUN, Prof. Henning Schulzrinne of Columbia University – the "father of Internet telephony", Prof. Dipankar Raychaudhuri, director of WINLAB and Mr. Vimal Solanki Senior Vice President, Corporate Strategy & Intel Office McAfee, Inc.

First day of the conference (July 25) focused on security related topics while the second and third days of the conference (July 26 and 27) were dedicated to wireless and mobility related topics. There were 8 security related talks including two keynote talks on the first day. Welcome address of the security summit was given by Dr. Parag Pruthi, Founder, Chairman and CEO of NIKSUN who highlighted the importance and timeliness of this conference as the world is going through mobility evolution and is facing security challenges. The speakers of the first day of the conference discussed today's challenges in cyber security, network management, and compelling need for real time and forensic analysis to address the evolving threats. Range of security related topics included emerging threats and mitigation techniques, theory of digital forensics, cloud computing security, what it takes to secure a network of almost million users scattered through the world, computer forensics and included a live "attack and defend" session as well.

Second and third days (July 26 and July 27) of the conference were dubbed as wireless summit. There

were total 22 talks for both the days including 4 keynote talks. The speakers of the wireless summit highlighted topics such as robust and mobility-centric architecture of the future Internet, open Internet debate, challenges of severely limited spectrum in urban areas, trust management for peer-to-peer systems, secured and optimal service delivery for 4G networks, E-Health, evolution of mobility in future wireless networks, 3GPP SAE/LTE security, security for Femto cells, security and privacy for Internet of things (IOT) among others.

"The conference acted like a bridge, connecting the initiatives of industry, government, and academia," said Dr. Parag Pruthi, Founder & CEO of NIKSUN. "With all of these key leaders and security experts in one room, discussing the challenges that face us all, the speed of our work in solving these problems has taken on a whole new level. The knowledge transfer and energy in the room spoke for itself."

Section leaders and members from the neighboring IEEE sections namely, North Jersey, Coastal Jersey, New York, Connecticut and Long Island section took active participation in the event. Dr. Naresh Chand and Dr. T K Srinivas section chairs of North Jersey Section and Coastal Section and Dr. Rebecca Mercuri vice-chair of IEEE PCJS are among the active participants. Among other co-sponsors who addressed the crowd are, Prof. Ramjee Prasad director of CTIF, Prof. H. Vince Poor and Prof. Ruby Lee of Princeton University, Dr. Neeli Prasad director of CTIF-USA. Dr. Ashutosh Dutta, MGA Industry Relation Chair underscored the importance of IEEE and Industry relationship contributed by events such as this. Dr. Rob Fish, member-at-large for IEEE ComSoc BOG, was appreciative of the event and thanked the organizers.

WWSMC is going to be a bi-annual event in Princeton area. Second WWSMC is being planned for January, 2012. Active participation from professional community such as IEEE is highly encouraged. Details of the first WWSMC can be found at www.niksun.com/wwsmc-home.html. Any questions related to future WWSMC and if you are interested to participate in the organizing committee for WWSMC 2012 can be directed to Ashutosh Dutta at ashutosh.dutta@ieee.org.

Welcome to New Members!

Bahaa Abdelaziz Wojciech Falkowski Jennifer Pass Student Member Student Member Student Member

Jacob Barber-BuxbaumRudolf FuksLucas PlutaAssociate MemberMemberStudent Member

Mike BenisCaitlin GarciaKrzysztof PrawdzikMemberStudent MemberStudent Member

Rob Bidad Qiuxia Han Chitra Sawkar Member Student Member Member

Eric Chae Brandon Hedvat Donald Frank Schutz

Student Member Member Member

Shuo Chen Srilesh Kannoly Janak Shah Graduate Student Member Member Member

Michael James Chiaravalle Joakim M. Krell Michael David Stross

Student Member Student Member Student Member

Mauricio Cortes Michael McCord Mekonen Teferi

Member Graduate Student Member Student Member

Jaydip Miteshbhai Desai Manfred Minimair Samarth D Trivedi

Graduate Student Member Member Graduate Student Member

Matthew Simon Dodd Harry Leroy Moore Joseph Weinhoffer

Student Member Member Graduate Student Member

Enoch Brian Dor Mohan Pandiyan Gregory H Wolf

Graduate Student Member Graduate Student Member Student Member







THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.

IEEE NORTH JERSEY SECTION MTT-Society and AP-Society Joint Chapter

PRESENTS

26th ANNUAL SYMPOSIUM AND MINI-SHOW

FOCUS:

SELECTED TOPICS IN RF AND MICROWAVE TECHNOLOGIES FOR COMMERCIAL AND MILITARY APPLICATIONS

DATE: THURSDAY OCTOBER 6, 2011

PLACE: Hanover Manor, 16 Eagle Rock Ave., E. Hanover, NJ 07936. Ph#973-992-7425

SCHEDULE OF EVENTS:

9:00 AM TO 4:30 PM

TECHNICAL SESSIONS

10 –12 LECTURES FEATURING SPEAKERS FROM LEADING COMPANIES, WITH EMPHASIS ON MILITARY ELECTRONICS, WIRELESS TECHNOLOGIES AND MICROWAVE COMMUNICATIONS MINI SHOW FEATURING LATEST PRODUCTS

(APPX. 30-40 EXHIBITORS)

(COMPLIMENTARY LUNCH SERVED)

Details of the schedule and speakers and the topics will be posted on the IEEE North Jersey Section Home page http://www.ieee.org/go/njsection by September 2011.

For further information contact:

CHAIR/EXHIBITION: KIRIT DIXIT (201-669-7599), kdixit@ieee.org

PUBLICITY: ARTHUR GREENBERG (gardner1@optonline.net)

EVENT/ LOCATION CO-ORDINATOR: KEN OEXLE (973-386-1156) k.oexle@verizon.net

CO-CHAIR- TECHNICAL PROGRAMS: HAR DAYAL, dayalhar@gmail.com

CO-CHAIR - TECHNICAL PROGRAM: GEORGE KANNELL (973-437-9990), gkk@lgsinnovations.com

THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW.

2011 IEEE North Jersey Section

Region 1 – Area Volunteers

Southern Area Chair - Durga Misra, dmisra@njit.edu

Metsac Society Chair - Kirit Dixit kdixit@ieee.org

Section Volunteers Executive Committee

Chair - Naresh Chand chandnaresh@gmail.com

Vice Chairman - 1 - Russell Pepe rcpepe@ieee.org

Vice Chairman - 2 - Har Dayal dayalhar@gmail.com

Secretary - Mengchu Zhou zhou@njit.edu

Treasurer - Paul E Ward peward@ieee.org

Members at Large

1. Jignasa Ray jignasa.ray@ieee.org

2. Adriaan Van Wijngaarden avw@ieee.org

3. Chris Peckham cdp@ieee.org

Junior Past Chair - Amit Patel

a.j.patel@ieee.org

Senior Past Chair - Kirit Dixit Kdixit@ieee.org

Society/ Chapters/ Chair

Aerospace Electronic Systems Society

Chair - Chandra Gupta c.gupta@ieee.org Co-Chair - Naresh Chand chandnaresh@gmail.com

Antennas and Propagation Society

Chair - Har Dayal dayalhar@gmail.com

Microwave Theory and Technical Society

Chair - Kirit Dixit kdixit@ieee.org

Vice - Chair - Ajay Poddar akpoddar@synergymwave.com

Circuits and Systems Society

Chair - Durga Misra dmisra@njit.edu

Electron Devices Society Chair - Durga Misra, dmisra@njit.edu

Engineering in Medicine and Biology Society

Chair - Raquel Perez-Castillejos

raquelpc@njit.edu

Communications Society

Chair - Nirwan Ansari nirwan.ansari@njit.edu

Computer Society

Chair - Hanna (Hong) Zhao

zhao@fdu.edu

Controls Society Chair - David Haessig davidhaessig@ieee.org

Engineering Management Society

Chair - Tony Almeida almeida@synergymwave.com

Instrumentation Measurement Society

Chair - Russel Pepe rcpepe@ieee.org Vice-Chair - Peter J. Pupalaikis

peterp@lecroy.com

Photonics Society Chair - Haim Grebel grebel@adm.njit.edu

Power & Energy Society

Chair - Ron Quade rwquade@ieee.org

Industrial Applications Society

Chair - Ken Oexle k.oexle@ieee.org

Systems, Man, and Cybernetics Society

Chair - Mike Liechenstein Itsmikesju@aol.com

Signal Processing Society

Chair - Yun Q. Shi shi@njit.edu

Vehicular Technology Society

Chair - Yu-Dong Yao yyao@stevens.edu

Affinity Group Chair

Consultants Network Chair - Peter Schutz schutze@compuserve.com

GOLD

Chair - Lawrence Yang yangl@ieee.org

Women In Engineering Chair - Zhiwei Mao,

zmao@fdu.edu

Vice-chair - Radhasree Mohanty

rmty@ieee.org

LIFE Members Chair - Art Greenberg

a.h.greenberg@ieee.org

Committee Volunteers

Awards/Recognition Chair - Ken Oexle k.oexle@ieee.org

Education

Co-Chair - Donald Hsu yanyou@hotmail.com Co-Chair - Kalyan Mondal Mondal@fdu.edu

Group coordinator / History

Chair - Howard Leach h.leach@ieee.org

Membership Development (Interim)

Chair - Victor Bonachea vbonachea@gmail.com Vice-Chair (open)

MTT/AP Mini Show / Symposium

Chair - Kirit Dixit kdixit@ieee.org Vice-Chair - Har Dayal dayalhar@gmail.com TPC Chair - George Kennall gkk@lgsinnovations.com

Nominations Chair - Kirit Dixit

kdixit@ieee.org

Newsletter Chair - Anisha Apte anisha apte@ieee.org

PACE

Chair - Richard Tax rtax@verizon.net Vice-Chair - Paul E Ward peward@ieee.org

Pre-College Activities

Chair - Har Dayal dayalhar@gmail.com Vice-Chair - Hitaish Sharma hitaish@gmail.com

Student Activities Chair - John C Taylor john.taylor86@live.com

Audit Committee Chair Chair - Fred Chichester fdchichester@gmail.com

