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

THE IEEE NORTH JERSEY SECTION NEWSLETTER

Vol. 60, No. 1 JANUARY 2013

A Welcome Note from the IEEE North Jersey Section Chair, Russell C. Pepe

It is with much enthusiasm that I wish all the members of the IEEE North Jersey Section a Happy New Year. As your new Chair, I eagerly anticipate a successful term of growth and achievement. I am eager to work with our volunteers, and to support our entire membership. I look forward to working with my new executive team, Adriaan J. de Lind van Wijngaarden, Vice Chair I; Ajay Poddar, Vice Chair II; Chris Peckham, Secretary; Kalyan Mondal, Treasurer; Mengchu Zhou, Member-at-Large; John Taylor, Member-at-Large; Goran Djuknic, Member-at-Large; and all the Chapter, Committee and Technical Council Chairs. I want to especially thank our past Chair, Naresh Chand for his excellent leadership and guidance over the past two years.

Every year brings new challenges, and this year is no different. We are all experiencing difficult economic times. Engineering is generally facing a harsh environment that we are especially experiencing in northern New Jersey. As Chair, I want the North Jersey Section to put forth a concerted effort to assist our struggling engineers. Resources will be directed to employment assistance and new skill development. Our Section's Employment Network and Education Committee will be guided to construct programs to aid the engineers in our Section. We have merged a Political Liaison function into our Industry Liaison Committee. This new Committee will heighten the visibility of our politicians to the plight of technology and engineering in northern NJ.

Engineering is a noble and essential profession. I plan to boost engineering at various levels. Engineering in our Section will be promoted by encouraging the activities of our Pre-College Committee.

Let us inspire the inquisitive minds of our high school students by supporting engineering related activities. We need to bring back the "Mr. Wizard" fun feel of technology to our youth. The path to a fulfilling engineering career can be heightened through the actions of our Student Activities Committee (SAC) within the Engineering Colleges in northern New Jersey. Assistance after graduation will be further sponsored through Graduates of the Last Decade (GOLD) Committee, and Professional Activities Committee for Engineers (PACE) Committee. Our recent graduates from engineering schools need mentoring and guidance, which the IEEE North Jersey Section will provide. Our Women in Engineering (WIE) Committee will continue to continue to support the influx of women in our engineering community. Overall, the aforementioned committees will be called to work in harmony to support engineering in our section.

Additionally, I want to significantly expand IEEE Membership in the North Jersey Section. Engineers shall be made aware of the vast benefits of IEEE membership. I also want to welcome new volunteers among our membership to the North Jersey Section. We can accomplish great things if we get involved. I want to make a call to our membership to get involved, so we are better equipped to solve problems and achieve greatness. Contact me. We have much to do. The IEEE invites you to become part of our exciting process.

Best wishes,

Russell C. Pepe
IEEE North Jersey Section Chair

Reminders and Announcements:

- **Congratulations to the North Jersey Section's 2013 IEEE Fellows!**
- **North Jersey Section Employment Network Announcement**
- **A Welcome Note from Membership Development Chair**
- **How to subscribe to this newsletter if you are not a North Jersey IEEE Member?**
- **Welcome! New Members of the IEEE North Jersey Section**
- **North Jersey Section Executive Committee Meeting, Dec 18th,**

IEEE Co-Sponsored Short Courses:

Model-Based DSP with FPGAs**,** A short-course in January 2013

Calendar of Events

- **January 9, 6:00 PM to 8:45 PM: IEEE North Jersey Section EXCOM meeting – Bell Labs, Alcatel-Lucent, Murray Hill, NJ** Read More…
  Location: Bell Laboratories, Alcatel-Lucent, Room 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974 Getting to Bell Labs
  Contact: Russell Pepe (rcpepe@ieee.org), Chris Peckham cdp@ieee.org and/or Adriaan van Wijngaarden (avw@ieee.org)
- **January 24, 5:15 PM to 6:00 PM IEEE Control System Society - Optimal Control of Redundant Systems with Controlled Infeasibility** – Prof. Joo H. Kim, Ph.D., Department of Mechanical and Aerospace Engineering, Polytechnic Institute of New York University, Brooklyn, NY
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: David Haessig, david.haessig@baesystems.com, (973-305-2583) Read more...
- **February 6, 3:00 PM to 4:00 PM: Evolution to 4G Wireless – the dominant role of LTE -** Dr. Vijay K. Varma, Applied Communication Sciences (formerly Telcordia Advanced Technology Solutions), Red Bank, NJ Read More…
  Location: Babbio Center, Room Number: 319, Steven Institute of Technology, Hoboken, NJ 07030
  Getting to Stevens Institute of Technology
  Contact: Yingying (Jennifer) Chen, yingying.chen@stevens.edu, Dr. Mani Iyer, mani.iyer@ieee.org
- **February 6, 5:00 PM to 7:00 PM: AP/MTT - The Evolution of Low Noise Devices and Amplifiers -** Dr. Edward Niehenke of Niehenke Consulting Read More…
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: Dr. Ajay Kumar Poddar (201)-560-3806, (akpoddar@synergymwave.com), Prof. Edip Niver (973)596-3542, (niver@njit.edu)
- **February 6, 6:00 PM to 8:45 PM: IEEE North Jersey Section EXCOM meeting - Clifton, NJ** Read More…
  Location: Clifton Public Library - Allwood Branch, Activity Room, 44 Lyall Road, Clifton, NJ 07012, Getting to Clifton Library
  Contact: Russell Pepe (rcpepe@ieee.org), Chris Peckham cdp@ieee.org and/or Adriaan J. van Wijngaarden, (avw@ieee.org)
- **February 12, 6:00 PM to 7:30 PM IEEE Control System Society - Feedback, Control and Dynamic Networks –** Prof. Zhong-Ping Jiang, Department of Electrical and Computer Engineering, Polytechnic Institute of New York University, Brooklyn, NY Read More...
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: David Haessig, (david.haessig@baesystems.com) (973-305-2583)
- **February 20, 5:00 PM to 7:00 PM IEEE TMC and AP/MTT - IT ROI -** Dr. Todd W. Kolb of Verizon Wireless Read More...
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: Tony Almeida, (201)-723-3162 (almeida@synergymwave.com), Dr. Ajay Kumar Poddar (201)-560-3806, (akpoddar@synergymwave.com), Prof. Edip Niver (973)596-3542, (niver@njit.edu)

Prior registration is encouraged and appreciated.

You do not have to be an IEEE member to attend any event.

For up to date information, visit our website: IEEE North Jersey Section or visit Webinabox.vTools

Congratulations to the North Jersey Section's 2013 IEEE Fellows!

The IEEE North Jersey Section congratulates the newly elevated IEEE Fellows.
We would all like to express our pride in honoring your great achievements.
The following are a list of the IEEE Fellows in the North Jersey Section:

Peter Balma
For leadership in developing technical guides for electric power equipment

Enrico Bocchieri
AT&T Research
For contributions to computational models for speech recognition

Ramon Caceres
AT&T Labs
For contributions to mobile computing and communications

Bruce Fardanesh
New York Power Authority (NYPA)
For contributions to phasor measurement technology and Flexible AC Transmission Systems

Saeed Ghassemzadeh
AT&T Labs--Research
For contributions to measurement and modeling of broadband wireless channels and their applications to system design

Peter Pupalaikis
LeCroy Corporation
For contributions to high-speed waveform digitizing instruments

Harish Viswanathan
Bell Labs, Alcatel-Lucent
For contributions to wireless communication systems

Meeting Announcements

January 9, 2013

IEEE North Jersey Section EXCOM meeting – Bell Labs, Alcatel-Lucent, Murray Hill, NJ

This executive committee (EXCOM) meeting of the IEEE North Jersey Section will be held at Bell Laboratories, Alcatel-Lucent, in Murray Hill, NJ.

The meeting will take place in Room 6A-106, which is located near the main entrance behind the Bell Labs Showcase exhibition area.

It is not necessary to sign in to access this area.

There will be a get-together with a buffet starting at 6 pm.

The meeting starts at 7:00 pm EST and typically ends at 8:45 pm. The meeting is meant to discuss and coordinate the section's activities and new initiatives.

Everyone is welcome to attend this meeting.

Please register in advance for this meeting using vTools to provide the meeting organizers an accurate head count.

You can change/cancel the registration if your plans change. **Location:** Bell Laboratories, Alcatel-Lucent, Room 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974

Getting to Bell Labs

Time: 6:00 PM to 8:45 PM

Contact: Russell Pepe (rcpepe@ieee.org),
Chris Peckham cdp@ieee.org and/or
Adriaan J. van Wijngaarden, (avw@ieee.org)
For Updates and Registration - Click Here
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January 24, 2013

IEEE Control System Society presents:

Optimal Control of Redundant Systems with Controlled Infeasibility

Speaker: Joo H. Kim, Ph.D., Director, Applied Dynamics & Optimization Laboratory, Assistant Professor, Department of Mechanical and Aerospace Engineering, Polytechnic Institute of New York University (NYU-Poly), Brooklyn, NY

Abstract: In optimal motion planning and control, the complex time-varying nature of redundant systems, environments, and task requirements cause complex domain and conflicting constraints. Since predicting or recovering infeasibility is not always possible, infeasibilities occur frequently and are not completely avoidable. We introduce a constrained nonlinear programming framework of controlled (as opposed to recovered) infeasibility for physically valid solutions while preserving the original problem and variable space. The constraint prioritization hierarchy includes a comprehensive classification of physical consistency, design requirements, and tasks. Priority weight functions having features of normalization and prioritization are incorporated into a sequential quadratic programming (SQP) algorithm to ensure generality and strict satisfaction of high-priority constraints, while lower-priority constraint violations are minimized. These are embedded in SQP through its merit function and composite cost function, in which general nonlinear functions including unilateral, time-dependent, and nonholonomic, can be incorporated in a unified approach. Also, the avoidance of the discontinuity problem with unilateral constraints is due to the time-dependent constraints strategy, which actively adapts to varying states. Numerical examples using multibody dynamic models of a redundant manipulator demonstrate these advantages.

Biography: Dr. Joo H. Kim is an Assistant Professor in the Department of Mechanical and Aerospace Engineering at Polytechnic Institute of New York University (NYU-Poly), which he joined in 2009. Previously, he was an Adjunct Assistant Professor of Mechanical Engineering and postdoctoral research scholar in the Center for Computer-Aided Design at the University of Iowa. Dr. Kim directs the Applied Dynamics and Optimization Laboratory where his group focuses on fundamental research in multibody dynamics, optimization, motion generation, design, and control of mechanical and biological systems. His research areas for application include robotics, biomechanics, and their intersections (e.g., exoskeletons), with particular interest in locomotion, balancing, manipulation, and energetics. Dr. Kim holds a Ph.D. (2006) in mechanical engineering, as well as M.S. degrees in mathematics, mechanical engineering, and biomedical engineering, all from The University of Iowa, and a B.S. degree in mechanical engineering from Korea University in Seoul, South Korea. Dr. Kim is a member of ASME, IEEE, and ASB, and organized several symposia and sessions in international conferences.

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

(Free parking in Parking Deck across from ECE Building)

Time: 5:15 PM to 6:00 PM (pizza and soft drinks at 5 PM)

Contact: David Haessig, david.haessig@baesystems.com
(973-305-2583)

No Admission Charge.

For Updates and Registration - Click Here
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February 6, 2013

North Jersey VTS and Stevens Institute of Technology present:

Evolution to 4G Wireless – the dominant role of LTE

Speaker: Dr. Vijay K. Varma, Applied Communication Sciences (formerly Telcordia Advanced Technology Solutions), Red Bank, NJ.

Abstract: The trend towards All-IP networks and the increased demand for multimedia services prompted the wireless industry to adopt a packet based radio-access technology and an optimized packet core network. Evolved Packet System (EPS), an evolution to GSM and UMTS technologies - with an industry-adopted name of Long Term Evolution (LTE) – has become the most dominant technology in the race for 4G wireless. This talk will address the evolution from GSM/UMTS technologies to 4G wireless dominated by the LTE. The talk will cover the drivers for 4G, the architectural details of LTE and the Evolved Packet Core (EPC), QoS support for real-time services, and seamless mobility within and across multiple radio access networks provided by LTE. This will be followed by a status of LTE deployments and projections worldwide, and brief preview of Voice over LTE (VoLTE) – a technology that will change the way telephone networks operated for over 100 years.

Biography: Dr. Vijay K. Varma is a Senior Scientist in the Applied Communication Sciences (formerly Telcordia Advanced Technology Solutions), Red Bank, NJ. He has over 25 years experience in wireless communications has published several papers in this area, given many tutorials, organized many workshops, and given and chaired panel sessions at various IEEE conferences. He was the Technical Program Vice-Chair for the IEEE WCNC conference in 2005 and is an associate editor for IEEE Vehicular Technology Magazine. Dr. Varma received the M.Tech. degree from the Indian Institute of Technology, Kanpur, and the Ph.D. degree from Southern Methodist University, Dallas, TX, both in Electrical Engineering. He is a Senior Member of the IEEE. He received the Frederick E. Terman award in 1985 and Telcordia CEO Award in 2010.

Email: v.varma@ieee.org

Location: Babbio Center, Room Number: 319, Steven Institute of Technology, Hoboken, NJ 07030

Getting to Stevens Institute of Technology

Time: 3:00 PM to 4:00 PM

Contact: Yingying (Jennifer) Chen, yingying.chen@stevens.edu
Dr. Mani Iyer, mani.iyer@ieee.org

For Updates and Registration: Click Here

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February 6, 2013

IEEE AP/MTT Society presents:

The Evolution of Low Noise Devices and Amplifiers

Speaker: Dr. Edward Niehenke of Niehenke Consulting

Abstract: The low noise amplifier (LNA) is a critical element in modern receivers boosting small signals without adding significant noise. This presentation will trace the development of devices and amplifier types providing performance data. The device technology changed significantly over time starting with the vacuum tube, then varactor diode parametric amplifiers, and evolving to the three terminal solid state transistors. Technological transistor innovations lowered the LNA's noise figure and raised the frequency of operation. Devices described include the bipolar transistor, CMOS transistor, field effect transistor (FET), high electron mobility transistor (HEMP), pseudomorphic high electron transistor (PHEMT), and metamorphic high electron mobility transistor (MHEMT). Details of LNA semiconductors including Silicon, SiGe, GaAs, and InP will be presented as well as the amplifier types: standard three terminal, feedback, cascode, and travelling wave. LNA noise figure measurement techniques will be shown as well as the LNA design procedures with a step-by-step design example.

Biography: Edward C. Niehenke was born in Abington, PA, in 1937. He received his BS (1961), MS (1965), and PhD (1997) degrees in electrical engineering from Drexel University, Philadelphia, PA.

From 1961 to 1963 he was with Martin Marietta where he developed microwave transitions for superconducting delay lines and investigated behavior of semiconductor devices at 770K. From 1963 to 1997 he was with Westinghouse/Northrop Grumman in Baltimore, MD, where he was responsible for the development of state of the art RF/microwave/millimeter wave circuits, miniature integrated assemblies, and subsystems. He retired from Northrop Grumman in 1997 as a senior advisory engineer and is now a consultant and lectures on nonlinear circuits and transceiver design.

Niehenke has pioneered the development of innovative RF/microwave/millimeter wave circuits including: super low-noise amplifiers, PIN and Schottky barrier limiters, efficient linear power amplifiers, voltage tunable high Q VCO resonators, electrostatic switch and phase shifters, high power bipolar amplifier with internal matching and subharmonic suppression, silicon carbide wideband frequency multipliers, active PHEMT multiplies, receiver protectors with multi-level STC attenuator, low-noise microstrip voltage controlled and dielectric resonator stabilized oscillators, subharmonic image rejection and image enhanced mixers, planar millimeter wave two axis monopulse transceiver with switchable polarization, and low-phase noise millimeter wave fiber optical links . He recently led the development of state-of-the-art 94 GHz solid-state transmitter and transceiver miniature modules reducing the cost of millimeter wave systems and making them

practical. Niehenke's innovations can be found in over 15 operational production systems.

Niehenke holds nine patents, three Westinghouse Trade Secret Awards, one Westinghouse Value Engineering Merit Award, and one George Westinghouse Innovation Award. He has given over 120 presentations at symposia, workshops, IEEE chapter/section meetings, and keynote addresses at conferences. He has authored over 30 papers on RF/microwave/millimeter wave circuits. He was on the faculty of the Johns Hopkins University, teaching electricity and magnetism for three years. As the IEEE Microwave Theory and Techniques Society 1986/87 Distinguished Microwave Lecturer, he gave his lecture "Gallium Arsenide–Key to Modern Microwave Technology" to 70 groups throughout the world. Since 1983 he has been actively teaching linear, nonlinear, and transceiver circuit design for wireless communications to over 3000 professionals throughout the world.

Niehenke is a member of the Microwave and Millimeter Wave Integrated Circuits, Microwave Systems, and Wireless Communications MTT-S Technical Committees. He was the advisor (2010), technical program chairman (1998) and chairman (1986) of the International Microwave Symposia held in Baltimore. He serves as a member of the MTT-S Technical Program Committee since 1983 and is the MTT-S Ombudsman. Niehenke was a member of MTT-S ADCOM for 9 years, was a recipient of the IEEE Centennial and Millennium Medals, is a fellow of the IEEE, and is a registered professional engineer in the State of Maryland.

Email: e.niehenke@ieee.org

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

(Free parking in Parking Deck across from ECE Building)

Time: 5:00 PM to 7:00 PM Buffet dinner at 5:30 PM)

Contact: Dr. Ajay Kumar Poddar (201)-560-3806, (akpoddar@synergymwave.com)

Prof. Edip Niver (973)596-3542, (niver@njit.edu)

No Admission Charge.

For Updates and Registration - Click Here

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February 06, 2013

IEEE North Jersey Section EXCOM meeting - Clifton, NJ

This executive committee (EXCOM) meeting of the IEEE North Jersey Section will be held in the Activity Room of the Clifton Public Library (Allwood Branch, 44 Lyall Road, Clifton, NJ 07012, T: (973) 471 0555).

There will be a get-together with a buffet starting at 6 pm.

The meeting starts at 7 pm EST and typically ends at 8:45 pm, when the library closes.

The meeting is meant to discuss and coordinate the section's activities and new initiatives.

Everyone is welcome to attend this meeting.

Please register in advance for this meeting using vTools to provide the meeting organizers an accurate head count. You can change/cancel the registration if your plans change.

For more information, please contact Russell Pepe (rcpepe@ieee.org), Adriaan van Wijngaarden (avw@ieee.org) and/or Chris Peckham cdp@ieee.org

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

Getting to Clifton Library

Time: 6:00 PM to 8:45 PM

Contact: Russell Pepe (rcpepe@ieee.org), Chris Peckham cdp@ieee.org and/or Adriaan J. van Wijngaarden, (avw@ieee.org)

For Updates and Registration - Click Here

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February 12th, 2013

IEEE Control System Society presents:

Feedback, Control and Dynamic Networks

Speaker: Prof. Zhong-Ping Jiang, Department of Electrical and Computer Engineering Polytechnic Institute of New York University (NYU-Poly), Brooklyn, NY

Abstract: Feedback is ubiquitous in man-made and natural systems and is vital for the functioning of many systems in engineering and the life sciences. This talk will begin with a review of the crucial role played by feedback in the early development of control theory and practice. Then, some challenges arising from various application areas of network science, ranging from transportation systems, smart grid, telecommunication networks to unmanned vehicle systems, to name a few, will be outlined. Due to the sheer size and complexity of these dynamic networks, tools for stability analysis and controller design are desperately needed. Restricted exchange of information and the presence of communication constraints prevent conventional feedback control theory from being applied directly. In this talk, some observations will be drawn based on the speakers work with co-workers on various projects in ship control, networked control systems, Internet congestion control, systems physiology, and smart grid. Time permitting, some of the recent work on quantized control for nonlinear systems and distributed control design for autonomous multi-agent systems with a fixed structure or with time-variable topology will be discussed.

Biography: Zhong-Ping JIANG (M'94, SM'02, F'08) received the B.Sc. degree in mathematics from the University of Wuhan, Wuhan, China, in 1988, the M.Sc. degree in statistics from the University of Paris XI, France, in 1989, and the Ph.D. degree in automatic control and mathematics from the Ecole des Mines de Paris, France, in 1993.

Currently, he is a Full Professor of Electrical and Computer Engineering at the Polytechnic Institute of New York

University, and an affiliated Changjiang Chair Professor at Beijing University. His main research interests include stability theory, robust and adaptive nonlinear control, adaptive dynamic programming and their applications to under actuated mechanical systems, communication networks, multi-agent systems, smart grid and systems physiology. He is coauthor of the book Stability and Stabilization of Nonlinear Systems (with Dr. I. Karafyllis, Springer 2011).

An IEEE Fellow, Dr. Jiang is a Subject Editor for the International Journal of Robust and Nonlinear Control and has served as an Associate Editor for several journals including Mathematics of Control, Signals and Systems (MCSS), Systems & Control Letters, IEEE Transactions on Automatic Control, European Journal of Control and J. Control Theory and Applications. Dr. Jiang is a recipient of the prestigious Queen Elizabeth II Fellowship Award from the Australian Research Council, the CAREER Award from the U.S. National Science Foundation, and the Young Investigator Award from the NSF of China. He received the Best Theory Paper Award (with Y. Wang) at the 2008 World Congress on Intelligent Control and Automation, and with T. Liu and D.J. Hill, the Guan Zhao Zhi Best Paper Award at the 2011 Chinese Control Conference.

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

(Free parking in Parking Deck across from ECE Building)

Time: 6:30PM to 7:30PM (pizza and soft drinks at 6:00 PM)

Contact: David Haessig, (david.haessig@baesystems.com)

(973-305-2583)

No Admission Charge.

IEEE members and non-members should register at:

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February 20, 2013

IEEE Technology Management Council and AP/MTT Societies presents:

IT ROI

Speaker: Dr. Todd W. Kolb of Verizon Wireless

Abstract: IT ROI is a performance measure used to evaluate the efficiency of an IT investment or to compare the efficiency of a number of different investments. This is an outline of one possible way to effectively measure your IT investments and is not specific to any single industry.

Biography: Dr. Todd is a Distinguished Member of Technical Staff at Verizon Wireless, holds a bachelor's degree in computer science from Widener University, both a master's and doctorate in computer science/computing from Pace University, and an MBA in international business at the University of Connecticut.

After working at Bell Atlantic NYNEX Mobile, which later became Bell Atlantic Mobile, Todd Kolb, D.P.S. joined Verizon Wireless as a Junior Solaris Administrator in 1998. Since then, he has held a variety of operations/infrastructure and IT leadership roles including enterprise architect for all Solaris deployments throughout the enterprise and team lead for all Open Systems Orangeburg infrastructure systems and the associated networks. Todd's current responsibilities are in IT Governance, Risk, and Compliance — business relationship planning where he works with business groups bridging IT technology with financial and business initiatives which includes asset management.

Email: Todd.Kolb@VerizonWireless.com

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

(Free parking in Parking Deck across from ECE Building)

Time: 5:00 PM to 7:00 PM Buffet dinner at 5:30 PM)

Contact: Tony Almeida, (201)-723-3162 (almeida@synergymwave.com)

Dr. Ajay Kumar Poddar (201)-560-3806, (akpoddar@synergymwave.com)

Prof. Edip Niver (973)596-3542, (niver@njit.edu)

No Admission Charge.

For Updates and Registration - Click Here

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North Jersey Section Employment Network Announcement

We have kicked off the 2013 Employment Network with a LinkedIn group where unemployed members who seek jobs can share leads and discuss job search strategies.

Join our network by sending an email to Suzanne McIntosh (chair), at skranjac@us.ibm.com.

Suzanne will be happy to add you to our LinkedIn group, "IEEE North Jersey Section Employment Network".

Once established, our network will hold online and face to face meetings with technical presentations and seminars to assist job seekers in targeting their skills to succeed in this job market.

A Welcome Note from the Membership Development Chair

This is a welcome note from North Jersey Section Membership Development Chair to all IEEE members and prospective non-members who attended IEEE events in 2012:

First, an earnest appeal to all IEEE Members who may not have renewed their membership for 2013:

As an IEEE Member in 2012, you have helped the IEEE North Jersey Section serve your local community, and I want to thank you for your support. We take seriously our mission and obligation to raise awareness about the role that Engineering and Technology can play in making our world a better place. In that spirit, the IEEE North Jersey Section sponsored several worthwhile activities in 2012, including Lecture Series

Program, Chapter Technical activities, Young Professional Events (GOLD), Student Activities, Women In Engineering, Consultants and Entrepreneurs' Network and Section Distinguished Member Awards program.

During a recent review of the membership roster, we have noticed that some of you have not yet renewed for the 2013 membership year. As busy as our daily life is, perhaps this was a simple oversight. Your renewal consideration during these tough economic times is greatly appreciated. If you have become unemployed, IEEE will help by discounting your annual membership dues 50%.

Because you make a difference, I am seeking your membership renewal and support again in 2013 - the good deeds we deliver to our community depend on it.

You can renew your IEEE membership at www.ieee.org/renew.

You can reach me with any membership related questions at northjerseymembership@yahoo.com .

Next, I would also like to take this opportunity to appeal to non-members who have been participating in the numerous IEEE sponsored events throughout 2012 to join the IEEE organization in 2013.

Thank you for your time, and continued consideration to support the activities of the IEEE North Jersey Section. If you have already renewed your membership or joined IEEE recently, we thank you for your support.

We would like to invite you to all the talks and events published on our website calendar. We would also like to solicit for any free space you may have available for hosting either technical talks and also for hosting educational courses.

Let me know how I can be of any assistance.

Sincerely,
Mani Iyer

Chair, IEEE North Jersey Section Membership Development

Email: northjerseymembership@yahoo.com

How to subscribe to this newsletter if you are not a North Jersey IEEE Member?

To subscribe, send an email to: listserv@listserv.ieee.org, with the body containing "subscribe northjerseypublic"

To unsubscribe, send an email to: listserv@listserv.ieee.org, with the body containing "signoff northjerseypublic"

Additionally, you can join the IEEE North Jersey Section Facebook Fan Page at: www.facebook.com/pages/IEEE-North-Jersey-Section

Follow us on Twitter at: twitter.com/ieeenorthjersey

Or join the LinkedIn IEEE North Jersey Section Group at: LinkedIn Group Invitation

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Welcome! New Members of the IEEE North Jersey Section

Name	IEEE Curent Grade Description
Du Yujie	Graduate Student Member
Hall Robert J	Member
Lau Albert	Student Member
Lotfi Kyle Matthew	Graduate Student Member
Martinez Cristian	Student Member
Morocs Joseph I	Graduate Student Member
Nakamoto Tokio	Student Member
Nath Niket	Graduate Student Member
Nichols Christopher	Graduate Student Member
Osei-Boakye Samuel Yaw	Student Member
Tan Yuxin	Graduate Student Member
Terry May	Graduate Student Member
Tran Khuyen Ngoc	Graduate Student Member
Verma Shiv Prakash	Member
Wall Liam p	Student Member
Winand Emily R	Student Member
Jagtap Abhijeet	Graduate Student Member

IEEE North Jersey Section Course

Model-Based DSP with FPGAs

A four session short course in January 2013

Location: *New Jersey Institute of Technology, 154 Summit St., Newark NJ*

Free parking available in parking deck

Attendance limited to first 8 registrants

IEEE CONTROL SYSTEMS SOCIETY
North Jersey Chapter

QUARTUS II

Topic: The IEEE North Jersey Section is pleased to offer 12 hours of training on the topic of "Model-Based DSP with FPGAs". This is a course on the use of Simulink and Altera's DSP Builder for the design of firmware and algorithms for Field Programmable Gate Arrays (FPGAs). It consists of 4 sessions -- two on-site at NJIT and 2 online (anymeeting.com). The course assumes that students have prior experience with Matlab and some with Simulink, the first session beginning with a review of Simulink. This is followed by instruction and examples of signal processing and system simulation. Registrants who elect to purchase the Terasic DE0-Nano, the FPGA development platform (pictured) on which labs will be performed, will receive these platforms at the first session. All registrants will receive Altera's Quartus II FPGA development software and DSP Builder. These are fully functional licenses that will be active for 2 months, provided free of charge courtesy of Altera. Two on-line sessions will cover the design flow for VHDL generation using Simulink and DSP Builder, the first covering the DSP Builder Standard Blockset and the second the Advanced Blockset. Hardware-in-the-Loop (HIL) simulation testing will be covered in the latter. Finally, at the 2nd on-site session students will work laboratory experiments on their FPGA development platform. Labs are to include (1) the design and implementation of a FIR filter, (2) build of a Digital Down-Converter (DDC), and (3) build of a QPSK baseband transceiver. Students may share a platform if desired when working the labs. Homework assignments will be provided, and solutions including m-code and Simulink models will be distributed, as well as a printed hardcopy of the presentation slides.

Schedule: 12 hours of instruction / lab – Saturday classes will be held at New Jersey Institute of Technology, Newark Campus, Faculty Memorial Hall, Room #110. A pizza lunch will be provided during the laboratory class on Saturday January 19th and is included in the registration fee. Attendees will be credited with 1.2 Continuing Education Units (CEU) from IEEE.

Session	Topic	Dates	Times	Venue
1	Class Introduction & Logistics	Sat 1/5/13	10AM - 2 PM	NJIT
	Review of Simulink			
	Intro to Altera Quartus & DSP Builder			
2	Altera DSP Builder	Wed 1/9/13	7PM - 8:30PM	on line
3	DSP Builder Advanced Blockset	Wed 1/16/13	7PM - 8:30PM	on line
4	Altera DSP Builder Lab Instr	Sat 1/19/13	10AM - 3PM	NJIT

Students are required to provide their own laptop running Windows XP or 7, with the 64-bit or 32-bit versions of Matlab and Simulink installed. Acceptable versions include 2010a, 2010b, 2011a, 2011b, and 2012a. Although not required but recommended to take full advantage of the course -- Simulink Fixed Point is required to use the Advanced Blockset, and the Communications Blockset is used on some Simulink examples. Trial licenses may be available from the Mathworks.

Instructor: David Haessig is the manager of Waveform Products at BAE Systems, Wayne NJ. His group is engaged in development of wireless communication, control, and avionics systems for military applications. He recently served as the technical lead in BAE's development of the Wideband Networking Waveform (WNW). Dr. Haessig holds degrees in Mechanical Engineering from Lehigh University and in Electrical Engineering from New Jersey Institute of Technology. He is a senior member of IEEE and an Adjunct Professor at NJIT where he has taught courses in controls and mechatronics. He holds 4 patents in the area of inertial stabilization and has 24 technical and professional publications.

Cost: IEEE Members $225; Non-IEEE members $275; Unemployed IEEE Members $112.50; Terasic DE0-Nano $75.
Contact: David Haessig, (david.haessig@ieee.org)
Registration Deadline: December 19th, 2012, E-Register: To register online: click here. Registration limited to first 8 students.
Please mail the completed registration with a check **(payable to "North Jersey Section IEEE") to:** Dr. Kalyan Mondal, Fairleigh Dickinson University, School of Computer Sciences and Engineering, 1000 River Road, T-MU1-01, Teaneck, NJ, 07666
Name: _____ Email address _____
___Non-member ___IEEE Member Member #:_____Member of _____ technical society
Employer / Address:_____
Home Address:_____
Business (day) telephone #:_____ Home telephone #:_____

North Jersey Section Executive Committee Meeting, Dec 18th,

Members of the IEEE North Jersey Section Executive Committee, standing left to right: Mani Iyer, Amit Patel, Har Dayal, Ron Quade, Nirwan Ansari, Adriaan van Wijngaarden, David Haessig, Naresh Chand, Goran Djuknic, Kalyan Mondal, Peter Pupalaikis, Edip Niver, and Joel Miller. Seated L-R: Ken Oexle, Durga Misra, Kirit Dixit, Anisha Apte, and Howard Leach

The above members of the EXCOM met for the last meeting of the year on Dec 18th, at Chand Palace, Parsippany.

Durga Misra, Teller Committee Chair, reported the results of the annual EXCOM officers' election as follows.

With all the valid ballots received by December 1, 2012, the following members are the elected officers of the Executive Committee of the IEEE North Jersey Section for the year 2013. The teller committee has unanimously approved the results.

Chairperson: Russell Pepe

Vice Chairperson-1: Adriaan J. van Wijngaarden

Vice Chairperson-2: Ajay Poddar

Secretary: Chris Peckham

Treasurer: Kalyan Mondal

Members-at-Large: Mengchu Zhou, Goran Djuknic, and John Taylor

Naresh Chand, Chairman, highlighted some of the Section's accomplishments in 2012 which included the greater use of vTools, generation of about $10,000 budget surplus, and holding over 100 meetings, the most in Region 1.

He thanked everyone for their participation and wished them a safe and enjoyable holiday.

2013 IEEE North Jersey Section Volunteers

Executive Committee

Chair - Russell Pepe
rcpepe@ieee.org
Vice Chairman 1 – Adriaan van Wijngaarden
avw@ieee.org
Vice Chairman 2 - Ajay Poddar
akpoddar@synergymwave.com
Secretary - Chris Peckham
cdp@ieee.org
Treasurer - Kalyan Mondal
mondal@fdu.edu
Members at Large
1. Mengchu Zhou
zhou@njit.edu
2. Goran Djuknic
gd@ieee.org
3. John C Taylor
john.taylor1204@gmail.com

Junior Past Chair - Naresh Chand
chandnaresh@gmail.com

Senior Past Chair – Amit Patel
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Society Chapters

Aerospace Electronic Systems Society
Chair – Goran Djuknic
gd@ieee.org

Vice-Chair – Naresh Chand
chandnaresh@gmail.com

Antennas and Propagation Society/ Microwave Theory and Techniques Society
Chair - Ajay Poddar
akpoddar@synergymwave.com
Vice-Chair – Edip Niver
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Circuits and Systems Society / Electron Devices Society
Chair - Durga Misra
dmisra@njit.edu

Communications Society
Chair - Amit Patel
a.j.patel@ieee.org

Computer Society
Chair - Hanna (Hong) Zhao
zhao@fdu.edu

Controls Society
Chair - David Haessig
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Engineering in Medicine and Biology Society
Chair - Raquel Perez-Castillejos
raquelpc@njit.edu

Industrial Applications Society
Chair - Ken Oexle
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Instrumentation Measurement Society
Chair – Peter J. Pupalaikis
peterp@lecroy.com

Photonics Society
Chair – Naresh Chand
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Power & Energy Society
Chair - Ronald W. Quade, P.E
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Signal Processing Society
Chair - Alfredo Tan
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Systems, Man, and Cybernetics Society
Co-Chair – Mike Liechenstein
itsmikesju@aol.com
Co-Chair – Mengchu Zhou
zhou@njit.edu

Vehicular Technology Society
Chair - Mani Iyer
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Technical Councils

Technology Management Council
Chair - Tony Almeida
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Affinity Groups

Consultants Network
Chair - Peter Schutz
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GOLD
Chair - Sean Kennedy
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Women in Engineering
Chair - Zhiwei Mao
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LIFE Members
Chair - Art Greenberg
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Committees

Awards/Recognition
Chair - Ken Oexle
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Audit Committee
Chair - Fred Chichester
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Education
Co-Chair 1 - Donald Hsu
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Co-Chair 2- Kalyan Mondal
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Co-Chair 3 - Mengchu Zhou
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Employment Network
Chair - Suzanne McIntosh
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Government and Industry Relations Committee
Chair – Naresh Chand
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Group coordinator / History
Chair - Howard Leach
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Membership Development
Chair - Mani Iyer
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Vice-Chair - Ajay Poddar
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MTT/AP Trade Show and Symposium
Chair - Kirit Dixit
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Vice-Chair – Har Dayal
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TPC Co-Chair – George Kennall
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TPC Co-Chair – Ajay Poddar
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Nominations
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PACE
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Vice-Chair – Paul E. Ward
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Pre-College Activities
Chair - Vacant
Vice-Chair – Vacant

Student Activities
Chair - John C Taylor
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Webmaster
Chair – Adriaan van Wijngaarden
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Industrial Liaison
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Intersection activities
Chair- Amit Patel
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Legal Activities
Joel Miller
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