

The



IEEE Newsletter

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

For a list of IEEE North Jersey Section activities, see

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

15 March – 10 May

NJ Section:

Financial Accounting - Eight Week Course

The IEEE North Jersey Section is offering a course entitled "Financial Accounting." US Bureau Labor Statistics reports that 2.1 million Accounting jobs need to be filled by 2019. Indeed.com lists 25,000+ accounting jobs in the New York tri-state area daily! This course will cover the fundamentals of debit credit, inventory, cost of goods sold, cash flow, internal control, operating assets, liability, owner's equity, income measurement, accrual accounting, time value of money, tax issues, and financial statement analysis. In addition, QuickBooks software will be used. QuickBooks is currently employed by 4 million small business owners in USA.

You will receive the IEEE Certificate of Completion when you finish the course. You may use the knowledge from this course, to find accounting jobs. Or you can start your own company using QuickBooks to keep track of the revenues and expenses.

See

http://meetings.vtools.ieee.org/meeting_view/list_meeting/5355 for more details.

About the Instructor:

Donald Hsu, PhD, has been a corporate manager for 11 years and is an experienced trainer. Since 2004, he has trained 300+ people in accounting, personal finance, investment analysis, QuickBooks, and PeachTree courses in 4 organizations.

Time: 6:30PM to 9:00 PM, Tuesdays, March 15 – May 10, 2011.

Place: NJIT, Room TBD, Newark, NJ.

Information: Donald Hsu, yanyou@hotmail.com.

22 March

NJ SMC:

Guided Service Composition in Service-Oriented Scientific Grids

On Tuesday, March 22, 2011, the NJ Systems, Man & Cybernetics (SMC) Chapter will be hosting a seminar at NJIT on the topic noted above. Dr. Wei Tan, an IBM research staff member, will be the presenter.

About the Talk:

Many disciplines including biology and biomedicine have adopted service computing and use scientific workflows to orchestrate data-pipelines. However, it is still challenging to provide a solution covering the full lifecycle of scientific workflows, and offer composition guidance by leveraging best practices. This talk will present caFlow, a workflow system addresses service orchestration and guided composition in cancer Biomedical Informatics Grid (caBIG). First, the presentation will cover the engineering aspect of caFlow, including its architecture and core functions such as service discovery, stateful interaction, data access, and security. The speaker will then introduce a Composition-as-a-Service (CaaS) framework supporting guided service composition. CaaS consists of two approaches, the task-driven one relies on workflow-service network analysis to provide relevant suggestions; the data-driven one uses colored Petri net (CPN) to model data relations and net decomposition to derive desired data flows

About the Speaker:

Wei Tan is currently a Research Staff Member in IBM T. J. Watson Research Center, Hawthorne, NY. His research interests include business process management, scientific workflows, service oriented computing, Petri net, workload optimization, etc. He was a research staff in University of Chicago and Argonne National Laboratory 2008 – 2010. At that time he was the chief designer of caFlow, a service-based scientific workflow

platform of cancer Biomedical Informatics Grid (caBIG) which is funded by National Cancer Institute. He has published over 20 papers in leading journals and conferences, and is a PC member or reviewer for multiple journals and conferences. He is the PC co-chair of the First IEEE/ACM Sorkshop on the application of Social Networking concepts to Cluster, Cloud, Grid and Services Computing (SN4CCGridS). Wei Tan got his PhD in Control Science and Engineering from Tsinghua University, China in 2008.

All Welcome!

You need not be a member of IEEE to attend, and there is no charge for admission.

Time: 7:00 PM, Tuesday, March 22, 2011. Refreshments will be served starting at 6:45 PM.

Place: NJIT, Room 202, ECE Center, Newark, NJ.

Information/RSVP: Dr. Mike Liechenstein, (973) 471-0721, or E-Mails: itsmikesju@aol.com, zhou@njit.edu. Please RSVP.

29 March

NJ Computer Society:

Image Analysis Technique and Its Applications

On March 29, 2011, the NJ Computer Society will host a presentation titled "Image Analysis Technique and Its Applications." The speaker will be Dr. Zhe Wendy Wang.

About the Talk:

In the recent decades, the advances in internal imaging improved the variety of health care available to patients. From the image processing point of view, patients could be human beings as well as infrastructures such as bridges. Imaging looks inside the body of a "patient," exposing its anatomy beyond what is visible on the surface. Therefore, imaging techniques endow the clinicians and civil engineers with the ability to

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non-invasively and non-destructively peer inside the patient's body to monitor and diagnose disease, as well as plan and execute procedures more safely and effectively than before. When applied to infrastructure evaluation, they allow civil engineers to judge whether infrastructure, e.g., bridges, roads and buildings, poses any potential danger and needs to be maintained. This talk focuses on novel image processing algorithms and their applications to medical as well as transportation fields.

About the Speaker:

Zhe Wendy Wang received the BE degree in electronics engineering from Tsinghua University, Beijing, China, the ME degree from the Chinese Academy of Science, Beijing, in electronics engineering, and the PhD degree from the Department of Electrical and Computer Engineering, New Jersey Institute of Technology. She is a research engineer in IRIS ID Inc. (formerly LG IRIS Inc.), Cranbury, NJ. Prior to that, she was with Siemens Corporate Research, Princeton, and Thomson Corporate Research, Princeton. Her primary research interests include image/video processing and analysis, computer vision and machine learning. She was the recipient of IEEE International Conference on Automation Science and Engineering best paper award finalist and IEEE north New Jersey student presentation contest first prize

Time: 6:00 PM to 7:40 PM, Tuesday, March 29, 2011. Refreshments will be served.

Place: Fairleigh Dickinson University, Auditorium M105, Muscarelle Center, Teaneck, NJ.

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

30 March

NJ Communications Society:

Cross-Layer Architecture and Design Approaches for Optical Networks

On March 30, 2011, the IEEE NJ Communications Society Chapter will host a presentation titled "Cross-Layer Architecture and Design Approaches for Optical Networks." The speaker will be Dr. Balagangadhar Bathul.

About the Talk:

In the recent past, optical networks had evolved as the provider for high bandwidth pipe in Internet. Telecom vendors across the world have already

started to deploy optical data rates in the order of 100 Gb/s and beyond. These next generation, long distance optical networks would require rapid provisioning of connections, fast protection schemes against failures, quality of transmission (QoT), and fully dynamic wavelength switching. Redesigning the complex layered network architecture would be necessary to provide the service level agreements (SLAs), to improve energy efficiency, and to decrease the cost per bit for switching traffic. This talk discusses our efforts to achieve such clean-slate network design, which will enable a programmable optical layer.

About the Speaker:

See http://meetings.vtools.ieee.org/meeting_vj/ew/list_meeting/5665 for details.

Time: 5:00 PM to 6:30 PM, Wednesday, March 30, 2011.

Place: NJIT, Room 202, ECE Center, Newark, NJ.

Information: Professor Nirwan Ansari, (973) 596-3670. Check <http://web.njit.edu/~ieeenj/comm.html> for the latest updates.

31 March

NJ Consultants Network:

Leadership for Engineers

On March 31, 2011 the IEEE Consultants' Network of Northern NJ (www.technologyontap.org) will feature a presentation on Leadership.

How is leadership of engineering different from management of engineering? What kind of leadership is best for engineering? How can engineers learn this kind of leadership?.

About the Talk:

The talk by Randall P. Vendetti, PE, Principal, Techne Synergies (www.technesynergies.com) answers these questions by providing an overview of his book, A Model of Leadership, How to Manage and Lead in Engineering and Creative Enterprise, and of the workshop he offers Refined Leadership Expressly for Engineers. Engineers becoming managers may acquire a few new skills, but not many of these skills are different from those required to perform engineering; and this is where the new manager gets into trouble. When speaking of managing, it is usually a "managing only" which is analytical in nature and close to how engineers think. Going beyond managing to leading requires a new perspective involving the human element. Even as far as leading goes, engineering personnel require a special type of leadership for their work

and for their make up as both technical and creative professionals. Randall makes this complex subject simple for engineers by reducing it to a model from which they can learn.

An individual, or individuals, for whom an engineer, project manager, or manager is responsible may have the specific capabilities to perform a defined job, but may not be able to create something new, or bring about change. The presentation will break down how technical, personal, and human nature interact to expose more capability and talent to go beyond that defined job, providing understanding of leadership for individuals and technical teams. More information can be found at www.technesynergies.com.

Time: 6:30 PM to 8:30 PM, Thursday, March 31, 2011.

Place: Morris County Library, 30 East Hanover Ave, Whippany, NJ.

Information: Robert Walker, r.d.walker@ieee.org, www.TechnologyOnTap.org.

5 April

NJ IMS:

Fast EMI Measurements with Wideband Digital Receiver

On April 5, 2011, the IEEE North Jersey Section of the Instrumentation and Measurement Society (IMS) is hosting a talk entitled, "Fast EMI Measurements with Wideband Digital Receiver." The speaker will be Nic du Toit.

About the Talk:

This talk discusses a new Wide Band Digital Receiver with 140 MHz instantaneous bandwidth. In the receiver, 32,000 CISPR detectors or 8,000 MIL-STD PEAK detectors operate simultaneously over a 140 MHz instantaneous bandwidth. The paper shows how the daily tasks of EMI test engineers are greatly simplified and shortened by orders of magnitude. Some hereto unimagined EMI problem-solving capabilities are explained, such as the ability to catch and quantify fast transient emissions.

About the Speaker:

See http://meetings.vtools.ieee.org/meeting_vj/ew/list_meeting/5565 for details.

Time: 6:00 PM to 9:00 PM, Tuesday, April 5, 2011.

Place: NJIT, Room 202, ECE Center, Newark, NJ.

Information: Russell C. Pepe, 201-960-6796, rcepe@ieee.org.

6 April

NJ AESS & Control Systems:

Tutorial/ Workshop: Systemvue Software Tool For Building Communication Physical Layer For LTE, Radar, and Software Defined Radio End To End Systems

On April 6, 2011, IEEE North Jersey Section AESS and Control Systems Chapters are hosting a tutorial/workshop on "Systemvue Software Tool For Building Communication Physical Layer For LTE, Radar, and Software Defined Radio End To End Systems." The speaker will be Dr. Murthy Upmaka.

About the Workshop:

SystemVue is a focused electronic design automation (EDA) environment for electronic system-level (ESL) design. It enables system architects and algorithm developers to innovate the physical layer (PHY) of wireless and aerospace/defense communications systems and provides unique value to RF, DSP, and FPGA/ASIC implementers. As a dedicated platform for ESL design and signal processing realization, SystemVue replaces general-purpose digital, analog, and math environments. SystemVue "speaks RF", cuts PHY development and verification time in half, and connects to your mainstream EDA flow.

See

http://meetings.vtools.ieee.org/meeting_view/list_meeting/5615 for more details.

About the Speaker:

See

http://meetings.vtools.ieee.org/meeting_view/list_meeting/5615 for details.

Time: 8:30 AM to 5:00 PM, Wednesday, April 6, 2011.

Place: BAE Systems, 164 Totowa Road, Wayne, NJ.

Information: Dr. Naresh Chand: (973) 633 6310, naresh.chand@baesystems.com or Dr. David Haessig: (973) 633 6111, david.haessig@baesystems.com.

6 April

NJ EDS/C&S Chapters:

Semiconductor Reliability Topics for Advanced CMOS Technologies

On April 6, 2011, the IEEE NJ EDS/C&S Chapters will host a presentation titled "Semiconductor Reliability Topics for Advanced CMOS Technologies." The speaker will be Dr. Fernando Guarín.

About the Talk:

As we continue the relentless drive towards smaller semiconductor device feature sizes and higher levels of integration at the chip level, it has become increasingly evident that a judicious review and a very complete understanding of the reliability mechanisms that contribute to the degradation of each of the technology elements will be crucial for the successful development of the most advanced leading edge technologies. The increased device count and process complexity, coupled with ever decreasing margins in voltage, geometry and the incorporation of new material systems like high and low k dielectrics, stress/strain layers, and other limiting factors will be discussed from the reliability perspective. A closer look will be given to Hot Carriers, Bias Temperature Instabilities and statistical variations (process and geometric). This talk will also present a practical approach to the qualification methodology for advanced technologies while providing a review of the practical implications of the above mentioned reliability mechanisms. The impact of reliability induced parameter degradation and the mitigation of these effects will be analyzed for switching circuits and put in the required perspective for the successful technology transfer to a manufacturing environment.

About the Speaker:

See

http://meetings.vtools.ieee.org/meeting_view/list_meeting/5315 for details.

Time: 5:00 PM to 6:30 PM, Wednesday, April 6, 2011. Pizza and refreshments will be offered at 4:00 PM.

Place: NJIT, Room 202, ECE Center, Newark, NJ.

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

6 April

NJ Section:

Executive Committee Meeting

Time: 6:30 PM to 8:45 PM, Wednesday, April 6, 2011. A buffet dinner and refreshments will be served.

Place: Clifton Public Library - Allwood Branch, 44 Lyall Road, Clifton, NJ.

Information: Dr. MengChu Zhou at zhou@njit.edu.

9 April– 28 May

NJ Section:

Project Management Eight Weeks Course

The North Jersey Section IEEE is offering a course entitled "Project Management". Dice.com lists 5,800+ 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 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 completion when you finish the course. You may wish to take two Certification exams: one in IT Project+ and the other one in Project Management, administered by Project Management Institute. (This is not an exclusive PMP-PMI examination prep course. No PDUs are issued for PMP eligibility. CEU credits would be given by IEEE).

Course Agenda:

What you will learn:

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, monitor project progress
5. Monitor changes, business analysis, estimates
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

See

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http://meetings.vtools.ieee.org/meeting_viw/list_meeting/5357 for full details.

About the Instructor:

See
http://meetings.vtools.ieee.org/meeting_viw/list_meeting/5357 for details.

Time: 9:30 PM to 12:00 PM, Saturdays, April 9 – May 28, 2011.

Place: NJIT, Room TBD, Newark, NJ.
Information: Donald Hsu,
yanyou@hotmail.com.

13 April

NJ PACE:

Engineers Meet: The Secrets to Financial Success in Today's Complex World

On Wednesday, April 13, 2011 the North Jersey Section Professional Activities Committee, will meet for a discussion about "The Secrets to Financial Success in Today's Complex World." The speakers will be Joe Fitzgerald and James DeMatteo.

About the Talk:

For our seminar, we will present a discussion of a concept called: "Income to wealth." It demonstrates the most efficient way to manage opportunities and financial decisions from a "macro" point of view.

It starts with analyzing the 4 quadrants of your personal balance sheet. These quadrants are: Assets, Liabilities, Cashflow, and Protection. During the presentation, your colleagues will learn the strategies to sync these four quadrants together to have the most efficient personalized short and long term plan. We will also include a session to discuss the current economic times.

We will explain what is causing the current economic turbulence and how to take advantage of the present opportunities and how to go about protecting ones assets from the current problems in todays financial world. The presentation also discusses the eroding factors of wealth and how to design a plan to avoid shortcomings of hitting your goals. The seminar will have question and answer session at the end.

Bring your associates, friends and spouses.

About the Speakers:

See
http://meetings.vtools.ieee.org/meeting_viw/list_meeting/5761 for details.

Time: 6:30 PM to 9:00 PM, Wednesday, April 13, 2011. Refreshments will be served.

Place: Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ, (973) 772-5500.

Information: Paul Ward, (973) 790-1625, peward@ieee.org, Richard F. Tax, (201) 664-6954, rtax@aea.org.

29 April

NJ IAS/PES:

Power Factor Correction Technical Seminar

The PES and IAS Chapters will sponsor a technical seminar on the topic of power factor correction. The session will be held on Friday, April 29, 2011 at PSE&G's Hadley Road Facility, 4000 Hadley Road, South Plainfield, NJ.

About the Seminar:

The seminar will cover the application of power factor correction solutions with special emphasis on application issues like harmonics and switching transients. In addition, this presentation will uncover some of the unspoken truths about overstated claims with power factor correction equipment.

Topics will include:

- PF Correction Basics
- Power triangle (PF analogies)
- PF penalties
- Other benefits (loss savings, capacity improvement, harmonic correction)
- Overstated Claims of some vendors (snake oil)
- Capacitors and interaction with harmonic loads (drives, etc) PF Solutions
- Fixed capacitors
- Switched capacitors
- Filters (fixed and switched)
- LV vs. MV solutions Applications Considerations
- Harmonics
- Switching transients
- Overcompensations

Registration The registration fee for this seminar will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. The seminar fee includes lunch, refreshments and handouts. Non-members joining IEEE within 30 days of the seminar will be rebated 50% of the IEEE registration charge. If desired, IEEE Continuing Education Units will be offered for this course - a fee of \$45 will be required for processing. A total of 0.4 CEUs will be offered. Please indicate if desired below.

See

http://meetings.vtools.ieee.org/meeting_viw/list_meeting/5675 for details.

About the Instructor:

The instructor will be Daniel Carnovale, PE/CEM of Eaton Corporation. Dan is the Power Systems Experience Center Manager for Eaton's Electrical Group. Dan has developed Eaton's Power Systems Experience Center (www.eaton.com/experience) where PQ problems are created and mitigated for demonstration and testing purposes. He has developed and teaches CEU certified technical seminars on Power Systems and Power System Analysis and he has conducted several hundred Power Quality site investigations for commercial, industrial and utility power systems: evaluating PQ issues and applying solutions.

Prior to Eaton, Dan worked for Westinghouse Engineering Services and ABB Power T&D where he performed Power Quality field investigations and electrical distribution system analysis.

See

http://meetings.vtools.ieee.org/meeting_viw/list_meeting/5675 for details.

Time: 9:00 AM to 2:00 PM, Friday, April 29, 2011. Refreshments will be served.

Place: PSE&G - Hadley Road Facility, 4000 Hadley Road, South Plainfield, NJ.
Information: Ronald W. Quade, PE - (973) 219-8802 or rquade@ieee.org.

1 May

NJ Section:

Annual Awards Reception

See

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

Time: 3:00 PM, Sunday, May 1, 2011.

Place: Birchwood Manor, 111 North Jefferson Road, Whippany, NJ.

Information: Russell Pepe,
rpepe@att.net.

17 May

IEEE South Area Sections:

IEEE Innovation Day

See

http://ewh.ieee.org/reg/1/innovation_day/index.html for details.