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

THE IEEE NORTH JERSEY SECTION NEWSLETTER

Vol. 60, No. 3 MARCH 2013

Calendar of Events

- **March 5, 5:30 PM to 8:30 PM: Student Activities Committee - 2013 North Jersey Student Paper Competition**
  Location: Muscarelle Building, Room M105 1000 River Road, Teaneck, NJ 07666 Getting to FDU
  Contact: John C Taylor (john.taylor1204@gmail.com) Read More...
- **March 5, 6:30 PM to 7:30 PM: MTT/AP-S, AES, TMC-Aircraft Avionics Equipage for FAA Next Gen Flight Control System** - Ron T. Ogan, FAA -
  Location: 201 McLean Boulevard, Paterson, NJ 07504 Getting to Synergy Microwave Corporation
  Contact: Dr. Ajay Poddar (201)-560-3806 (akpoddar@synergymwave.com); Goran Djuknic (goran.djuknic@baesystems.com) Read More...
- **March 6, 1:00 PM to 4:00 PM: North Jersey Student Chapter - Alcatel-Lucent Visit**
  Location: 600 Mountain Ave., Murray Hill, NJ 07974 Getting to Bell Labs
  Contact: John C Taylor (john.taylor1204@gmail.com)Read More...
- **March 6, 6:00 PM to 8:45 PM: IEEE North Jersey Section EXCOM meeting - Newark, NJ**
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: Russell Pepe (rcpepe@ieee.org), Chris Peckham cdp@ieee.org and/or Adriaan J. van Wijngaarden, (avw@ieee.org) Read More…
- **March 12, 5:00 PM to 6:15 PM: COMSOC - Leveraging Renewable Energy in Datacenters: Present and Future** - Ricardo Bianchini, Rutgers University
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: Nirwan Ansari (973)596-3670; Amit Patel (a.j.patel@ieee.org) Read More...
- **March 12, 11:30 AM to 12:30 PM: SMC Chapter - Cyclic-Small-Gain Tools for Networked Nonlinear Systems -** Tengfei Liu, NYU (Poly), Read More…
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: Prof. Mengchu Zhou (908-268-1183) or zhou@njit.edu
- **March 13, 6:30 PM to 9:00 PM: PACE - ENGINEERS MEET FOR A SPRING SOCIAL-A Search for New Ideas Plus Conversation and Hospitality**
  Location: Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ 07011 Getting to Clifton Library
  Contact: Paul Ward, (973)-790-1625, (peward@ieee.org) Richard F. Tax, (201)-664-6954 (rtax@aea.net) Read More...
- **March 14, 6:00 PM to 8:00 PM: MTT/AP-S - Broad passband, wide stopband, high power evanescent mode filters using capacitively loaded ridges -** Dr. Richard Snyder of RS Microwave
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: Dr. Ajay Kumar Poddar (201)560-3806 (akpoddar@synergymwave.com) Read More
- **March 20, 12:00 PM to 1:00 PM: Computer Society & FDU - GeSI SMARTer2020: The Role of ICT in Driving a Sustainable Future** - Mr. Tom Okrasinski, Alcatel-Lucent's Bell Labs
  Location: Auditorium M105, Muscarelle Center Fairleigh Dickinson University, Teaneck, NJ 07666 Getting to FDU
  Contact: Hong Zhao (201)-692-2350, (zhao@fdu.edu) Howard Leach (h.leach@ieee.org) Read More...
- **March 27, 12:00 PM to 1:00 PM: CS/EDS & NJIT -** 3D Integrated Circuit Technology, Mukta Farooq, Semiconductor R&D Center, IBM Systems & Technology Group
  Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
  Contact: Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver (973) 596-3542 (NJIT) Read More...
- **April 3, 6:00 PM to 8:45 PM: IEEE North Jersey Section EXCOM meeting - Clifton, NJ**
  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) Read More…
- **April 11, 12:00 PM to 1:00 PM: Computer Society & FDU - Transforming ICT Networks for a Sustainable Future** - Dr. Thierry Klein, Alcatel-Lucent
  Location: Auditorium M105, Muscarelle Center Fairleigh Dickinson University, Teaneck, NJ 07666 Getting to FDU
  Contact: Hong Zhao (201)-692-2350, (zhao@fdu.edu); Howard Leach (h.leach@ieee.org) Read More...
- **May 5, 3:00 PM to 6:00 PM: IEEE North Jersey Section Awards Banquet**
  Location: Building: Birchwood Manor, 111 North Jefferson Road, Whippany, New Jersey Getting to Birchwood Manor - Whippany
  Contact: Russell Pepe (rcpepe@ieee.org), Adriaan J. van Wijngaarden, (avw@ieee.org) Read More...

Reminders and Announcements

- **Emerging Technology and Market Trends for Frequency Controlled Circuits and Timing Devices**
- **North Jersey Section Employment Network Announcement**
- **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 Seeks Committee Chairs and Section Volunteers**
- **JOB POSTINGS**
- **Project Management in Five Saturdays**
- **C# .NET Programming in Five Saturdays**

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

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

Emerging Technology and Market Trends for Frequency Controlled Circuits and Timing Devices

Ajay K. Poddar, Chief Scientist, Synergy Microwave Corp., NJ 07504, USA (akpoddar@synergymwave.com)

The dynamics of "Time" has played a critical role from its very beginning, yet it remains one of the most mysterious aspects of the world in which we live. Philosophically, all the events in the universe are pre-determined or pre-destined with respect to time. This concept has been anchored in the human mind; some have argued that time is a basic property of the universe while others have argued that it is an illusion, probability or a outcome of the human mind and not of the world. Relaying the history of time measurement has a degree of inaccuracy, much like timing control devices themselves. What follows is, if not absolutely accurate, as close as many researchers can ascertain up to reasonably good term accuracy (short term and long term accuracy). A continuous effort has been put into making electronic devices to measure time and controlling the frequency with ever increasing accuracy, smaller size, lower power consumption and lower cost from the beginning of recorded history to the present day. The accuracy of frequency generating device for timing solutions depend on the phase noise, thermal drift, harmonics, tuning sensitivity, stability, ageing, etc.

This article investigates the emerging technology and market trends for frequency controlled circuits and timing devices. Recent downtrends in economy forced electronic industry, including the frequency generating devices to be competitive under the constraints of size and performances. The electronic industry has been waiting for an alternative to a conventional high Q- resonator (quartz, ceramic and SAW) based frequency controlled circuits and timing devices, which no longer follow the market trends of downscale in the price.

The growing production of watches, mobile phones, Bluetooth and WLAN products, LCDs, PCs and various automotive systems continues to drive strong demand for non-silicon resonators (quartz, ceramic, and SAW) based oscillators/VCOs. However, non-silicon resonator sector faces threats from CMOS and silicon MEMS resonator versions. CMOS resonators are a breakthrough technology that can replace Ceramic and SAW resonator based frequency controlled circuits that operate 500 MHz and above in most electronic systems because they offer significant advantages in total manufacturing capacity, and lower cost.

CMOS Resonators are just beginning their learning curve, and are expected to follow Moore's Law on future size and cost reduction capabilities. CMOS resonators also offer a path towards IC integration which is not possible with non-CMOS products.

Another big player is Silicon MEMS resonator based oscillators, although still in its infancy, MEMS technology offers low cost and higher integration over non-silicon a quartz resonator that operates less than 200 MHz in most electronic systems. They will target applications where the size and degree of integration are key, leading to the ultimate usage of MEMS oscillators in almost all portable systems like PDAs, camcorders and MP3 players. The potential for smaller footprint components and resistance to electromagnetic interference also supports new cell phone designs. Moreover, MEMS oscillators meet price points set by crystal oscillators by leveraging established high-volume silicon manufacturing processes.

When a quartz crystal is fabricated, it is designed to resonate at a single frequency throughout its lifetime. Changing the function of the quartz clock from one that operates a cell phone to one that runs a high-definition television, for example, requires fabricating an entirely different batch of crystals operating at different frequencies. The high levels of miniaturization achieved by MEMS technology allows a cost-effective solution of having high-Q resonators operating at different frequencies to be simultaneously fabricated within the same device "footprint." Selection of the desired frequency is subsequently achieved using software. The downside to this is MEMS are capital-intensive, hampering the suppliers from using relatively new technology which gives the much desired ultra low phase noise performance and eliminates the reliability issues. It will take at least 10 years before MEMS oscillators could ease out their longtime competitive quartz crystal resonator oscillator counterparts[1-21].

In reality, current versions of headsets don't seem to get smaller as they are quite small already. In fact some handsets are becoming bigger so as to accommodate more functions desired by consumers - DSC, DVC, MP3, GPS, Internet access, Bluetooth, DTV, etc. Opposite to the earlier thought that less and less piezoelectric frequency control components would be needed as time progressed, handsets nowadays have many more off-chip of them- quartz tuning fork, quartz crystal, crystal oscillator (XO), VCXO (voltage-controlled crystal oscillator), TCXO, and RF SAW/FBAR filter/duplexer.

However, cost dynamics plays important role and especially for consumer frequency control and timing devices, there is noticeable marketing push of the all silicon MEMS resonators and oscillators seemed to re-ignite the interest in displacing the quartz crystal technology and to open up again the prospect in clock source integration. MEMS oscillators appear well suited to high-vibration environments, to non-critically-timed applications, and to applications where the signal-to-noise ratios are not critical. MEMS devices, unlike ICs, contain moving fragile parts that must be properly packaged and meet the requirements such as protection against handling, shielding against electromagnetic fields, near hermetic cavity seal, low temperature process, good heat-exchange, minimal thermal stress, and RF electrical feed through before it becomes commercial viable alternatives.

Market Dynamics

One of the most exciting and rapidly growing set of applications in electronic industries is those involving silicon solutions using MEMS resonators. But the question arises, why there is a need for MEMS resonator based oscillators? Why are silicon MEMS devices, for RF applications better than existing non-silicon devices?

Developing RF circuits and subsystems require a series of engineering trade-offs that are limited by the technology we are using[21]. This is true at the device, component, and circuit level, and this is a part of RF engineering life that has been true for many decades. This is "easy" to deal with for single-mode systems like an old-fashioned cell phone, or modern Bluetooth circuit, but this gets harder

to do as frequencies get higher, data bandwidth gets larger, and most of all, when multiple broadband signals have to be managed in the same device. This is a defining trend in the wireless industry, and one that is taxing the limits of conventional technologies and "old-school" radio architectures. Wireless engineers in the broadband, multi-standard world need a better way of doing things, and better technologies that can easily handle these widely varying signals.

There are still significant obstacles for RF MEMS to enter conservative application areas with long histories of well-established technologies and very strict screening requirements. There are a number of challenges that face anyone who wishes to take an RF MEMS device or circuit prototype into component production. The most significant challenges are those associated with packaging. These packaging aspects are designed to enable the high RF performance of the MEMS devices inside to shine, yet still provide customer-demanded levels of four critical operational characteristics: lifetime, repeatability, reliability, and ruggedness.

Bubble or Hit?

In today's electronics world, everyone is always looking for the newest, fastest, quietest piece of technology they can find, often leaving tried and true products in the dust for what's "hot." Although trading older technology for newer is usually par for the course, there are times when older technology not only competes with but is as good as if not better than what's currently being touted as the best in the market.

Take crystal oscillators. Thought to be technology of the past after the onset of silicon oscillators based on MEMS)—and before that, surface acoustic wave (SAW) oscillators—crystal oscillators have held their own. With the addition of cost-effective, configurable technology, manufacturers can produce crystal oscillators that provide significant business and performance advances across a wide frequency range of 750 kHz to 1.35 GHz.

The good news is, as MEMS oscillator researchers are trying to bring up the accuracy, system designers are bringing down the system requirements. We believe, in the near future, that these two specs will merge together.

Future Trends

The second generation of MEMS oscillators will target a larger market for compact oscillators in order to meet TCXO performance requirements. Phase noise requirements are a challenge however and further progress is needed on temperature compensation and frequency accuracy. With so many nice things going on, we must interject two words of caution: first, specifications and second, reliability. Reliability testing requires effort and time with production devices rather than research wafers. So how market trends for frequency controlled circuits and timing devices will shape up? While silicon-based timing devices are still not as capable of sophisticated tasks as crystal oscillators, they are getting better, and will eventually replace crystals in many contexts. That will produce further synergies for the industry as mass production becomes cheaper and easier. Like every exciting new technology targeting mass markets and driven by start-ups, confusion or exaggeration are present, but all in all, we believe that MEMS oscillators will follow the successful bulk acoustic wave devices as the second RF MEMS mass product. If SiTime keeps to schedule and ships its first million devices by years-end, a major step will have been taken towards a bright future! "The current steady, moderate growth in timing solutions revenue is being driven by the expansion of strong consumer electronics and computer applications sectors, and because silicon timing solutions are improving. Silicon is increasingly able to handle some of the timing tasks traditionally given to crystals. However, continued under-investment by telecoms infrastructure vendors could have a negative effect in the medium term."

Overall, we expect the market for both non-silicon and silicon resonator oscillators will share 50% down the road.

References

1. C.S. Lam, A Review of the Recent Development of MEMS and Crystal Oscillators and Their Impacts on the Frequency Control Products Industry, 2008 IEEE International Ultrasonics Symposium Proceedings, pp. 694-704
2. "NXP Aero® Quad-Bnad GSM/GPRS/EDGE Radio Front-ends AERO42xx," http://www.nxp.com/acrobat_download/literature/9397/75015986.pdf.
3. M. Umeki, T. Sato, H. Uehara and M. Okazaki, " 622 MHz High Frequency Fundamental Composite Crystal Resonator with an Air-Gapped Electrode", 2004 IEEE International Ultrasonics, Ferroelectrics, and Frequency Control Joint 50th Anniversary Conference, pp. 365-368.
4. "Analog Frequency Multiplier", Phaselink, http://www.phaselink.com/whitepaper/AFM-wp.pdf.
5. K. J. Schopef et.al, " TCMTO™: A versatile MEMS oscillator timing platform", 41st Annual Precise Time and Time Interval Meeting, Nov 2009.
6. U. L. Rohde, A. K. Poddar, and G. Boeck, Modern Microwave Oscillators for Wireless Applications: Theory and Optimization, Wiley, NY, 2005,
7. U. L. Rohde and A. K. Poddar, "Wideband voltage controlled oscillators employing evanescent mode coupled resonators," US Patent No. 71803812, 2007.
8. U. L. Rohde, A. K. Poddar, and R. Rebel," Integrated Low Noise Microwave Wideband Push- Push VCO", US Patent No. 7,088189, Aug 2006.
9. U. L. Rohde and A. K. Poddar," User-Definable Thermal Drift Voltage Controlled Oscillator", US Patent No.7, 265,642 B2, Sept 4, 2007.
10. U. L. Rohde and A. K. Poddar," Low Thermal Drift Tunable Frequency Voltage Controlled Oscillatory", US Patent No.7, 262,670 B2, Aug 28, 2007.
11. U. L. Rohde and A. K. Poddar," Tunable Frequency, Low Phase Noise and Low Thermal Drift Oscillator", US Patent No.7196591, March 2007.
12. U. L. Rohde and A. K. Poddar," Low Noise, Hybrid Tuned Wideband Voltage Controlled Oscillator", US Patent No. 7,365,612 B2, April 29, 2008.
13. U. L. Rohde and A. K. Poddar, "Tunable Frequency. Low Phase Noise and Low Thermal Drift Oscillator", U.S Patent NO. 7, 545, 229, June 09, 2009.
14. U. L. Rohde and A. K. Poddar, "User-Definable, Low Cost, Low noise, and phase hit insensitive multi-octave-band tunable oscillator, Phase Hit and Spectral Pure Tunable Oscillator", U.S. Patent No. 7,605,670, October 20, 2009.
15. R. Gaddi, A. Gnudi, E. Franchi, D. Guermandi, P. Tortori, B. Margesin, and F. Giacomozzi,"Reconfigurable MEMS-Enabled LC-Tank Multi-Band CMOS Oscillator", IEEE MTT-S, 2005.
16. C.T.-C Nguyen, "RF MEMS in WIRELESS Architecture", Proc. Design Automation Conference, 2005, pp. 418-420.
17. U. L. Rohde and A. K. Poddar, "Tunable Active Inductor Offers Integrable and Cost-Effective Alternatives of Varactor Tuned VCOs", 2009 European Frequency & Time Forum & IEEE Int'l Frequency Control Symposium (EFTF-IFCS 2009), Besançon, France, April 2009.
18. U. L. Rohde and A. K. Poddar, "Frequency Generations and Synthesis: Cost-Effective & Power-Efficient Sol", MW J., pp. 160-184, May 2009

Meeting Announcements

March 5, 2013

The IEEE Student Activities Committee presents

2013 North Jersey Student Paper Competition

This contest offers undergraduate and graduate student IEEE members an opportunity to exercise and improve their communication skills. Throughout an engineer's career, he or she will constantly be called upon to communicate ideas to others. This event gives students a chance to practice presentation skills in front of an astute, supportive audience of local IEEE members from diverse fields and backgrounds.

The North Jersey Presentation Night is based around a written paper, however, the actual paper will not be used (and does not have to be submitted) for judging criteria. The North Jersey effort concentrates on the oral presentation and slide materials only.

Location: Muscarelle Building, Room M105, River Road, Teaneck, NJ 07666 Getting to FDU
Time: 05:30PM to 08:30PM

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March 5, 2013

IEEE MTT/AP-S, AES, and TMC present:

Aircraft Avionics Equipage for FAA Next Gen Flight Control System

Speaker: Ron T. Ogan, FAA

Abstract: The Federal Aviation Administration (FAA) has authorized transformation of the United States Air Traffic Control System from a radar based technology to a system utilizing Global Positioning System (GPS) Technology over the time period 2013-2020 which will require all aircraft, commercial and general aviation, operating in controlled airspace to be in compliance on January 1, 2020. Current requirements for Automatic Dependent Surveillance – Broadcast (ADS-B) In are stated in AC 20-165, TSO-C154c and TSO-C166b. Aircraft transponders will be upgraded from Mode-C, radar based, to Mode-S, GPS based which will provide precise position, altitude, velocity, and flight direction. Aircraft equipped with ADS-B receivers and multi-function displays (referred to as “glass cockpit” equipment) will connect to ground stations to provide current weather and aircraft traffic graphically displayed for increased safety. The FAA Next Generation Air Transportation System is a transformative change in the management and operation of how we fly.

NextGen enhances safety, reduces delays, saves fuel and reduces aviation’s adverse environmental impact. History is to be studied and reflect on development periods such as the "Industrial Age," the "Atomic Age," the "Jet Age," the "Space Age," and the "Information Age"... we explicitly recognize different stages in the evolution of engineering knowledge and insight. Clearly, innovation and invention requires an advanced society that recognizes and promotes technical achievement. Engineering has a drive to continually improve, redesign and create new products, through evolution as occurs in the innovation process or revolution as with new inventions that are novel, unique and non-obvious according to the US Patent Office criteria. As stated by Jim McNerney, Boeing CEO, “To innovate -- in its root sense -- means to renew.

Innovation is critical to business success in today's world. It's about taking what's there and making it better -- as quickly as possible. There's a pace that's implied by it. It takes advantage of anything that will delight or better satisfy a customer.” In the entire 100 year-plus history of aviation, there have been only a relatively small number of major, world-changing inventions -- including the miracle of powered flight at Kitty Hawk, the invention of the jet engine, and perhaps the pressurized cabin and supersonic flight. But ... there have been millions upon millions of important, significant, and noteworthy innovations. Techniques and tools that are used for creating and managing the innovation environment will be briefly discussed with references to explore further.

Biography: Ron Ogan received a B.S. in Physics from Oklahoma State University, an M.S. in Engineering from Southern Methodist University, and he completed post-graduate MSEE courses at the University of South Florida. He recently completed a project as Developer and Industry Instructor for a project-oriented course for engineering at University of North Texas (UNT) to introduce Radio Frequency Identification (RFId) technology and applications in support of a National Science Foundation grant and has held various positions at the following:

- Senior Research Engineer for Georgia Tech Research Institute working on the Missile Defense Agency and other sensors programs
- Senior Systems Engineer on phased array airborne radar systems at Raytheon Systems Company, El Segundo, CA and Forest, MS.
- With Cadence Design Systems working on site at Nokia Networks, Irving, TX designing and developing GSM/GPRS/EDGE base station
- Product Engineer on a Millimeter-wave communications project at Motorola
- Systems Engineer under contract to Raytheon TI Systems, Lewisville, TX from 1995-1999 working on the HARM targeting system and other advanced technology for aircraft applications.
- Staff engineer at Martin Marietta (now Lockheed Martin Corp.), Orlando, FL working on Electro-Optic programs and
- Project Engineer on Space Shuttle Main Engine Controller Block II at Honeywell, Clearwater, FL.
- Currently, IEEE Senior member and Vice-Chair for IEEE MS Section and member of Board of Governors of the Aerospace & Electronics Systems Society, Ron served as Chair, Program Chair, Secretary/Treasurer of the IEEE of the Aerospace and Electronics Systems Society, Dallas Chapter.
- 2nd Lt in a Civil Air Patrol member, FAA private pilot and FCC Technician licensee.

The Federal Aviation Administration (FAA) has authorized transformation of the United States Air Traffic Control System from a radar based technology to a system utilizing Global Positioning System (GPS) Technology over the time period 2013-2020 which will require all aircraft, commercial and general aviation, operating in controlled airspace to be in compliance on January 1, 2020. Current requirements for Automatic Dependent Surveillance – Broadcast (ADS-B) In are stated in AC 20-165, TSO-C154c and TSO-C166b. Aircraft transponders will be upgraded from Mode-C, radar based, to Mode-S, GPS based which will provide precise position, altitude, velocity, and flight direction. Aircraft equipped with ADS-B receivers and multi-function displays (referred to as "glass cockpit" equipment) will connect to ground stations to provide current weather and aircraft traffic graphically displayed for increased safety. The FAA Next Generation Air Transportation System is a transformative change in the management and operation of how we fly. NextGen enhances safety, reduces delays, saves fuel and reduces aviation's adverse environmental impact.

Email: (rtogan@ieee.org)

Location: 201 McLean Boulevard, Paterson, NJ 07504

Getting to Synergy Microwave Corporation

Time: 06:30PM to 07:30PM

Free dinner will be served at 6:15PM. All are welcome.

You don't have to be IEEE member to attend the talk.

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

Goran Djuknic (goran.djuknic@baesystems.com)

For Updates and Registration - Click Here

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March 6, 2013

North Jersey Student Chapters visit Bell Laboratories, Alcatel-Lucent, in Murray Hill

Students from the student branches of Stevens Institute of Technology, NJIT, and FDU will travel Alcatel-Lucent's Bell Laboratories site located in Murray Hill, NJ to visit the research laboratories. This event is a great opportunity for students to see how, what they learn in their classes is applied in real life. Students will be taken on a tour of facility that will include several different labs and research topics.

The bus will be leaving from Stevens at noon and come back around 5pm.

Location: 600 Mountain Ave., Murray Hill, NJ 07974

Time: 1:00PM to 4:00PM

Contact: Dr. Adriaan J. van Wijngaarden (avw@ieee.org)

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March 6, 2013

IEEE North Jersey Section EXCOM meeting - Newark, NJ

This executive committee (EXCOM) meeting of the IEEE North Jersey Section will be held at the New Jersey Institute of Technology (NJIT), in Newark, NJ. 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. 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 (Chair, rcpepe@ieee.org), Chris Peckham (Secretary) and/or Adriaan van Wijngaarden (First Vice-Chair, avw@ieee.org).

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

(Free parking in Parking Deck across the ECE Building)

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)

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March 12, 2013

COMSOC presents:

Leveraging Renewable Energy in Datacenters: Present and Future

Speaker: Ricardo Bianchini, Rutgers University

Abstract: Interest has been growing in powering datacenters (at least partially) with renewable or "green" sources of energy, such as solar or wind. However, it is challenging to use these sources because, unlike the "brown" (carbon-intensive) energy drawn from the electrical grid, they are not always available. In this talk, I will first discuss the tradeoffs involved in leveraging green energy today and the prospects for the future. I will then discuss the main research challenges and questions involved in managing the use of green energy in datacenters. Next, I will describe some of the software and hardware that researchers are building to explore these challenges and questions. Specifically, I will overview systems that match a datacenter's computational workload to the green energy supply. I will also describe Parasol, the solar-powered micro-datacenter we have recently built at Rutgers University. Finally, I will discuss some potential avenues for future research on this topic.

Biography: Ricardo Bianchini received his Ph.D. degree in Computer Science from the University of Rochester in 1995. He is now a Professor with Rutgers University. Prof. Bianchini's current research interests include cloud computing, and the power/energy/thermal management of datacenters. He has co-chaired the program committee of several conferences and workshops, and is a member of the editorial board of multiple journals. He has also been a member of the program committee of 70+ conferences and workshops, including ISCA, HPCA, and Eurosys. Prof. Bianchini has published 5 award papers and has also received the NSF CAREER award. He is currently an ACM Distinguished Scientist. [http://www.cs.rutgers.edu/~ricardob]

Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 Getting to NJIT
Time: 05:00PM to 06:15PM
No Admission Charge.
Contact: Nirwan Ansari (973)596-3670
Amit Patel (a.j.patel@ieee.org).
Check http://web.njit.edu/~ieeenj/comm.html

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March 12, 2013

IEEE North Jersey Section SMC Chapter presents:

Cyclic-Small-Gain Tools for Networked Nonlinear Systems

Speaker: Tengfei Liu, Ph.D. and Visiting Assistant Professor Polytechnic Institute of New York University

Abstract: The rapid development of computing, communications and sensing technologies have been enabling new potential applications of advanced control to networked systems like smart power grids, biological processes, distributed computing networks, transportation systems and robotic networks. Significant problems are to integrally deal with the fundamental system characteristics such as nonlinearity, dimensionality, uncertainty and information constraints, and diverse kinds of networked behaviors, which may arise from quantization, data-sampling and impulsive events. Physical systems are inherently nonlinear in nature. This presentation introduces new cyclic-small-gain tools to address the control problems of networked nonlinear systems. Specific topics including robust control under sensor noise, quantized nonlinear control, distributed nonlinear control and their applications to multi-vehicle systems and wind turbines will be discussed.

Biography: Tengfei Liu received the B.E. degree in Automation and the M.E. degree in Control Theory and Control Engineering from South China University of Technology, in 2005 and 2007, respectively. He received the Ph.D. degree in Engineering from the Australian National University in 2011. Tengfei Liu is a visiting assistant professor at Polytechnic Institute of New York University. His research interests include adaptive and learning control, stability theory, robust nonlinear control, quantized control, distributed control and their applications in mechanical systems, power systems and transportation systems. He has over 30 publications including 15 journal papers. Dr. Liu, with Z. Jiang and D. J. Hill, received 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
Time: 11:30AM to 12:30 PM
Contact: Prof. Mengchu Zhou (908-268-1183) or zhou@njit.edu

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March 13, 2013

PACE presents:

Engineers Meet for a Spring Social - A Search for New Ideas Plus Conversation and Hospitality

This meeting is to invite members of the Section for an evening of conversation, hospitality and refreshments. Our subjects will be the support or lack of support for our engineers, PACE meetings, and activities. Damages from Sandy are still of concern. Our PACE meetings offer opportunities for lively discussions. Historically, once members get started they just do not 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.

For more thought and discussion about the **"Employment Network":** Contact: Sue McIntosh (chair)
[Email: skranjacmcintosh@yahoo.com].
Location: Clifton Memorial Library**,** 292 Piaget Ave**,** Clifton, NJ 07011 Getting to Clifton Library
Time: 06:30PM to 9:00PM
Contact: Paul Ward**,** (973)-790-1625**, (**peward@ieee.org)
Richard F. Tax, (201)-664-6954 (rtax@aea.net)

For Updates and Registration - Click Here

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March 14, 2013

IEEE MTT/AP-S presents:

Broad passband, wide stopband, high power evanescent mode filters using capacitively loaded ridges

Speaker: Dr. Richard Snyder of RS Microwave

Abstract: This talk presents advanced structures that extend the class of capacitively loaded evanescent mode filters and mitigate some of the limits that are common for this technology. Innovative design details and modifications with respect to a conventional structure are properly applied so as to improve the filter performance when high power, broad passband, and wide stopband are all required at relatively high frequency. The proposed structures combine coaxial capacitance based resonators with evanescent mode ridged waveguide sections so as to obtain capacitively-loaded ridge waveguide bandpass filters. The approach is validated by the design and experimental results of two X- and Ku-band filters. Particularly remarkable are the performance of the Ku-band filter, which has a wide passband from 12 to 18 GHz, a wide stopband up to 54 GHz, and which successfully handled 100 W of continuous power.

Biography: Richard V. Snyder is President of RS Microwave (Butler, NJ, USA), author of 94 papers, three book chapters and holds 19 patents. His interests include E-M simulation, network synthesis, dielectric and suspended resonators, high power notch and bandpass filters and active filters. He received his BS, MS and PhD degrees from Loyola-Marymount, USC and Polytechnic Institute of New York. Dr. Snyder served the IEEE North Jersey Section as Chairman and 14 year Chair of the MTT-AP chapter. He chaired the IEEE North Jersey EDS and CAS chapters for 10 years. He twice received the Region 1 award.

In January 1997 he was named a Fellow of the IEEE and is now a Life Fellow. In January 2000, he received the IEEE Millennium Medal. Dr. Snyder served as General Chairman for IMS2003, in Philadelphia. He was elected to ADCOM in 2004. Within the ADCOM, he served as Chair of the TCC and Liaison to the EuMA. He served as an MTT-S Distinguished Lecturer, from 2007-2010, as well as continuing as a member of the Speakers Bureau. He was an Associate Editor for the IEEE Transactions on Microwave Theory and Techniques, responsible for most of the filter papers submitted. He is a member of the American Physical Society, the AAAS and the New York Academy of Science. He was the MTT-S President for 2011. Also a reviewer for IEEE-MTT publications and the MWJ, Dr. Snyder teaches and advises at the New Jersey Institute of Technology He is a Visiting Professor at the University of Leeds, in the U.K. He served 7 years as Chair of MTT-8 and continues in MTT-8/TPC work. He is the organizer of the annual IWS conference in China. He previously was Chief Engineer for Premier Microwave.

Email: (r.snyder@ieee.org)
Address: President, RS Microwave, Butler, New Jersey, United States

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

Time: 06:00PM to 08:00PM
Free dinner will be served at 6:00 PM. All are welcome. You don't have to be IEEE member to attend the talk.

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

For Updates and Registration - Click Here

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March 20, 2013

IEEE Computer Society and FDU present:

GeSI SMARTer2020: The Role of ICT in Driving a Sustainable Future

Speaker: Mr. Tom Okrasinski, Senior Manager, Alcatel-Lucent's Bell Labs in Murray Hill,

Abstract: The Global e-Sustainability Initiative or GeSI published the SMARTer2020 Report in December of 2012. The Report demonstrates how the increased use of information and communication technology (ICT) such as video conferencing and smart building management could cut the projected 2020 global greenhouse gas (GHG) emissions by 16.5%, amounting to $1.9 trillion in gross energy and fuel savings and a reduction of 9.1 Gigatonnes carbon dioxide equivalent (GtCO2e) of greenhouse gases. This is equivalent to more than seven times the ICT sector's emissions in the same period. The SMARTer2020 report evaluates GHG abatement potential from ICT-enabled solutions ranging across six sectors of the economy: power, transportation, manufacturing, consumer and service, agriculture, and buildings. The report also includes detailed national studies of the GHG abatement potential of ICT in seven countries: Brazil, Canada, China, Germany, India, the United Kingdom and the United States.

Biography: Mr. Tom Okrasinski is a Senior Manager of Sustainability & Environmental Engineering at Alcatel-Lucent's Bell Labs in Murray Hill, NJ. In his twenty years at Bell Labs, he has been committed to the development of environmentally sustainable telecom products and network solutions. His innovations in these areas include eco-impact life cycle assessment tools, energy efficiency standards development, eco-beneficial materials research and advancement, and eco-sustainability metrics development.

Prior to Bell Labs, Tom worked for Metcalf and Eddy as an environmental engineering consultant. He also worked with Exxon Research and Engineering in their alternative fuels research such as shale oil extraction and coal liquefaction. He has a Bachelor's and Master's degree in civil engineering from Drexel University. He resides in Clinton, New Jersey.

Location: Auditorium M105, Muscarelle Center
Fairleigh Dickinson University, Teaneck, NJ 07666
Getting to FDU
Time: 12:00PM to 01:00PM (No Admission Charge)
Contact: Hong Zhao (201)-692-2350, (zhao@fdu.edu)
Howard Leach (h.leach@ieee.org)

For Updates and Registration - Click Here

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March 27, 2013

Circuits and Systems Society /

Electron Devices Society and NJIT present:

3D Integrated Circuit Technology

Speaker: Mukta Farooq, Semiconductor R&D Center, IBM Systems & Technology Group

Abstract: 3D Technology refers to a family of techniques and methods which enable the stacking of active Si layers with vertical connections between them. 3D stacking has the ability to enhance chip performance by increasing bandwidth, reducing wire delay, and enabling better power management. While there are different approaches to achieving 3D integration, a key element of all 3D methods is the TSV (Through Silicon Via). TSV fabrication, insulation, metallization, and integration into the BEOL (Back End Of Line) are key considerations in 3D stacking, along with the thermo-mechanical integrity and reliability of TSV structures. Additionally, one must also consider the impact of TSVs on devices. Several researchers have studied these aspects of 3D technology. This talk begins with an understanding of the prime drivers for 3D stacking. We will then review some of

the published work in order to better understand the various options and schemes in 3D technology. Before concluding, we will take a look at the key challenges that must be overcome before successful introduction of this technology into semiconductor manufacturing.

Biography: Dr. Mukta Farooq is a Senior Technical Staff Member & Master Inventor at IBM's Semiconductor R&D Center. She is also currently the Chief Technologist for 3-Dimensional Chip Development at IBM Microelectronics. Mukta has over 24 years of professional experience as a materials scientist at IBM. Her areas of expertise include semiconductor materials and structures, CMOS FET (Complementary Metal Oxide Semiconductor - Field Effect Transistor) structures & processes, 3-Dimensional silicon integration, flip-chip technology, lead-free alloys, chip package interaction, and intellectual property development. She has over 123 issued US & international patents, including several which have been designated as high value because of their use in semiconductor manufacturing. Mukta has also authored 23 external publications and given invited talks at various technical symposia. She is the Chair of the site wide IBM Master Inventor Committee which is charged with appointing new Master Inventors.
Mukta is a Senior Member of IEEE (Institute of Electrical and Electronics Engineers), and holds the position of Distinguished Lecturer of the IEEE Electron Devices Society. She is also currently the Chair of the IEEE Mid Hudson Valley EDS Chapter.
Mukta is passionate about mentoring professionals in engineering & technology disciplines. Mukta has also been active in mentoring middle-school children to pursue science and math. Mukta holds a Ph.D. in Materials Science & Engineering from Rensselaer Polytechnic Institute, an M.S. in Materials Science from Northwestern University, and a B. Tech. in Metallurgical Engineering from the Indian Institute of Technology, Bombay.
Email: farooqm@us.ibm.com

Location: ECE Building, Room 202, 161 Warren St, Newark, NJ 07102, Getting to NJIT
Time: 04:30PM to 06:30PM (Pizza and Soda at 4:30 PM)
You do not have to be a member of the IEEE to attend.
Contact: Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver

For Updates and Registration - Click Here

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April 3, 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, Tel. (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.

The meeting agenda typically includes reports from the Secretary and Treasurer, reports from the Chapter and Affinity Group Chairs and Representatives, Committee Chairs, news related to the IEEE and the North Jersey Section, planning and new initiatives.
Location: Allwood Branch, Activity Room, 44 Lyall Road, Clifton, NJ 07012 Getting to Clifton Library
Time: 06:00PM to 08:45PM
6:00 pm - 7:00 pm - Get-together and Buffet
7:00 pm - 8:45 pm - Meeting
No Admission Charge
Contact: Russell Pepe (rcpepe@ieee.org),
Chris Peckham (cdp@ieee.org)
Adriaan J. van Wijngaarden, (avw@ieee.org)

For Updates and Registration - Click Here

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April 11, 2013

IEEE Computer Society and FDU present:

Transforming ICT Networks for a Sustainable Future

Speaker: Dr. Thierry Klein, Head of Green Research at Bell Labs, Alcatel-Lucent

Abstract: With the continued exponential growth of applications, services, devices and machines all being connected to the network, the total Internet traffic in the next decade is expected to grow to a level that is 30 to 100 times that of current levels. One of the challenges for next-generation networks is the ability to support the predicted traffic in a sustainable and economically viable way. In addition to the resulting increased power consumption, the rising energy costs, the environmental impact of networks, and more socially conscious consumers and service providers demand that our future communication and data networks are greener and more sustainable. During this presentation, Dr. Klein will review some of the current trends in communication and data networks and discuss the latest research to improve energy efficiency and reduce power consumption in wireless, wireline access, packet data and optical networks. He will also provide an overview and a status update of the GreenTouch consortium, an industry-wide initiative founded under the leadership of Bell Labs with the mission to deliver architectures, solutions and specifications, and to demonstrate key technologies, to improve the network energy efficiency by a factor 1000 compared to 2010 levels.

Biography: Dr. Thierry Klein is currently the Head of Green Research at Bell Labs, Alcatel-Lucent leading a large team of researchers, engineers and scientists across multiple departments, research domains and locations with the mission to conduct research towards the design, development and use

of sustainable future communications and data networks. He also serves as the Chairman of the Technical Committee of GreenTouch, a global consortium dedicated to improve energy efficiency in networks by a factor 1000x compared to 2010 levels. He joined Bell Labs Research in Murray Hill, New Jersey in 2001. In 2007, Thierry founded a start-up company focused on wireless communications for emergency response situations within Alcatel-Lucent Ventures. Thierry served as the CTO of the Venture until his return to Bell Labs Research in February 2010, when he became the Director of the End to End Wireless Networking Research Department. He earned an MS in Mechanical Engineering and an MS in Electrical Engineering from the Université de Nantes and the Ecole Centrale de Nantes in Nantes, France. Thierry received a PhD in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology, USA. He is an author on over 35 peer-reviewed conference and journal publications and an inventor on 36 patent applications. He is a member of the Alcatel-Lucent Technical Academy and the recipient of a Bell Labs's President Award and two Bell Labs Teamwork Awards. In 2010, he was voted "Technologist of the Year" at the Total Telecom World Vendor Awards.

Location: Auditorium M105, Muscarelle Center Fairleigh Dickinson University, Teaneck, NJ 07666 Getting to FDU

Time: 12:00PM to 1:00 PM

No Admission Charge

Contact: Hong Zhao (201)-692-2350, (zhao@fdu.edu)
Howard Leach (h.leach@ieee.org)

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May 5, 2013

IEEE North Jersey Section Awards Banquet

The annual IEEE North Jersey Section Awards Banquet will be held on Sunday, May 5, 2013 at the Birchwood Manor, in Whippany, New Jersey.

A time to relax, unwind and enjoy –

A time to pay tribute to our new Fellows –

A time to honor our Award Winners –

The Annual Section IEEE Awards Reception will be held at: The Birchwood Manor, 111 North Jefferson Road, Whippany this year. The Awards Banquet is scheduled for Sunday, May 5, 2013 from 3 pm to 6 pm. Spouses and guests are welcome. Tickets are $35 per person. The capacity of the location is 90 persons, so please make your reservations early. Please use the vtools link to make the reservation. Please register all persons by completing the name, address, and e-mail entries on the form. Payments can be made through vtools, or by sending a check, payable to the IEEE North Jersey Section, with your name(s), address and e-mail to Russell Pepe, 43 Rambling Drive, Scotch Plains, NJ 07076, by Monday April 29, 2013. We will send you a confirmation e-mail upon request.
For more information, please contact Adriaan J. van Wijngaarden (avw@ieee.org).

Location: Building: Birchwood Manor, 111 North Jefferson Road, Whippany, New Jersey [link to map]
Time: 3:00 PM to 6:00 PM
Contacts: Ken Oexle, Awards Committee Chair
Russell Pepe, Chair
Adriaan J. van Wijngaarden, 1st Vice-Chair, avw@ieee.org

Link: IEEE North Jersey Section - Awards Banquet – 2013

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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.

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.

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".

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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 Memeber Grade
Abou-El Fetouh, Mostafa	Member
Ahmad, Jean Carlo	Associate Member
Anthapadmanabhan, Prasanth	Member
Bernhardt,Dirk	Member
Carmo, Phill	Student Member
Chee, Nicholas Yang	Student Member
Convery, Joseph Michael	Graduate Student Member
Dong, Ze	Member
Fernandez, Jaime	Member
Freundlich, Charles	Graduate Student Member
Honnudike, Vijayakuma Sameera Bharadwaj	Graduate Student Member

Jiang, Chao	Graduate Student Member
Kooney, William R.	Graduate Student Member
Kotrotsios, Dimitrios	Student Member
Li, Jing	Graduate Student Member
Modezie, Emeka Onyeka	Graduate Student Member
Oh, Geoffrey	Student Member
Pablo, Ryan A.	Student Member
Park, Seong Ho	Student Member
Perez, Carlos	Student Member
Perkins, Craig	Student Member
Ravinutala, Sreedharrao V	Member
Reed, John	Student Member
Repice, Domenico	Student Member
Tong, Junning	Graduate Student Member
Vesga, Ed	Graduate Student Member
Yogurtcu, Tendu	Member
Zhang, Cheng	Member

North Jersey Section Seeks Committee Chairs and Section Volunteers

The IEEE North Jersey Section is seeking new volunteers to help conduct business for the benefit of its membership. There are a variety of volunteer positions open and available. They range from technical to non-technical, leadership or just participatory. A list of North Jersey Societies, Chapters, Groups and Committees are published at the end of the newsletter for those interested in participating. If you would like to become involved with volunteering in some of these efforts or positions or just become more informed about what is happening at the North Jersey Section, please contact Nominations Committee chair, Amit Patel at a.j.patel@ieee.org. You are welcome to attend the section business meeting held the first Wednesday of every month to learn more about volunteer activities that require some help. Please check out the website below for published meeting times and locations. Some committees needing volunteers include the following.

Please contact the person indicated for additional information.

GOLD (Graduates of the Last Decade) Affinity Group Volunteers and Committee members needed –
Contact: sean.kennedy@alcatel-lucent.com

WIE (Women in Engineering) Affinity Group Volunteers and Committee members needed –
Contact: zmao@fdu.edu

EMBS (Engineering in Medicine and Biology Society) is seeking active committee volunteers –
Contact: raquelpc@njit.edu

Computer Society Chapter Committee Volunteers –
Contact zhao@fdu.edu-

Technical Management Council Committee Volunteers –
Contact: almeida@synergymwave.com

North Jersey Section Awards Committee Volunteers –
Contact k.oexle@ieee.org

Membership Development Committee Volunteers –
Contact miyer108@gmail.com

Additionally, if interested volunteers would like to get more general information about the section, including a complete listing of all chapters and committees, visit the North Jersey section website http://sites.ieee.org/northjersey or contact anyone listed above.

JOB POSTINGS

Spirent is Hiring

Spirent Communications is where the world's leading communications companies turn when they need to accelerate their time-to-market for next-generation communication systems. In fact, every significant industry test in the last six years has used Spirent's test systems as the benchmark. We are continually recognized by customers, industry, press, and technology associations for our innovative thinking and our ground-breaking products. The communications market has untapped potential. The boundaries of how fast, far, and accurately voice and data can be transmitted have yet to be reached, or even defined. Spirent solutions are paving the way for tomorrow's communications.

The atmosphere at Spirent is innovative, creative, and technically challenging. We are always looking for new employees with exceptional abilities, vision, and commitment levels to join our team.

If you want to work with truly bright and motivated people—and be a part of an industry-leading company that's helping to revolutionize communications technologies—this is your opportunity. Our focus on employee satisfaction stems from a core belief that market-leading products start with one thing: market-leading people. At Spirent, we offer more than jobs, we offer unique career opportunities. We can do this because we are large enough to encompass a breadth of possibilities, while being small enough for you to be noticed and recognized. Are you innovative enough to work at Spirent?

Senior Regional Sales Manager, Eatontown, New Jersey

Spirent is looking for a Senior Regional Sales Manager to drive the sales of Software and Service solutions that enable Spirent's customers to dramatically improve the productivity of their engineering organizations. Your successful experience in selling productivity solutions to engineering organizations in the high tech industry will make this the ideal opportunity!

Responsibilities include: • Developing, managing, and closing six figure plus opportunities. • Developing and driving internal sales channel to identify, develop, and close new opportunities in their account base. • Collaboration with cross functional teams including Product Management and Services Delivery Organization. • Attainment of bookings quota in assigned region. For further information, please check [link].

Please feel free to email or call direct to talk more about this and other exciting opportunities at Spirent

Tracy A. James | East Coast Recruitment
Direct Dial to Desk: 1.732.578.2529
Email: tracy.james@spirent.com
Linked In: www.linkedin.com/in/tracyannjames
Twitter: www.twitter.com/tracyjames
Facebook: www.facebook.com/tracyannjamesrecruiting
Join the Spirent Team!
www.spirent.com/go/careers

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Dean, Newark College of Engineering
New Jersey Institute of Technology

The successful candidate must be a dynamic leader with a clear and compelling vision for engineering and professional education and research in the context of a technological university. We seek an individual who can offer innovative solutions to the challenges facing engineering, research and education today and will establish synergistic relationships with other professional programs. Founded in 1919, the Newark College of Engineering (NCE) is almost half of NJIT's student body. The College consists of 6 departments: Biomedical Engineering, Chemical, Biological & Pharmaceutical Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Technology, and Mechanical and Industrial Engineering, each with strong programs at the bachelor's, master's and Ph.D. levels. NCE enrolls approximately half of all of the undergraduate and graduate students at NJIT. We invite applications for the position of Dean of NCE.

Responsibilities: The Dean serves as chief executive officer of the College. This is an important leadership position with primary responsibility for advancing the college as a nationally recognized leader in engineering research and education. The Dean is a senior academic officer who reports to the Provost and works closely with the President and other senior staff. Specific responsibilities include strategic planning, program evaluation and development, corporate outreach, fundraising, marketing, enrollment, building and fostering interdisciplinary initiatives in education and research, managing the College's finances and budget, as well as accreditations. The Office of the Dean also oversees the recruitment and selection of new faculty.

The Dean is responsible for shaping the future direction of the College and for articulating a vision. The vision has to address the expansion of externally funded, multi-disciplinary research initiatives, enhancing the caliber and visibility of undergraduate and graduate academic programs, and developing partnerships with the other academic units at NJIT: the College of Architecture and Design, the College of Science and Liberal Arts, the School of Management, the Albert Dorman Honors College, and the College of Computing Sciences. Further growth of research and student enrollment is a high priority. The Dean must be able to establish close relationships with industry, government agencies and the community of which we are a part, and he or she must be an effective fundraiser and communicator.

Qualifications: An earned doctorate or equivalent in engineering or a closely related field; an outstanding track record of research; an academic profile that merits appointment as a senior faculty member with tenure in the College; and a successful record of leadership. Experience in managing an academic enterprise is preferred.

Applications: Consideration of applicants will begin immediately. Applications should include a letter; current curriculum vitae; and the names, addresses, e-mail addresses, and telephone numbers of at least five references. All applications must be submitted online at https://njit.jobs to be considered. The search will not be concluded until a successful applicant is appointed.

Founded in 1881, NJIT is a public research university with about 9,900 students (about 7,100 undergraduate and 2800 graduate students). Degrees are awarded in engineering, architecture, management, computing, technology, science, mathematics and the liberal arts. NJIT expends over $100 million annually for research and performs a spectrum of public-service functions; economic development is a key component of its mission. NJIT's 45-acre, residential campus is located in the University Heights section of Newark, less than 10 miles from New York City and Newark Liberty International Airport. The university has undergone remarkable growth over the past two decades.

NJIT is an equal opportunity, affirmative action, equal access employer, and encourages applications from minorities, women, and persons with disabilities. What distinguishes NJIT from other State universities is our aspiration is to provide an optimal learning environment in order for our graduates to be professionally ready, technologically savvy, and socially responsible. NJIT is designated as one of two public research universities in New Jersey (NJIT and Rutgers University).

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

IEEE North Jersey Section and FDU sponsored Course

Project Management in Five Saturdays

Saturday mornings, March 2, 2013 through April 6, 2013
Five weekly classes (March 2, 9, 23, 30, April 6, 2013)
Fairleigh Dickinson University, Teaneck, New Jersey
(Checks should not be mailed to this address)

IEEE North Jersey Section thanks Fairleigh Dickinson University for sponsoring this course

The North Jersey Section IEEE is offering a course entitled "Project Management". Dice.com lists *5000+* Project related jobs in the New York tri-state area daily! This course will help you to break down a master project into manageable tasks, pinpoint possible solutions, and provide information to keep the project under control. Using *Microsoft Project 2010* software, you will learn to accomplish various project plans. In addition, it will greatly enhance your business, communications and interpersonal skills.

You will receive the IEEE Certificate of Achievement and earn 2 IEEE Continuing Education Units (CEUs) when you complete the course. You may wish to take the *Project Management Professional (PMP) Exam,* administered by Project Management Institute from the knowledge that you learned in this course. This is *not an exclusive PMP-PMI examination prep course.* No PDUs are issued for PMP eligibility. However, past attendees did successfully get the PMP certifications!

Instructor: **Donald Hsu, PhD**., has been a corporate manager for 11 years and an experienced trainer. Since 2006, he has trained 800+ in IT Project+, MS Project, Project Management, Contract Procurement Management, and International Management.

TOPICS

1. Explain the need for a project manager
2. Define SOW, PERT, GANTT, CPM, and Scope of the project
3. Identify the team members, resources and plan for the strategy
4. Calculate schedule, budget variances, and monitor project progress
5. Manage changes, estimates, and communications
6. Set a baseline, import tasks from MS Excel, export MS Project files to MS Word
7. Create and modify custom reports, templates and combination views
8. Share resources and create a master plan loaded to Project Server
9. Approve updates and conclude a project plan
10. Analyze global E-Commerce projects
11. Present student Projects

WHERE: Fairleigh Dickinson University, Teaneck, New Jersey
WHEN: 5 Saturdays, March 2, 9, 23, 30, April 6, 2013, 9:30 am - 1:30 PM
COST: IEEE (& affiliate) members $500; Non-IEEE members $550. Unemployed IEEE members $250.
CONTACT: Donald Hsu: yanyou@hotmail.com

REGISTRATION: Project Management

Please mail the registration form with the check **(Checks payable to "IEEE North Jersey Section") to**
Dr. Kalyan Mondal, Co-Chair Education Committee, IEEE North Jersey Section, 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: _____

Employer Address: _____

Home address: _____

Business (day) telephone #:_____ Home telephone #:_____

Please enclose required fee payable to: **IEEE North Jersey Section**

As soon as a completed registration form and the payment are received, you are officially registered for this course. Registration status will be notified by email.

☐ I wish to receive the IEEE Completion Certificate Signature: _____

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

IEEE North Jersey Section and NJIT sponsored Course

C# .NET Programming in Five Saturdays

Saturday, April 13, 2013 through May 11, 2013
Five weekly classes (April 13, 20, 27, May 4, 11, 2013)
New Jersey Institute of Technology, Newark, New Jersey (Checks should not be mailed to this address)

IEEE North Jersey Section thanks New Jersey Institute of Technology, for sponsoring this course.

The IEEE North Jersey Section is offering a course entitled "C# .NET Programming". Since 2007, C# .NET has generated significant headway in Fortune 1000 enterprise development systems. Dice.com lists 1000+ C# .NET jobs (up from 820 last year) in the New York tri-state area daily! This course will cover the fundamentals of C# language, the .NET framework, window and web-based applications, ADO.NET, ASP.NET, and XML. It will be useful for anyone to develop applications based upon these tools.

You will receive the IEEE Certificate of Completion when you finish the course. Microsoft Corp. has MCAD and MCSD certifications. You may wish to get certified by taking the necessary Microsoft exams with the knowledge gained from this course. Past attendees got jobs at AT&T, Goldman Sachs, IBM, Microsoft, Verizon, and other Fortune 500 firms.

Instructor: **Donald Hsu, PhD**., has been a corporate manager for 11 years and is an experienced trainer. Since 2006, he has trained 700+ people in C++, Java, Oracle, WebLogic, and XML and C #.NET in 8 different organizations.

TOPICS

1. Compare the enterprise development tools using Java to C# .NET
2. Define Visual Studio .NET Version 2008 to latest
3. Identify C# syntax, data type, control structures and common language runtime
4. Distinguish methods, arrays, object-oriented programming
5. Build graphical user interface, multithreading, files and streams
6. Explain the benefit of using extensible markup language (XML)
7. Select database, SQL server, and ADO .NET
8. Choose ASP .NET, web forms, web services, advanced topics
9. Present student Projects

WHERE: New Jersey Institute Technology, Newark, New Jersey
WHEN: Saturdays, April 13, 20, 27, May 4, 11, 2013, 9:00 AM to 1:00 PM
COST: IEEE members $500; Non-IEEE members $550.
Contact: Donald Hsu, yanyou@hotmail.com

REGISTRATION: C# .NET Programming

Please mail the completed registration with a check **(payable to "IEEE North Jersey Section") to:**
Donald Hsu, PhD, Chair, Education Committee, IEEE North Jersey Section, P.O. Box 2093, Fort Lee, New Jersey 07024.

Name: _____ Email address _____

☐ Non-member

☐ IEEE Member Member #:_____

Employer:_____

Employer Address:_____

_____

Home Address:_____

Business (day) telephone #:_____ Home telephone #:_____

Please enclose required fee payable to: **IEEE North Jersey Section**

☐ I wish to receive an IEEE Completion Certificate Signature: _____

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
a.j.patel@ieee.org

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
niver@adm.njit.edu
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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