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IEEE Boston Spring Social and Awards Reception

Sunday, June 12, 2016, 1 - 4PM

The 2016 IEEE Boston Section Spring Social and Awards Reception will be held on **Sunday, June 12, 2016 from 1 - 4PM at the Crowne Plaza Hotel, 15 Middlesex Canal Park Road, Woburn, MA.**

At this reception, we will recognize and/or present awards of all IEEE levels from
Fellows to section awards to all Boston Section recipients. Members of the section and their families and friends are invited to attend.

Pre-registration is strongly encouraged to help us plan the spring social. You have three options to register.

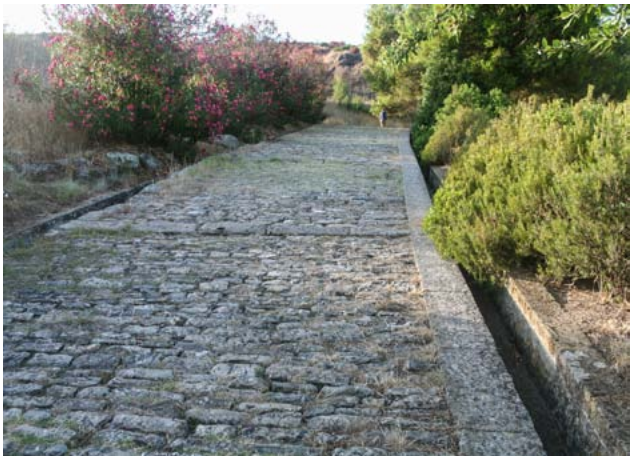
Call the office at 781 245 5405.
Email, ieeebostonsection@gmail.com
Online: http://www.ieeeboston.org/Register/ and select "spring social 2016"

Guest Speaker: John Horrigan

Early American Roads

By the time journalist John L. O'Sullivan, wrote an article in 1845 declaring to the citizens of the United States that it was "our manifest destiny to overspread the continent allotted by Providence for the free development of our yearly multiplying millions", construction of the first macadamized road in the United States had already begun. The migration westward was dramatically increasing as settlers headed into uncharted territories throughout the wild west, in search of fertile land and a better way of life. They followed ancient Native American game trails and cattle paths that were unsuitable for wagons, given their mud-filled gullies and rock-bound surfaces. Smooth, continuous and more direct routes were needed to accommodate more wagon trains, substantially reduce travel times and allow for rapid expansion of our nation. Eventually, the proliferation of automobiles made it necessary to develop a comprehensive system of asphalt thoroughfares and avenues.

Join five-time Boston/New England Emmy Award-winning folklorist John Horrigan as he presents a chronological survey of America's early roads, canals and thoroughfares, including the Natchez Trace, the Mohawk Trail, Boston Post Road, the Old Connecticut Path, the Wilderness Road, the National Road, the Erie Canal, Route 66 and modern-day I-90.



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IEEE Boston Section Online Courses:

Verilog101:Verilog Foundations CLASS DESCRIPTION: Verilog is IEEE standard 1364. It is a Hardware Description Language that is the corner stone of much of the simulation world. Verilog Foundations is a comprehensive introduction to the IEEE 1364 (Verilog). The Verilog Foundations class has a slightly different approach to learning Verilog than other methods. There is a lecture section for each main topic. This presents a basic foundation for the language. What makes Verilog Foundations exciting is the emphasis on labs/examples. There are nearly 100 labs/examples giving comprehensive "how to" examples of most Verilog language constructs. There are working solutions for each lab and the students can use the lab database for developing their own models later. The class is also self paced. All the work can be done independently by the engineers, at their own computer, and at their own pace.
(Register at http://www.ieeeboston.org) and click on course title

System Verilog 101: Design Constructs CLASS DESCRIPTION: SytemVerilog is an extensive set of language constructs to the IEEE 1364-2001 standard. It's meant to aid in the creation and verification of models. There are two parts to the language extension. The first part covered by this class, is new design constructs. The second part of SystemVerilog is verification constructs, covered by SystemVerilog102. There are over 100 labs/examples giving comprehensive "how to" examples of most SystemVerilog language constructs. There are working solutions for each lab and the students can use the lab database for developing their own models later. The class is also self paced. All the work can be done independently by the engineers, at their own computer, and at their own pace. There are self-grading quizzes for each chapter that allow the student to see if he/she is learning the material. The goals of this course are to make you familiar with the new part of the language. Students taking SystremVerilog101 will have a 90-day access to it. The lab database you will be able to download and is yours to keep. **(Register at http://www.ieeeboston.org) and click on course title**

System Verilog 102: Verification Constructs CLASS DESCRIPTION:SytemVerilog is an extensive set of language constructs to the IEEE 1364-2001 standard. It's meant to aid in the creation and verification of models. There are two parts to the language extension. The first part covered by SV101, is new design constructs. SV102, this class, covers verification constructs. SystemVerilog102, like all CBE classes, is lab based. There are over 30 verification labs/examples giving comprehensive "how to" examples of most SystemVerilog verification language constructs. There are working solutions for each lab and the students can use the lab database for developing their own assertions later. The class is also self paced. All the work can be done independently by the engineers, at their own computer, and at their own pace. **(Register at http://www.ieeeboston.org) and click on course title**

Introduction to Embedded Linux Part I CLASS DESCRIPTION: This first of a 2-part series introduces the Linux Operating System and the use of Embedded Linux Distributions. The course focuses on the development and creation of applications in an Embedded Linux context using the Eclipse IDE. The first part of the course focuses on acquiring an understanding of the basic Linux Operating System, highlighting areas of concern for Embedded Linux applications development using Eclipse. The latter part covers the methods for booting Embedded Linux distributions including embedded cross-development and target board considerations.

High Performance Project Managment CLASS DESCRIPTION: This12 hour course(broken into short 10 to 20 minute independent modules) provides the project methodology, concepts, and techniques that ensure successful completion (on time, on budget, with the quality required) of projects, large and small. Participants learn the steps to take before, during, and at the end of a project to hone planning and execution to a strategically built process that delivers project success when used. Additionally, the course provides the interpersonal and leadership techniques to ensure everyone involved with the project whether a team member, organization member, or outside of the organization commits to the success of the project—voluntarily—and provides the support and assistance to ensure its success. In addition to learning how to master the technical skills that have evolved over thousands of years of project implementation and practice, the course provides the advanced team building, leadership, and interpersonal skills that ensure the technical skills can be used, they way they are designed to be used, resulting in a process that delivers the on time, on or under budget, with the quality required completed project consistently.

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What a Dump!

By Karen Panetta, Reflector Editor

I learned to ride a bike at the dump. As a matter of fact, my first bike came from the dump. My father insisted that once I learned to ride a bike and demonstrated that I could take care of a bicycle, that he would consider buying me a new one.

The dump was the only safe place for me to ride or should I say, safe from me. My first attempt riding in my own neighborhood resulted in me slamming into my neighbor's beautiful little 1969 Corvette convertible. I am sure it would have been an expensive classic car today, had I not destroyed it.

I also learned to ice skate at the dump. What you need to know is that the dump wasn't always a dump. In fact, it was originally a World War II fort, complete with underground tunnels and cement bunkers. On Halloween, the town would open the tunnels as a haunted house attraction complete with chain saw wielding maniacs that would chase you through the maze of underground tunnels and empty bunkers. What a great place!

My town was also recognized for its giant "Golf Ball" radar tower. It stood beside the ocean, on another fort named, Fort Heath. I used to ride my bike out to the edge of the ocean, where remnants of circular gun turrets and mortar pits spanned over the width ofa football field and dropped down to an80-foot depth. There were no fences or safety precautions around this historic site, so I could freely hang my feet over the edge of the turret never thinking of the impending danger of decaying cement supports. I used to do cartwheels around the rim of the mortar pits to show how "well-balanced" I was. My parents would faint if I ever told them about this and the ensuing lecture that would follow would be intolerable.

The serenity of the place, with nothing but the sound of the ocean and squawking seabirds seemed a far cry from what must have once been a bustling center of activity during World War II.

I was heartbroken when they built condos over the site and tore down the Radar Station. My dad bid on the electronics that were the heart of the Golf Ball Radar system and won.
We would sit outside stripping copper from the circuit boards to sell for scrap. When we were done, he would let me keep the circuit boards to play with and to sell to the other neighborhood children. I made a fortune!

You must be asking, "What on earth would 8 year olds do with circuit boards?"

Well, we would strap them to our chests or tape them to boxes and pretend we were aliens and robots. No one in the neighborhood blinked an eye. Can you imagine what would happen if kids tried doing that today? The bomb squad would show up!
I also loved the resistors. Yes, this makes me quite the nerd girl, but the variety of colors in the banding fascinated me and they made such nice jewelry. I am lucky I didn't get lead poisoning.

I am sorry that I didn't have the opportunity to learn more about the operations of the Forts or the technology I held in my hands as a child.

Fortunately, the Boston Section has some great resources and one of them is our Life Members Affinity Group. I was delighted to find a number of them tohelp fill in the blanks and bring the history of the Forts back to life for me. Their brains store far more

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information than one can find on the Internet!

I also found that the members of the Boston Consultants Network do more than consult. Tom Vaughn was kind enough to send me an entire package of information on Fort Banks, aka the "Dump". This goes to show that our members are networked and plugged into every subject.

Well, all this talk about Radar has made me more curious. I think it is time to sign up for Eli Brookner's Radar course and find out more about the "Golf Ball"!

And in case you were wondering, yes, I did receive a new bike for my seventh birthday and learned a valuable life lesson.

Now, I give my father my old cars, five of them to date, and say, "When you demonstrate that you can take care of a car, I will buy you a new one".

He is still waiting.

As always, the views expressed in our editorials are those of the author and not necessarily those of the IEEE Boston

Letters to the editor can be sent to, "sec.boston@ieee.org"

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www.ieee-hpec.org
(Abstract submission deadline is May 16, 2016)

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2016 IEEE International Symposium on Phased Array Systems & Technology
October, 18 - 21 2016
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2016 IEEE Fellow and Awards Recipients

Karl Berggren
for contributions to nanofabrication and nonmanufacturing in the sub-10 nm regime

Prof. Berggren is Professor of Electrical Engineering at the Massachusetts Institute of Technology, Department of Electrical Engineering and Computer Science, where he heads the Quantum Nanostructures and Nanofabrication Group. He is also Director of the Nanostructures Laboratory in the Research Laboratory of Electronics and is a core faculty member in the Microsystems Technology Laboratory (MTL). From December of 1996 to September of 2003, Prof. Berggren served as a staff member at MIT Lincoln Laboratory in Lexington, Massachusetts, and from 2010 to 2011, was on sabbatical at the Technical University of Delft.

His current research focuses on methods of nanofabrication, especially applied to superconductive quantum circuits, photodetectors, high-speed superconductive electronics, and energy systems. His thesis work focused on nanolithographic methods using neutral atoms. Professor Berggren teaches several of classes at MIT, including 6.02 Digital Communications, 6.002, Circuits and Electronics, and 6.781, Submicrometer and Nanometer Technology.

Prof. Berggren is a fellow of AAAS, fellow of IEEE and a fellow of the International Society for Nanomanufacturing. He serves on the editorial board of the IOP Nanotechnology journal and was program chair of the 2014 Electron, Ion, Photon Beams and Nanofabrication Conference. From 2008 to 2014 he was an elected member of the board of the Applied Superconductivity Conference.

David Brooks
for contributions to power-efficient and resilient computer system design

(bio not available at time of press)

Georges El Fakhri
for contributions to biological imaging

(bio not available at time of press)

Mark Horenstein
for contributions to the modeling and measurements of electrostatics in industrial processes

(bio not available at time of press)

Charles Leiserson
for leadership in parallel and distributed computing

(bio not available at time of press)

Gabriele Manganaro
for leadership in the design of high-speed converters

Gabriele Manganaro holds a Dr.Eng. and a Ph.D. degree in Electronics from the University of Catania, Italy. Starting in 1994, he did research with ST Microelectronics and at Texas A&M University. He worked in data converters' IC design at Texas Instruments, Engim Inc, and as Design Director at National Semiconductor. Since 2010 he is Engineering Director for High Speed Converters at Analog Devices.

He served in the technical sub-committee for Data Converters of the ISSCC for seven consecutive years.
He was Associate Editor, then Deputy Editor in Chief and finally Editor in Chief for IEEE Trans. On Circuits and Systems - Part I.

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He authored/co-authored 60 papers, three books (notably "Advanced Data Converters", Cambridge University Press, 2011) and holds 13 US patents with more pending.

He was recipient of scientific awards, including the 1995 CEU Award from the Rutherford Appleton Laboratory (UK), the 1999 IEEE Circuits and Systems Outstanding Young Author Award and the 2007 IEEE European Solid-State Circuits Conference Best Paper Award.

He is an IEEE Fellow (for "leadership in the design of high speed converters"), a Fellow of the IET (since 2009), Member of Sigma Xi, and a member of the Board of Governors for the IEEE Circuits and Systems Society (2016-2018).

Dimitris Manolakis
for contributions to signal processing education, algorithms for adaptive filtering, and hyperspectral imaging

Dimitris Manolakis (dmanolakis@ll.mit.edu) received his B.S. degree in physics and his Ph.D. degree in electrical engin- eering from the University of Athens, Greece. He is currently a senior staff member at the Massachusetts Institute of Technology (MIT) Lincoln Laboratory in Lexington. Previously, he was a principal member of the research staff at Riverside Research Institute. He taught at the University of Athens, Northeastern University, Boston College, and Worcester Polytechnic Institute, and he is a coauthor of the textbooks *Digital Signal Processing: Principles, Algorithms, and Applications* (Prentice Hall, 2006, 4th ed.),*Statistical and Adaptive Signal Processing* (Artech House, 2005), *Applied Digital Signal Processing* (Cambridge University Press, 2011), and the forthcoming Hyperspectral Imaging Remote Sensing (Cambridge University Press, 2016). His research experience and interests include digital signal processing, adaptive filtering, array processing, pattern recognition, remote sensing, and radar systems.

Pablo Parrilo
for contributions to semidefinite and sum-of-squares optimization

Pablo A. Parrilo received the electronics engineering undergraduate degree from the University of Buenos Aires, Buenos Aires, Argentina, in 1995 and the Ph.D. degree in control and dynamical systems from the California Institute of Technology, Pasadena, in 2000. He has held short-term visiting appointments at UC Santa Barbara, Lund Institute of Technology, and UC Berkeley. From 2001 to 2004, he was Assistant Professor of Analysis and Control Systems at the Swiss Federal Institute of Technology (ETH Zurich). He is currently a Professor at the Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge. He is affiliated with the Laboratory for Information and Decision Systems (LIDS) and the Operations Research Center (ORC). His research interests include optimization methods for engineering applications, control and identification of uncertain complex systems, robustness analysis and synthesis, and the development and application of computational tools based on convex optimization and algorithmic algebra to practically relevant engineering problems. Prof. Parrilo has received several distinctions, including a Finmeccanica Career Development Chair, the Donald P. Eckman Award of the American Automatic Control Council, the SIAM Activity Group on Control and Systems Theory (SIAG/CST) Prize, the IEEE Antonio Ruberti Young Researcher Prize, and the Farkas Prize of the INFORMS Optimization Society.

Rajeev Ram
for contributions to semiconductor lasers and integration of photonics with CMOS electronics

(bio not available at time of press)

Daniel Sabin
for leadership in power quality database management and analysis software

Daniel Sabin, a Principal Engineer and Software Architect with Electrotek Concepts in Beverly, Massachusetts, has been named an IEEE Fellow. He was recognized for leadership in power quality database management and analysis software.
Dan designs and develops databases and software libraries for PQView®, a software system developed by Electrotek and EPRI for managing billions of measurements from power quality (PQ) monitors, digital relays, and fault recorders in a single database.
Using the PQView framework, Dan developed software to combine measurements from PQ monitors and microprocessor relays, distribution circuit models, and GIS maps to provide automatic fault location based on reactance calculations. Its implementation at the Consolidated Edison Company of New York is described as a case study in IEEE C37.114-2014. The same fault location system is in production use in Ottawa and Detroit. It plays a major role in reducing the time to find both overhead and underground faults, in lowering O&M expenses, and in reducing the average interruption time experienced by each customer (CAIDI).

Dan also pioneered methods for voltage sag componentization, temporal aggregation, and monitor availability in voltage sag indices. These methods were the de facto standard for electric utilities in North America and Asia since 1996, and are now standardized in IEEE Std. 1564-2014.
Dan chairs the Task Force for IEEE Std.1159.3, which defines the PQDIF file format and is used worldwide to exchange measurements between PQ monitoring systems. He is also vice chair of the IEEE Transmission & Distribution Committee.
He graduated from Worcester Polytechnic Institute with a BSEE and has a Master of Engineering in Electric Power from Rensselaer Polytechnic Institute.

Lizhong Zheng
for contributions to the theory of multiple antenna communication

(bio not available at time of press)

G. David Forney, Jr.
IEEE MEDAL OF HONOR, for an exceptional contribution or an extraordinary career in IEEE fields of interest, sponsored by the *IEEE Foundation,* to

G. DAVID FORNEY, JR. (LFIEEE)—Adjunct Professor, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA
for pioneering contributions to the theory of error-correcting codes and the development of reliable high-speed data communications

G. David Forney, Jr., adjunct professor in the Department of Electrical Engineering and Computer Science and the Laboratory for Information and Decision Systems (LIDS), will receive the 2016 Institute of Electrical and Electronics (IEEE) Medal of Honor, the highest award bestowed by the IEEE.

Forney has had an exceptional career in data communications, both industrial and academic. He received a BS in electrical engineering from Princeton University in 1961, and an ScD from MIT in 1965, under the supervision of Jack Wozencraft and Bob Gallager. His thesis was published as an MIT Press monograph in 1966.

After graduation, Forney went to work for Codex Corporation, a startup founded to exploit error-correcting codes invented by Bob Gallager and Jim Massey at MIT. At Codex, he designed the first coding system to go into space, involving a convolutional code with sequential decoding, for a NASA Pioneer deep-space mission in 1968. In 1970, he designed the first “modern” high-speed (9600 bps) QAM telephone-line modem, which was the foundation of Codex’s commercial success,

and which became the international V.29 9600 bps modem standard. He was vice president of research and development and a director of Codex at the time of its acquisition by Motorola in 1977. At Motorola, he served as Information Systems Group vice president, and as a vice president of the technical staff until his retirement in 1999. He has been an adjunct professor at MIT since 1996.

Forney has written many prize-winning papers on information theory, coding, modulation, and equalization, and has been active in the IEEE Information Theory Society. He was editor of the IEEE *Transactions on Information Theory* during 1970-73; co-chair (with Bob Gallager) of the Golden Jubilee IEEE Symposium on Information Theory at MIT in 1998; and twice president of the IEEE Information Theory Society, in 1992 and 2008.

Forney received the 1992 IEEE Edison Medal, and the 1995 IEEE Information Theory Society Claude E. Shannon Award. He was elected a fellow of the IEEE in 1973, a member of the National Academy of Engineering in 1983, a fellow of the American Academy of Arts and Sciences in 1998, and a member of the National Academy of Sciences in 2003.

Call for Course Speakers/Organizers

IEEE's core purpose is to foster technological innovation and excellence for the benefit of humanity. The IEEE Boston Section, its dedicated volunteers, and over 8,500 members are committed to fulfilling this core purpose to the local technology community through chapter meetings, conferences, continuing education short courses, and professional and educational activities.

Twice each year a committee of local IEEE volunteers meet to consider course topics for its continuing education program. This committee is comprised of practicing engineers in various technical disciplines. In an effort to expand these course topics for our members and the local technical community at large, the committee is publicizing this CALL FOR COURSE SPEAKERS AND ORGANIZERS.

The Boston Section is one of the largest and most technically divers sections of the IEEE. We have over 20 active chapters and affinity groups.

if you have an expertise that you feel might be of interest to our members, please submit that to our online course proposal form on the section's website (www.ieeeboston.org) and click on the course proposal link (direct course proposal form link is http://ieeeboston.org/course-proposals/ . Alternatively, you may contact the IEEE Boston Section office at sec.boston@ieee.org or 781 245 5405.

- Honoraria can be considered for course lecturers
- Applications oriented, practical focused courses are best (all courses should help attendees expand their knowledge based and help them do their job better after completing a course
- Courses should be no more than 2 full days, or 18 hours for a multi-evening course
- Your course will be publicized to over 10,000 local engineers
- You will be providing a valuable service to your profession
- Previous lecturers include: Dr. Eli Brookner, Dr. Steven Best, Colin Brench, to name a few.

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2017 IEEE Boston Section Executive Committee Nominations

Chair: Lennart Long

Lennart E. Long is a Transportation Electromagnetic Compatibility (EMC) Engineer with over 30 years of experience with railroad, subway, trolley and bus EMC studies. He has a Bachelor's and Masters Degree in Electrical Engineering from Northeastern University and graduate studies at the University of New Hampshire and Johns Hopkins University. He has taught security technology at UMASS Lowell (teaching security risk management, overview of homeland security, and cyber security), Boston University, Suffolk University, the University of New Hampshire, Northeastern University, the Federal Law Enforcement and Training Center in Georgia, John Jay College in New York City and for the City of New York.

He has lectured on and participated in security projects for the Internal Revenue Service, Houses of Worship, and Gdansk University of Technology in Poland. He and his consulting team has worked successfully for the British Home Office, Federal Protective Services, Social Security Administration, Instrumentation Society of America, President Clinton's Security Policy Board evaluating risk assessment methodologies, Inter-agency Committee for Security Equipment, the U.S. Senate staff, White House Communications Agency, the Secretary of State's security detail, the President's situation room, the Bureau of Engraving and Printing, Department of the Treasury, White House, State Department (in Brussels, Helsinki, Paris, Frankfurt, and other posts and embassies around the world), Army Intelligence, Federal Aviation Administration, US Coast Guard, Central Intelligence Agency, National Security Agency, Federal Railroad Administration, St. Lawrence Seaway Administration, Pipeline Administration, Marine Administration, Office of Intelligence and Security, Federal Transit Administration, Federal Bureau of Investigation, U. S. Marshals Service, Customs Service, Federal Transportation Administration (security risk management and security policy), and the Research and Special Programs Administration.

His recent clients include the Niagara Frontier Transportation Agency, Buffalo Transit Agency, PATH, SEPTA, MBTA, Port Of New York and New Jersey, NYCTA, LIRR, MNR, NYCTA Hybrid Bus - (Oerlicon), DesignLine Bus of North Carolina, Baltimore MTA, Boston MBTA, BART, Houston, Portland, ALSTOM, BREDA, Siemens, Kawasaki, Mitsubishi, Westinghouse, Helsinki, Toronto, MARTA, Brown Boveri, Seattle Light Rail, LACMTA Heavy/Light Rail, New Jersey Transit, Dallas, WMATA, Kinki Sharyo, UTS, General Electric, Earth-Tech, Parsons, STV, Booz-Allen, SYSTRA, Turner Consulting, LTK, PATCO, SEPTA, U. S. Army, U.S. Navy, Hanscom Air Force Base, Cambridge Research Labs, ROME Air Force Base, General Service Administration, Social Security Administration, Internal Revenue Service, Federal Law Enforcement Training Center, Morgantown Personal Transit System, National Transportation Safety Board, Washington Metropolitan Area Transit Administration, Metropolitan Atlanta Regional Transportation Administration, Bay Area Transportation Administration, the Security Technology Division of the NDIA, and the Institute for Electrical and Electronics Engineers.

He is the recipient of the, Research and Special Programs Bronze Medal and well as a U. S. Department of Transportation Bronze Medal as well as a special citation from the British Home Office and an award from the Secretary of State. On May 17, 2014 he will be presented with the Robert S. Walleigh Distinguished Contributions to Engineering Professionalism Award, the highest and most prestigious award issued by IEEE-USA. He has several patents and publications. He has given a keynote address at a NATO sponsored Conference at Gdansk University

of Technology and has worked with The National CyberSecurity Coordinator and Advisor to the President, Howard Schmidt. He serves on the Boston Section Executive Committee as Treasurer and on the Outreach, Planning and Action Plan Committee and chairs the Professional Development and Education Committee and is designing and developing a system for hosting and presenting online courses for the Boston Section.

Vice Chair: Greg Walson

Mr. Walson is a Senior Member of the IEEE. He has previously held several positions on the Boston Section Executive Committee and currently serves as Secretary and PACE Chair.

He recently joined the MIT Department of Facilities as a Senior Electrical Engineer, working for the Utilities Group. Prior to this he worked for eight years as an Electrical Engineer specializing in power utility substation design and engineering for Vanderweil Engineers. He has also worked as an electrical designer and lighting manufacturer's representative. He has lectured at MIT on lighting control systems.

He holds a BSEE from Northeastern University, and a BA in Theater from Goshen College. He is also a licensed Professional Engineer in Massachusetts and New Hampshire.

Secretary: Gilmore Cooke

Gil Cooke received the Bachelor of Engineering degree in electrical engineering from McGill University Montreal in 1962. He has spent most of his engineering career working on large engineering and construction projects while residing in California, the mid- west and Massachusetts. He is a Registered Professional Engineer in Massachusetts and California.

He served as chairman of the Detroit Chapter in 1977-78; director-at-large in 1977, and has been active with the Boston chapter's technical programs during the 80's. He's been appointed to the following: Boston Section Chair History & Milestones Committee; Boston Section Director at Large, 2004-2006; Boston Section Treasurer, 2015- 2016.

Treasurer: Ramon de la Cruz

Ramon started volunteering with the IEEE during college at Iowa State University. He joined as the Student Chapter Publicity Chair, where he was editor of the IEEE monthly newsletter. The following year, he was elected IEEE Student Chapter Chair for two consecutive terms. With record number of activities and student participation, the student chapter co-sponsored joint technical and professional meetings with the IEEE Central Iowa Professional Chapter and the University of Northern Iowa IEEE Student Chapter.

Ramon joined Teradyne, Inc. Integra Test Division in 1999 at the start of the product introduction and ramp of the J750 Automatic Test Equipment (ATE). During his earlier years with Teradyne, Ramon co-developed test processes that enabled high volume manufacturing to support the unprecedented ramp of the J750 ATE Test Platform. The J750 market acceptance for testing the next generations of highly integrated, low cost microcontrollers expanded with the introduction of several new products like the Converter Test Option, Mixed Signal Option, RFID Test Option and Analog Parametric Measurement Unit Option.

In 2003, Ramon moved to the Teradyne New Product Introduction Group of the Semiconductor Test Division during the development and introduction of the UltraFlex Automatic Test Equipment (ATE) Platform. In this role, he has overseen the test process transfer from the pilot line to high volume manufacturing of the 1 GHz digital option and various new analog and digital ATE instrument products. Currently at Teradyne NPI Group, he participates in operations strategy workgroups to define processes and methods sup-

porting next generation system and instrumentation development for current and future ATE Platforms.

Ramon joined the Boston Reliability Chapter in 2007 as a member-at-large and has served as the Joint Section Reliability Chapter Chair (2009-11) and Vice-Chair (2008, 2012-14). He's a member of the Board of Directors of the Northeast Chapter of the Electrostatic Discharge Association (NE-ESDA, 2009-2014). At the ESDA, he serves on the ESDA Regional Tutorial Program Committee and has been hosting the annual NE-ESDA Regional Tutorial since 2010.

Other volunteer opportunities include serving as an industry advisor for the University of Massachusetts Lowell Assistive Technology Development Fair and participating in local high school job fairs.

He holds a B.S. in Electrical Engineering from Iowa State University. His background includes Design for Testability, Process FMEA, Systems and Circuit Analysis, Risk Assessment, and Highly Accelerated Stress Testing.

Ramon enjoys evaluating consumer electronics and designing, modifying and improving state-of-the-art audio equipment. Other interests include digital photography and staying current on the latest science and technology trends.

At Large: Two year term (2017 -2018)

Paul Zorfass

Paul is currently on the IEEE Boston Section Executive Committee. He is chapter chair coordinator. He has previously initiated the first section Job Forum and been active on program committees to recruit speakers for section conferences and other events. Prior to this he had been Chapter Chair for the Communications Society, Boston and CNET chapters, for six years; and also the Region 1 representative to the North American Board for the Communications Society.

He also volunteers in several other Greater Boston activities. This includes as a member of the Board of Assessors in his local town that values real estate; and member of the Cable Advisory Committee. He is also Treasurer of the board for his own homeowners' community.

His professional interests and background include software and hardware technology development and market evaluation, especially as it adds value to final product performance. His work activities have included consulting with multinationals such as IBM, Intel, Philips and Microsoft as well as numerous start-ups. This has evolved from engineering and software development for real time and embedded systems for both DoD and wide-ranging industry and commercial use. He has also been an active participant in start-up company founder teams.

With non-industrial clients Paul has focused on technology planning and market assessments for large US agencies such as DARPA, NSA, and World Bank; and non-U.S. governmental agencies from: UK, The Netherlands, European Commission, and South Korea. Client agendas were usually focused on country economic issues. It was always important to encourage and sustain economic development in regard to each country's specific metrics and requirements for advanced electronics technologies.

Marie C. Tupaj

Marie C. Tupaj holds a bachelor's degree in electrical engineering and a doctorate in biomedical engineering from Tufts University. Following her undergraduate degree, she worked at Sun Microsystems on the design and verification of host-bridge application specific integrated circuits for mid-range server products. As a doctoral student, Marie worked on a project supported by the Armed Forces Institute of Regenerative Medicine that identified and integrated biochemical, biophysical, and bioelectrical strategies into nerve guides for peripheral nerve repair and limb and digit salvage. As

a postdoctoral fellow, Marie worked on a number of biomedical projects ranging from chemical modification of surfaces to building miniaturized biosensors. Marie's research interests include neuroprosthetic device design and examining electric field effects on cells.

Marie has been an active member of the IEEE Boston section since 2011. Within the Boston section, she has worked on the steering committee of the Women in Engineering (WIE) affinity group. On this committee, Marie has held roles as treasurer and chair. Specifically, she has organized and led steering committee meetings, planned monthly technical and professional development meetings, and wrote proposals for group funding and award money. She has represented WIE Boston at local and regional conferences including the Region 1 WIE Conference, the Region 1 IEEE student conference, and at a MA regional science fairs as science fair judge. She is also a member of the IEEE Engineering Medicine & Biology Society.

IEEE Milestone Dedication for Claude E. Shannon's Development of Information Theory, 1939-1967

Date: Tuesday May 17, 2016
Time: 5:00pm
Location: Building 34, Room 34-401 (the Grier Room), 50 Vassar Street, Cambridge MA 02139

Requesting RSVP by Tuesday May 3, 2016.
Contact Tricia O'Donnell at (617) 253-2297 or ShannonDedication@gmail.com

Please note: IMMEDIATELY PRECEDING Dedication
A special talk in the Boole-Shannon Lecture Series will be delivered by distinguished information theorist and Shannon expert, Professor Sergio Verdú of Princeton University:

Boole- Shannon Lecture
Speaker: Prof. Sergio Verdú
Date: Tuesday, May 17 2016
Time: 4:00pm
Location: Stata Center (Building 32), Room 32-123, 32 Vassar Street, Cambridge MA 02139

Parking on campus can be tricky. We strongly recommend public transportation if possible. However, there is an MIT lot located on the corner of Mass Ave and Vassar Street (139 Mass Ave). It is $24 cash upfront. It is $7 for the 1st hour, $14 for the 2nd hour. Depending on how long attendees stay, will determine the actual cost for parking but the maximum will be $24. The phone number for parking is 617-258-6510

The below link is a map of campus marking the 139 Mass Ave Lot, Ray and Maria "Stata" Center building 32 (32-123) where Prof Sergio Verdú's talk will be held as well as EG&G Education Center Building 34 (34-401 Grier Room) where the dedication will be. Due note: room numbers on campus are labeled with the building number first followed by the room number, i.e. 32-123 and 34-401

http://whereis.mit.edu/?zoom=16&lat=42.361406049624 79&lng=-71.09090348406617&maptype=mit&q=139%20Massachusetts%20Avenue%20Visitor%20Lot&go=32&go=34&open=-1

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Entrepreneurs' Network – 6:30PM, Tuesday, 3 May

Seed and Angel Financing

Meeting Location – Constant Contact, Reservoir Place, Main Building, InnoLoft Great Room, 1st Floor, 1601 Trapelo Road, Waltham, MA.

PRE-MEETING DINNER at 5:15 PM (sharp) at Bertucci's, Waltham.

Are you getting ready to raise seed investment for your company? Want to know what goes on behind the scenes when angel and seed investors contemplate whether or not to fund a venture? Or how to create an investor-friendly financial model for your business?

On May 3rd, ENET will host a panel of leaders from the Boston seed and angel investing community who will answer your questions about how they make investment decisions. There will be no presentations and no slides. At this meeting it will be just you, our panel of Angels, and your questions. As a founder, or founder-to-be this is your chance to ask the panel all those questions that are going through your mind about raising capital. Here are a few very common questions:

- What are the best ways to find an Angel who's investment interests align with your objectives?
- How do Angels pick investments? What criteria is most important to them?
- How do Angels decide how to value my company and how much to invest?

As with every ENET meeting you will also get the chance to network with the panelists and other meeting attendees, both before the start of the meeting and afterwards. There will also be an off-site pre-meeting dinner for additional networking.

Panelist: Deb Kemper, Managing Director, Boston Chapter of Golden Seeds, http://www.goldenseeds.com/ , Twitter: @Deb_Kemper

Deb Kemper is an active early-stage investor, mentor to entrepreneurs, and board member. She is an experienced advisor with cross-cultural leadership experience; she has lived and worked on three continents. Deb has provided leadership support to organizations in China and the United States. Deb recently directed the launch of Stone Soup Global Leadership, a YGL task force incubated within JUCCCE. Stone Soup is focused on inspiring and enabling leaders who catalyze change. JUCCCE's mission is to accelerate the greening of China. Previously, Deb was a consultant with McKinsey & Company. She has consulted to clients in a variety of industries including energy, utilities, electronics, and healthcare. Her functional experience includes product development, lean operations, strategy development, professional development, and leadership coaching. She has served on non-profit Boards of Directors in the United States, Peru and China. Deb earned her MBA from the Amos Tuck School at Dartmouth College where she was named an Edward Tuck Scholar. She holds a Bachelor of Science degree in Civil Engineering from Cornell University where she graduated With Distinction and was a member of the Varsity Women's Crew. She has recently repatriated after living overseas in Peru and China for 8 years. She resides in Boston with her husband and two children.

Panelist: Joseph W. Alsop, Venture Partner, Alsop Louie Partners, http://www.alsop-louie.com

Joseph W. Alsop is a Venture Partner with Alsop Louie Partners, focusing on supporting early stage companies applying information technology in innovative ways. He was the co-founder and until

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2009 the CEO of Progress Software Corporation, a global supplier of application infrastructure software used to develop, deploy, integrate and manage business applications. Joe led Progress from its founding to its position as a global software industry leader with annual revenue exceeding one half billion dollars. Alsop has over 25 years of management and technical experience in the computer industry.

Alsop received his B.S. degree in Electrical Engineering from the Massachusetts Institute of Technology and attended the Sloan School of Management at MIT.

Panelist:Michael R. Pratt, Managing Partner, Select Venture Partners, LLC.,http://www.selectventurepartners.com

Michael Pratt has over 40 years of experience in management and finance, in both domestic and international organizations, as well as more than two decades of involvement in the startup and venture capital industry. Michael's experience includes early-stage company management, negotiation of strategic partnerships and alliances, and service on the Boards of Directors of several companies, including a public-traded corporation in New Zealand.

Michael is the Managing Partner of Select Venture Partners LLC, an early stage, post-seed/pre-Series A venture capital firm, with an experienced team, all of whom have extensive cross-industry and cross-functional operating experience in software startups. He is also Lecturer in Technology Entrepreneurship at the Clark School of Engineering at the University of Maryland, College Park.

Prior to Select, Mike co-founded and was CEO of SpydrSafe Mobile Security, Inc. SpydrSafe was acquired in February 2014. Prior to SpydrSafe, Michael was the COO of CardStar, Inc., a mobile loyalty company sold to Constant Contact (NASDAQ: CTCT). From 2006 to 2010, Michael was the CFO/COO of Trust Digital, Inc., a venture-backed Mobile Device Management company sold to McAfee (NYSE: MFE). Prior to Trust, Michael was CFO of Galt Associates, Inc., a venture-backed software company sold to Cerner Corporation (NASDAQ: CERN) in July 2006. Earlier professional experience includes CEO of CrossMedia Networks Corp.; CEO of Point of Care Technologies sold to Siemens Healthcare in 1999 (ETR: SIE); various senior finance and operations positions with Mobil Corporation in both domestic and international settings, including President and General Manager of three Mobil subsidiaries. Michael began his professional career with Arthur Andersen & Co.

Michael holds a BS in Finance from East Carolina University, a post-graduate degree in Business Administration from Massey University in New Zealand, and an MS, Marketing from The Johns Hopkins University.

Moderator: Greg Dawe, https://www.linkedin.com/in/gregdawe,
Twitter: @GlostaKenshi.

Greg is ENET's Vice Chair of Operations. He has been working in the software industry for over 30 years, first as an engineer and later in management. For over 10 years, Greg held senior management positions in the computer network security industry including experience with RSA Security, Inc. Greg specializes in establishing and growing new organizations directly linked to improving company results.

Pre-meeting Dinner at 5:15 PM (sharp) at Bertucci's, Waltham, (Exit 27B, Route 128).

E-Minute Presentations will be given at the start of the meeting. These very short presentations enable young startup entrepreneurs to gain experience in presenting their summary business plans to expert panels and audiences.

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Check for Updates at: Boston Entrepreneurs' Network Website at (http://www.boston-enet.org)

Directions: Constant Contact is adjacent to RT 128 / 95 at Exit 28B.

See: http://www.constantcontact.com/about-constant-contact/office-location-waltham.jsp

Reservations: ENET Constant Contact meetings are free to ENET members,$20 for non-members and $10 for students with a valid ID. No reservations are needed for the premeeting dinner. To expedite sign-in for the meeting, we ask that everyone -- members as well as non-members -- pre-register for the meeting online. Pre-registration is available until midnight the day before the meeting. If you cannot pre-register, you are welcome to register at the door.

Geoscience and Remote Sensing Society – 6:30PM, Tuesday, 10 May

Improved Winter Forecasts

Speaker: Dr. Judah L. Cohen, Director of Seasonal Forecasting at AER (Atmospheric and Environmental Research)

Seasonal climate prediction remains a difficult challenge. During Northern Hemisphere (NH) winter the large-scale teleconnection pattern of the Arctic Oscillation (AO) explains the largest fraction of temperature variance of any other known climate mode. However the Arctic Oscillation is considered to be a result of intrinsic atmospheric dynamics or chaotic behavior and therefore is unpredictable. With the development of the Snow Advance Index, which was derived from antecedent observed snow cover, we can now explain approximately 75% of the variance of the winter AO. The high correlation between the Snow Advance Index and the winter AO demonstrates that the AO is mostly predictable.

I will show that the changes in the surface-based AO signature are forced through a troposphere-stratosphere-troposphere pathway that can be summarized by a six-step model. Step 1 involves the expansion of the Eurasian snow cover extent (which is primarily in Siberia during October but expands westward by late October/early November). Anomalously high Eurasian snow cover cools the surface, ineases surface pressure, and lowers geopotential heights in the lower and middle troposphere (Step 2). These geopotential height anomalies amplify the standing wave pattern downstream across eastern Asia/the Pacific Ocean, organizing into a more wave-1 pattern versus the climatological split pattern regime in the Pacific. This amplification in the strength of the wave-1 pattern enhances poleward and vertical wave propagation into the polar stratosphere (Step 3), disrupting the polar vortex circulation and warming the lower stratosphere (Step 4). The imposed lower stratospheric anomalies propagate downward into the troposphere, introducing same-signed anomalies there (Step 5). These anomalies represent conditions associated with the negative phase of the AO, thus shifting the polar jet and storm track equatorward and allowing colder temperatures to invade the middle latitudes (Step 6). The same six-step process works with low snow cover extent leading to a positive AO and milder winter temperatures across the mid-latitudes. An immediate benefit of the development of this snow index and six-step model is improved sub-seasonal to seasonal climate predictions.

Dr. Judah Cohen, Director of Seasonal Forecasting and Principal Scientist joined AER as a staff scientist in 1998. Cohen previously spent two years as a National Research Council Fellow at the NASA Goddard Institute for Space Studies and two years

as a research scientist at MIT's Parsons Laboratory. He received his Ph.D. in Atmospheric Sciences from Columbia University in 1994 and has since focused on conducting numerical experiments with global climate models and advanced statistical techniques to better understand climate variability and to improve climate prediction. He also studies Arctic-Mid-latitude linkages and extreme weather. In addition to his research interests, Cohen is leading AER's development of seasonal forecast products for commercial clients. Cohen also currently holds a Research Affiliate appointment in the Civil and Environmental Engineering Department of MIT. Cohen's research on climate prediction is highlighted as breakthrough technology on the National Science Foundation website, has been covered in the New York Times, the Wall Street Journal, the Washington Post, Time and Newsweek and featured on CNN and CBS News among other news outlets. Cohen served as a Fulbright Scholar in Ireland, serves as co-chair of the US CLIVAR working group on Arctic mid-latitude linkages, is an Associate Editor of the Journal of Climate and is a member of the American Meteorological Society and the American Geophysical Union. Cohen has published sixty articles in their journals and others.

Meeting Location: AER - Atmospheric and Environmental Research (AER) Inc., 131 Hartwell Avenue, Lexington, MA 02421.
To assist us in planning this meeting, please pre-register at
http://www.ieeeboston.org/Register/ or email ieeebostonsection@gmail.com and include your name, date and name of event (e.g. life members, computer, etc.)

Reliability Society – 5:30PM, Wednesday, 11 May

HALT In the Product Development Process

Adam Bahret, Apex Ridge Reliability Consulting!

This presentation will discuss how HALT fits into the product development process, covering what program step outputs can be feed into HALT and how HALT results can be used to improve adjacent program tools. Connecting HALT with reliability tools like FMEA, FTA, Allocation Modeling, ESS, HASS, and Stress Strength analysis has significantly more program impact than the contribution of each tool individually.

Adam is the founder of Apex Ridge Reliability Consulting Services. He is a Mechanical and Electrical Systems Reliability expert with 20 years of experience in product development across many industries. He has worked extensively with reliability program strategy, accelerated testing methods HALT/HASS/QALT/ALT, system reliability measurement and improvement, predictive analysis, education programs, and organizational culture and practices. He has specialized experience in medical, robotics, consumer electronics/appliances, Ion Implantation, and Diesel Systems. Adam has an MS in Mechanical Engineering from Northeastern University, is an ASQ nationally certified reliability engineer and a member of IEEE. More information on Adam and Apex Ridge Reliability can be found at www.apexridge.com

Agenda:
5:30-6:00 Sign In, Networking, Light Dinner & Refreshments

6:00-6:10 Chapter Chair Greetings & Announcements

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

6:10-8:00 Adam Bahret, Apex Ridge Reliability Consulting
8:00-8:15 Q&A session, meeting adjourns

Meeting Location: MIT Lincoln Laboratory, 3 Forbes Road, Lexington, MA.

No Admission Charge

To assist us in planning this meeting, please pre-register at, http://www.ieeeboston.org/Register/ or email ieeebostonsection@gmail.com and include your name, date and name of event (e.g. life members, computer, etc.)

Photonics Society and co-sponsoring Signal Processing Society – 6:30PM, Thursday, 12 May

Optical Molecular Image Guidance in Surgery & Radiation Therapy

B. W. Pogue - Thayer School of Engineering, Dartmouth College, Department of Surgery, Geisel School of Medicine at Dartmouth

Molecular guidance of intervention could provide more specificity and higher likelihood of success in therapeutic outcome. In this talk, methods and unique imaging systems being developed to advance molecular guidance towards metabolic and immunologic targeting are discussed. The imaging is compared to the contrast possible with conventional structural x-ray and MRI based approaches.

One of the largest areas of R&D is for molecular probes that target cancer cell immune expression, however these often suffer of non-specific uptake issues from tumor enhanced permeability & retention. The use of ratiometric approaches to imaging receptor binding are demonstrated in lymph nodes and resected breast cancer tissue. Structured light imaging can also help advance surgical guidance by providing a signal which is more specific to the sub-cellular organelle and stromal changes present in cancer.

In radiation oncology, radiation dose imaging has been shown to be possible from gamma-ray and electron interactions emitting Cherenkov light, and this is a unique way to verify dosimetry in radiation therapy. The major potential benefit of Cerenkov imaging is that it is a way to image beams in real time. As such, it is feasible to image treatment beams in water tanks dynamically, and create composite visualizations of the treatment plans. This imaging can be used to verify new treatment plans prior to application to patients, or to quickly verify new machines, or testing in situations where access is limited. In human imaging studies, two clinical trials have been completed to image surface emissions in real time during therapy. In the first case, whole breast irradiation was followed for fractionated therapy in 12 patients.

Finally, molecular imaging using the radiotherapy-induced Cerenkov as an internal tissue excitation system is shown, allowing high–resolution sensing of metabolites. This is demonstrated in tissue phantoms as well as mouse studies, sensing molecular oxygen in lymph nodes in vivo. The extension of this to molecular guidance of radiation therapy seems feasible, or for using Cerenkov sensing as a diagnostic tool for cancer.

Biography: Brian Pogue is Professor of Engineering, Physics & Astronomy, and Surgery at Dartmouth College in Hanover, NH, where he is director of MS and PhD Programs in Engineering. He has a Ph.D. in Medical/Nuclear Physics from McMaster University, Canada, was a post-doctoral fellow at

the Harvard Medical School. At Dartmouth since 1996, he founded the Imaging and Interventional Technologies Center at Dartmouth, focusing on advance optical imaging technologies in cancer diagnosis & management. He has published over 300 peer-reviewed papers and 400 conference proceedings in imaging, tomography, surgery, medical oncology and radiotherapy. His NCI funded research program helps maintain the Optics in Medicine laboratory at Dartmouth, housing over two dozen faculty, staff and students. He is currently an editorial board member for Physics in Medicine & Biology, Medical Physics, the Journal of Biomedical Optics, and Breast Cancer Research and was elected a Fellow of the Optical Society of America (OSA) and the American Institute of Medical and Biological Engineering (AIMBE).

This meeting begins at 6:30 PM Thursday May 12th, 2016 and will be located 3 Forbes Road (a MIT Lincoln Laboratory facility), Lexington, MA, 02420. The meeting is free and open to the public. All are welcome. Prior to the seminar there will be social time and networking from 6:30 – 7:00PM. Dinner will also be provided. The seminar will begin at 7:00PM.

For more information contact Jade Wang, Boston IEEE Photonics Society Chapter chair at jpwang@ll.mit.edu, or visit the Boston IEEE Photonics Society website at www.bostonphotonics.org.

IMPORTANT NOTE: This meeting will be held at the Forbes Road site for MIT Lincoln Laboratory as the Cafeteria is not available due to heightened security this week at the main MIT-LL site. The address is: 3 Forbes Road, Lexington, MA 02420 (about 1.5 miles south of the main MIT-LL site) and a map is available at: http://www.ll.mit.edu/about/mapForbesRoad.html

To assist us in planning this meeting, please pre-register at, http://www.ieeeboston.org/Register/ or email ieeebostonsection@gmail.com and include your name, date and name of event (e.g. life members, computer, etc.)

Microwave Theory and Techniques Society – 6:00PM, Monday, 16 May

Linearization: Reducing Distortion in Power Amplifiers

Our Society's need to exchange greater and greater amounts of information has created an unprecedented demand for highly linear power amplifiers. High linearity is required for the spectrally efficient transmission of information. This presentation will discuss techniques for the cancellation of distortion that are also known as linearization. Different methods of linearization including digital approaches will be introduced and compared. The linearization of solid-state power amplifiers, traveling wave tubes amplifiers and klystron power amplifiers will be considered. Criteria for the evaluation of linearity will be reviewed and special attention given to problems unique to SSPAs.

Dr. Allen Katz is a professor of Electrical Engineering at The College of New Jersey. He has more than 25 years of experience in the microwave and satellite industries. He received a Doctorate of Science and Baccalaureate degrees in Electrical Engineering from New Jersey Institute of Technology and a Masters of Science in Electrical Engineering from Rutgers University. His work spans the frequency range from UHF to above Ka-band and has involved both hybrid and MMIC circuits including the design of the first practical MMIC linearizer. He is founder and President of Linearizer Technology, Inc., a New Jersey based company dedicated exclusively to distortion correction.

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Dr. Katz is a Fellow of the IEEE and a past Microwave Theory and Techniques (MTT) Society Distinguished Lecturer. He holds 16 patents and has written more than 75 technical publications. He received the William Randolph Lovelace II Award for outstanding contributions to space science and technology from the American Astronautical Society in 2002, the IEEE Region I Achievement Award in 2001 and 1992, an IEEE Third Millennium Medal in 2000, the Martin Marietta Astro Inventor of the year award in 1993, an IEEE Centennial Medal in 1984, the John Chambers Award in 1982, and the ASEE Western Electric Fund Outstanding Engineering Educator Award in 1979. He is a member of the Eta Kappa Nu, Tau Beta Pi and Phi Kappa Phi Honor Societies.

Refreshments and social time begins at 5:30PM, with chapter business and talk starting at 6PM. Meeting Location: MIT Lincoln Laboratory, 3 Forbes Road Facility, Lexington, MA

To assist us in planning this meeting, please pre-register at, http://www.ieeeboston.org/Register/ or email ieeebostonsection@gmail.com and include your name, date and name of event (e.g. life members, computer, etc.)

Entrepreneurs' Network – Cambridge Meeting, 6:00PM, Tuesday, 17 May

Social Impact Entrepreneurship and Your Triple Bottom Line

Money and profits, income and shareholder return, drive many, and perhaps most U.S. companies. As the fictional Gordon Gekko long ago said in the film "Wall Street" - "Greed is good…it's all about bucks" Yet, that is not so for all U.S. companies. Some companies are motivated instead by their social impact. For some companies, there is more than the financial bottom line, a bottom line of profitability, alone… For some entrepreneurs, there is a "triple bottom line", that of the three P's:

People: Social change & justice, employee well-being, governance, ownership, community involvement, philanthropy, legacy, and service;
Planet: Building performance standards, resilience, company carbon footprints,and environmental restoration;
Profits: Financial success and stability, growth, capitalization, sales and marketing, investment.

ENET's meeting on May 17 will have three speakers who have each worked in the field of social impact entrepreneurship, who will share their experiences. One speaker is a noted serial entrepreneur whose companies are known for their social awareness; a second speaker heads the program at Babson College focused on social entrepreneurship; our third speaker is VP of Innovation and Social Impact at her company. Her company was one of the first certified New Hampshire "B" corporations, whose mission is the triple bottom line. Our moderator is ENET's chairman who recently received the award from IEEE-USA for contributions to the IEEE entrepreneurial community. This is a night for entrepreneurs interested in giving back to the community as part of our business model - hope you can join us.

Speaker: Mark T. Donohue is a lifetime entrepreneur. https://www.linkedin.com/in/marktdonohue. Since the late 1980's, he has been a pioneer in "triple-bottom-line" business, Cleantech and "impact"

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investing, within both the venture capital and PE worlds. He has held CEO roles in numerous enterprises endeavoring to "Do Well, while Doing Good." In Sept of 2013, he was appointed Chairman & CEO of Sheffield Pharmaceuticals (www.sheffieldpharma.com). The company specializes in health & beauty care products since 1850. Sheffield manufactures for Walmart/CVS/Walgreens, does contract packaging for entrepreneurs, owns the "Dr. Sheffield" brands, and has company-owned brands, such as Bioroot All-Natural Hair Growth and Tanner's Tasty Paste. It products are in 70,000 US stores and the company employs over 200. Mark also serves as Co-Chairman of Faria Beede Instruments, which is the leading provider of gauges/controls in the C&I and marine sectors, plus is a leading IoT and telematics player. Faria employs 200. He is also Managing Partner of Catalyst Insight Partners, where Mark partners with entrepreneurs to accelerate growth, improve profitability and optimize financial exits. Previously, in 2001, he was the Founder of Expansion Capital, a leading Silicon Valley pioneer in Cleantech investing, which manages $100,000,000+. He has been Chair Emeritus since April of 2008. In January of 2011, Mark was honored as one of the "Top 100 Thought Leaders in Trustworthy Business Behavior" by Trust Across America. Mark earned his BS, with honors, from Babson in 1988. He served on the Board of Overseers from 2002-2011. In September, 2010, he was honored by Babson with a "distinguished lifetime service to the college" award.

Speaker: Cheryl Kiser, Executive Director of The Lewis Institute for Social Innovation and The Babson Social Innovation Lab (www.babson.edu/Academics/centers/the-lewis-institute), Cheryl is responsible for promoting Babson's work in integrating social innovation and social entrepreneurship into its curriculum and co-curricular activities. Before coming to Babson, Cheryl was the Managing Director of the Boston College Center for Corporate Citizenship. She is one of the leading voices in the U.S. on the role of business in society, and has won awards for her public affairs campaigns. For over a decade she managed the content and delivery of the largest annual conference in the world on corporate citizenship, the International Corporate Citizenship Conference which drew representatives from over one third of the Fortune 500 and from 24 countries around the globe. Prior to Boston College, Cheryl was the Director of Marketing for Work Family Directions, the leading provider of work life programs. Cheryl also has a passion for healthy living. She is co-creator of Food Sol an "action tank" at Babson's Social Innovation Lab dedicated to using entrepreneurship to redesign the food system.

Speaker: Rebecca Hamilton, Co-Owner/VP of Research and Development, WS Badger Company (www.badgerbalm.com). Staff profiles also list her as "VP of Innovation and Social Impact". In her role, Rebecca directs project-based teams of highly skilled researchers and chemists both at Badger and at external laboratories. She oversees all internal Quality Assurance, Regulatory, Research, and Product Development teams for a company that makes healing balms, lip balms, safe mineral sunscreens and other personal care products, mainly from an environmentally-friendly facility in Gilsum, New Hampshire. Family owned, the company prides itself on maintaining a healthy community-minded business with ethical and charitable social principles. Rebecca worked directly with NH State Senator Molly Kelly to help pass the NH Benefit Corp Legislation. WS Badger was one of the first certified B corporations in New Hampshire. Rebecca is author of 5 Reasons Why the Safe Cosmetics Act Makes Sense for Small Business (GreenBiz 2011). In college at University of Massachusetts, Rebecca was Co-Chair of the Amherst Fair Trade Town committee, and recipient of both the school's humanitarian award and 2009 Award for Outstanding Community Service and En-

gagement. Rebecca has also been a Wilderness expedition leader in Vermont and professional sailor in the Caribbean.

Moderator: Robert Adelson, business and tax attorney, partner at Boston law firm of Engel & Schultz LLP (www.ExecutiveEmploymentAttorney.com), and Chairman of The Boston Entrepreneurs' Network. Rob has been an attorney for over 30 years specialized in business, tax, stock and options, employment, contracts, financings, trademarks and intellectual property. Rob began as an associate at major New York City law firms before returning home to Boston in 1985 where he has since been a partner in small and medium sized firms before joining his present firm in 2004. Rob represents entrepreneurs, start-ups and small companies, independent contractors and employees and executives, and family businesses. Rob is a frequent speaker on business law topics and author of numerous articles published in Boston Business Journal, Mass High Tech and other publications. He has been named among the "Top 20 Boston Startup Lawyers" by ChubbyBrain.com, a website that provides tools for entrepreneurs. Rob has been on the ENET Board since 2002 and Chairman since 2009 and is also a Co-Founder and Board member of the 128 Innovation Capital Group. In January 2016, he received the professional achievement award from IEEE-USA for "extreme dedication and contributions to the IEEE entrepreneurship community." He holds degrees from Boston University, B.A., summa cum laude, Northwestern University (Chicago), J.D., Law Review, and New York University, LL.M. in Taxation.

E-Minute Presentations will be given at the start of the meeting. These very short presentations enable young startup entrepreneurs to gain experience in presenting their summary business plans to expert panels and audiences.

Where: Microsoft Technology Center, 255 Main Street /One Cambridge Center, Cambridge, MA. 02142 Phone: (781) 487-6400 The One Cambridge Center GENERAL ENTRANCE is on 255 Main Street, Cambridge, across from the Kendall Square Post Office. Exit Kendall Square T Station to Main Street. Once you exit the station, head down the Marriott side of Main Street going in the direction of Boston/the Longfellow Bridge. The One Cambridge Center entrance is located next to the Boston Properties entrance. Enter through the glass revolving door and proceed to the Microsoft facilities on the second floor. Note: There is also a direct Microsoft entrance across from the rotary at the confluence of Main Street and Broadway.

See also: http://www.microsoft.com/en-us/mtc/locations/boston_directions.aspx

Note: There is also a direct Microsoft entrance across from the rotary at the confluence of Main Street and Broadway.

PUBLIC TRANSPORTATION: Travel Mass RT 2 East from RT 128 Exit 29A directly to the Alewife MBTA garage. Park at the Alewife Garage ($7.00) on the MBTA subway Red Line. Take the inbound train (the only one available there) for 15 minutes to Kendall / MIT. The entrance to the Microsoft Technology Center is directly across the street from the station.

Check for Updates at: Boston Entrepreneurs' Network Website at
(http://www.boston-enet.org)

Admission: General admission is $10. Free to ENET members. Free pizza and soft drinks will be served. Advanced registration is requested but not required.

Geoscience and Remote Sensing Society – 6:30PM, Wednesday, 18 May

Can Cities Build "Innovation Ecosystems" to Encourage Start-Up Growth?

Bailey Richert

The world faces many complex challenges, and today many of them are being addressed through the private sector via innovative start-ups. But when plotted geographically, it becomes apparent that these start-ups are clustering in certain cities around the globe, like Silicon Valley, London, Kendall Square/Boston, Singapore and Israel. What are these regions doing, what do they possess, that other regions don't have or do to encourage start-up growth? The answer may lie in "innovation ecosystems": a framework developed by MIT researchers in the emerging field of innovation science.

Bailey Richert is a second year graduate student in MIT's Technology and Policy program where she studies the intersection of entrepreneurship and sustainability. A former environmental engineering consultant, Bailey is interested in addressing global environmental challenges through innovation. Bailey holds a dual bachelor's degree in environmental engineering and hydrogeology from Rensselaer Polytechnic Institute, a master's of engineering in systems engineering and technology management also from Rensselaer, and is preparing to test for her civil professional engineering license in October 2016.

Meeting Location: MIT Lincoln Laboratory, 3 Forbes Rd, Lexington, MA 02421.

To assist us in planning this meeting, please pre-register at, http://www.ieeeboston.org/Register/ or email ieeebostonsection@gmail.com and include your name, date and name of event (e.g. life members, computer, etc.)

IEEE Boston Section Social Media Links:

Twitter: https://twitter.com/ieeeboston

Facebook: https://www.facebook.com/IEEEBoston

YouTube: https://www.youtube.com/user/IEEEBostonSection

Google+: https://plus.google.com/107894868975229024384/

LinkedIn: https://www.linkedin.com/groups/IEEE-Boston-Section-3763694/about

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Computer Society and GBC/ACM – 7:00 PM, Thursday, 19 May

The Biomolecular Prototyping Unit (BPU) - Rapidly Asking Questions with DNA

Peter Carr, MIT Lincoln Labs

Broad Institute Auditorium (corner of Vassar & Main Sts, Cambridge)

We are engineering a research pipeline, the Biomolecular Prototyping Unit (BPU) to rapidly answer questions that can be posed in the form of DNA. One of these questions is "What is the best drug to give an HIV-infected patient?" and another is "Can I design genetic circuits to diagnose any type of cancer?" A third question is "What genetic code can we engineer into a living creature to make it immune to all known viruses?" Our technical challenge is to integrate short DNA (oligonucleotide) synthesis, larger scale DNA assembly (to multiple kilobase pairs), on-chip expression (cellular and cell-free options), and diverse assays to quantify the encoded functions. Our approach to this integration is to miniaturize and connect these processes using microfluidics. I will present our current progress toward this vision of the BPU.

Dr. Peter A. Carr is Senior Staff at MIT Lincoln Laboratory, where he leads the Synthetic Biology research program. His research interests span genome engineering, rapid prototyping of both hardware and wetware, DNA synthesis and error correction, risk evaluation, and biodefense. Dr. Carr received his bachelor's degree in Biochemistry from Harvard College, and his PhD in Biochemistry and Molecular Biophysics from Columbia University. Over the past decade he has become especially enamored with the synthetic biology approach - applying engineering principles to biological systems.

This joint meeting of the Boston Chapter of the IEEE Computer Society and the GBC/ACM will be held in the main auditorium on the 1st floor of the Broad Institute, corner of Main and Vassar Streets in Cambridge.

Up-to-date information about this and other talks is available online at http://ewh.ieee.org/r1/boston/computer/. You can sign up to receive updated status information about this talk and informational emails about future talks at http://mailman.mit.edu/mailman/listinfo/ieee-cs, our self-administered mailing list.

To assist us in planning this meeting, please pre-register at, http://www.ieeeboston.org/Register/ or email ieeebostonsection@gmail.com and include your name, date and name of event (e.g. life members, computer, etc.)

Professional Networking

Sponsored by ASME's Boston section, IEEE's Boston section, and the Entrepreneur's Network

Tuesday, 24 May 2016
6:00 pm – Registration and Networking
7:00 pm – Speaker Diane Darling

Constant Contact
1st Floor, Great Room
1601 Trapelo Road
Waltham (Exit 28, Route 128/I-95)

Cost
$10 per person
The public is welcome

About the Speaker
Diane Darling is a renowned author and speaker. See the next page for her biography.

Event Summary

It's not what you know, it's who you know. Success in business and the workforce means having a network of contacts at your disposal. Engineers especially can sometimes be introverted and/or lack the people skills necessary to allow their ideas to be heard. In social and business meetings, learning how to work a room is critical. Our speaker Diane Darling is a nationally renowned author and speaker. Spend an evening with Diane to help you gain confidence, approach people, learn the networking Dos and Don'ts, and achieve the success you deserve. And, most importantly, network!

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Consultants Network - 6:30PM, Wednesday, 25 May

Networking for those People that Hate Networking!!

Presented by: Certified Life Coach, Jackie Ross and Marketer, Graham Celine

Constant Contact, 1601 Trapelo Road, Great Room South, First Floor, Waltham, MA 02451

Overview:
Do you dread the notion of going to a networking event and "making small talk"? Do you avoid social media because you value your privacy? Would you rather read a good book than mingle with people you don't know?

If you answered yes to any other of these questions, please join certified Life Coach, Jackie Ross, and Social Media Marketing Specialist, Graham Celine, for a dynamic, engaging and value added workshop entitled "Networking for those People that Hate Networking!" This workshop will bolster your attitude and perspective about networking by discussing why we network and adjusting your "networking mindset". In addition, we will provide you with practical tips and strategies to maximize your networking tool belt in order to increase and strengthen your business visibility utilizing in-person and social media networking connections.

Jackie Ross, a certified professional Life Coach, has worked in the social service sector for the past 25 years. She has been honored to work with children, youth and their families who were dealing with serious and complex emotional and behavioral challenges. She began her career in the human service field providing direct care and counseling to clients and eventually managed and had oversight of several treatment facilities and programs. Additionally, she has 12+ years of experience as a human resources manager focusing on developing curriculums and conducting a host of trainings, extensive experience in staff development, building teams, facilitating and developing strategic plans, and providing coaching and mentoring to leaders to support their professional growth and development. She is an effective facilitator with proven public speaking skills. Jackie has her own private Life Coaching business. You can visit her website at http://www.CoachJackieRoss.com

Graham Celine is a marketer with over 25 years of experience in the tech industry who now works as a digital marketing consultant for small businesses. Graham started his career as an engineer in the startup world and later migrated into marketing roles for companies like Lucent, Avaya, General Dynamics and some startups as well. Today Graham runs Mass Digital Marketing helping small businesses take their place on the digital stage. Graham holds a EE degree from the University of the Witwatersrand in South Africa.

PLEASE NOTE: The meeting is open to the public. No charge for Consultants Network members or employees of Constant Contact; $5 entrance fee for all others. Casual dress.

To assist us in planning this meeting, please pre-register at, http://www.ieeeboston.org/Register/ or email ieeebostonsection@gmail.com and include your name, date and name of event (e.g. life members, computer, etc.)

The Consultants Network meeting starts at 6:30 PM. The meeting will take place at Constant Contact, Reservoir Place - 1601 Trapelo Road, Waltham, MA 02451, in the Great Room on the First Floor

A no-host pre-meeting dinner will take place at Bertucci's, 475 Winter Street, Waltham, at 5:15 p.m. sharp.

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Driving Directions - Follow I-95/route 128 to Trapelo Rd in North Waltham, Waltham. Take exit 28 from I-95/route 128. (https://goo.gl/maps/tvn3l)

Consultants Network meetings generally take place on the fourth Wednesday of each month, but are not held during the summer months. Check the Consultants Network website for meeting details and last-minute information.

http://www.boston-consult.com/calendar.php

For more information, e-mail cn.boston@ieee.org or chairman@boston-consult.com; or contact the chairman Heinz Bachmann, at 978-637-2070.

The Consultants Network website is at www.boston-consult.org.

IEEE Boston Section Online Courses:

Verilog101:Verilog Foundations
CLASS DESCRIPTION: Verilog is IEEE standard 1364. It is a Hardware Description Language that is the corner stone of much of the simulation world. Verilog Foundations is a comprehensive introduction to the IEEE 1364 (Verilog). The Verilog Foundations class has a slightly different approach to learning Verilog than other methods. There is a lecture section for each main topic. This presents a basic foundation for the language. There are nearly 100 labs/examples giving comprehensive "how to" examples of most Verilog language constructs. There are working solutions for each lab. All the work can be done independently by the engineers, at their own computer, and at their own pace. **Register at http://www.ieeeboston.org and click on course title**

System Verilog 101: Design Constructs
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System Verilog 102: Verification Constructs
CLASS DESCRIPTION: SytemVerilog is an extensive set of language constructs to the IEEE 1364-2001 standard. It's meant to aid in the creation and verification of models. SV102, this class, covers verification constructs. SystemVerilog102, like all CBE classes, is lab based. There are over 30 verification labs/examples giving comprehensive "how to" examples of most SystemVerilog verification language constructs. The class is also self paced. All the work can be done independently by the engineers, at their own computer, and at their own pace. **Register at http://www.ieeeboston.org and click on course title**

Introduction to Embedded Linux Part I
CLASS DESCRIPTION: This first of a 2-part series introduces the Linux Operating System and the use of Embedded Linux Distributions. The course focuses on the development and creation of applications in an Embedded Linux context using the Eclipse IDE. The first part of the course focuses on acquiring an understanding of the basic Linux Operating System, highlighting areas of concern for Embedded Linux applications development using Eclipse. The latter part covers the methods for booting Embedded Linux distributions including embedded cross-development and target board considerations.**Register at http://ieeeboston.org**

High Performance Project Managment
CLASS DESCRIPTION: This12 hour course(broken into short 10 to 20 minute independent modules) provides the project methodology, concepts, and techniques that ensure successful completion (on time, on budget, with the quality required) of projects, large and small. Participants learn the steps to take before, during, and at the end of a project to hone planning and execution to a strategically built process that delivers project success when used. **Register at http://ieeeboston.org**

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Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Modern Wireless System Design:
From Circuit to Web-based Apps

Date & Time: **9:00AM - 4:30PM, Thursday & Friday, June 9 & 10, 2016**

Location: **Crowne Plaza Hotel, 15 Middlesex Canal Park Road, Woburn, MA**

Speaker: **Henry Lau, Lexiwave Technology**

Overview: Nowadays, as the features of wireless communication products and systems are getting more in number and sophisticated to stay competitive, the products have to contain both hardware and software. It is thus beneficial for an engineer or manager to acquire a broad understanding on how a modern wireless communication product or system works with both hardware and software components. This course is aimed to provide an opportunity for participants to acquire technical insights on the vital aspects of Modern Wireless System Design from an industry and practical perspective. It is an introductory level for circuit, software, system engineers and mangers who would like to acquire an overview on the vital aspect and design considerations on complete wireless system design. Various functional blocks of wireless systems and products will be discussed and analyzed with practical examples on commercial products.

The software development will also be addressed to provide a comprehensive understanding of the development of complete wireless systems. The course will be conducted by a wireless design expert with rich industrial experience. Interactive and open discussions between speaker and participants are encouraged and facilitated to make the whole course more interesting and thought stimulating.

Audience: System engineers, wireless product designers, software engineers, RF and microwave circuit design engineers, field application engineers, business development engineers and managers involved in wireless products and systems.

Benefits:
Upon completion of this course, participants should be able to:

1. understand the key functional blocks of Modern Wireless Products/Systems and their characteristics and specifications
2. understand how the key component blocks interact and the implications on overall system performance
3. compare and evaluate different types of receiver and transmitter architectures
4. comprehensive understanding on the embedded software development as well as web-based and app-based software development
5. acquire practical design techniques from case studies on commercial wireless products

Course Content:

- Receiver
- System Characteristics
- Signal and Noise
- Noise temperature, noise bandwidth, noise figure, sensitivity
- Linearity
- Dynamic Range, one dB compression point, intermodulation
- Critical Circuit blocks
- LNA, local oscillator, mixer, IF amplifier, demodulator, baseband amplifier
- System Architectures and design considerations
- Heterodyne, Direct Conversion, Image-reject

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

and Low-IF Receiver
- Sample Receiver Designs

Transmitter
- Circuit blocks: oscillator, modulator, buffer amplifier, frequency multiplier, power amplifier, output filter
- Major issues: power gain, power efficiency, harmonic prevention and suppression

Wireless Modules
- Types: GPS, Bluetooth, GSM/GPRS, Wifi
- Applications
- Electrical parameters

Miniature Antennas for Portable electronics
- Antenna Fundamentals
- Radiation mechanism
- Source of radiation
- Characteristic of radiation
- Parameters and specifications
- Radiation pattern, antenna efficiency, aperture concept, directiviy and gain
- Types of antenna and performance
- Dipole
- Monopole
- Loop
- miniature antennas – patch, inverted-L, inverted-F, meandered line
- Practical design considerations and techniques for portable electronics

Software Development
- Embedded device
- Type of MCU
- Characteristics, functions and features
- Design considerations
- Web database development
- MySQL
- Website development
- Software - HTML, Javascript and PHP
- Web server
- Smartpone Apps Development
- Android development tool
- Phonegap
- IOS

Expertise: Henry Lau received his M.Sc. and MBA degrees from UK and USA respectively. He has more than 25 years of experience in designing wireless systems, products and RFICs in both Hong Kong and US. He worked for Motorola and Conexant in US as Principal Engineer on developing RFICs for cellular phone and silicon tuner applications. Mr Lau holds five patents and has one patent pending, all in RF designs. He is currently running Lexiwave Technology, a wireless company in Hong Kong and US designing and selling RFICs, RF modules and wireless solutions. He has also been teaching numerous RF-related courses internationally.

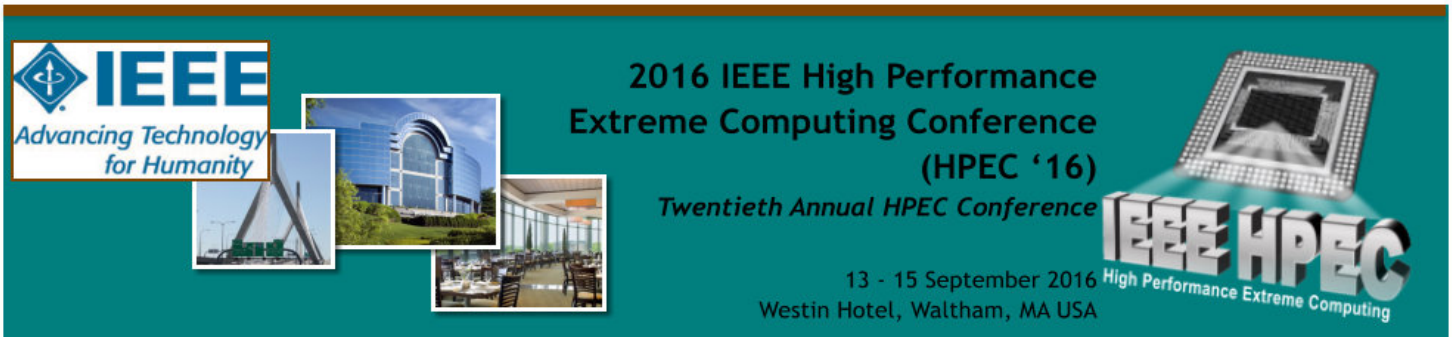
Decision (Run/Cancel) Date for this Courses is Tuesday, May 31, 2016

Payment received by May 25
IEEE Members $395
Non-members $435

Payment received after May 25
IEEE Members $435
Non-members $455

http://ieeeboston.org/event/modern-wireless-system-design-from-circuit-to-web-based-apps/

CALL FOR PAPERS



www.ieee-hpec.org

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IEEE Boston Section

The IEEE High Performance Extreme Computing Conference (HPEC '16) will be held in the Greater Boston Area, Massachusetts, USA on 13 – 15 September 2016. The HPEC charter is to be the premier conference in the world on the confluence of HPC and Embedded Computing.

The technical committee seeks new presentations that clearly describe advances in high performance extreme computing technologies, emphasizing one or more of the following topics:

- Advanced Multicore Software Technologies
- Case Studies and Benchmarking of Applications
- Automated Design Tools
- Mapping and Scheduling of Parallel and Real-Time Applications
- Computing Technologies for Challenging Form Factors
- ASIC and FPGA Advances
- Open System Architectures
- Data Intensive Computing
- Big Data and Distributed Computing
- Interactive and Real-Time Supercomputing
- Graph Analytics and Network Science
- Fault-Tolerant Computing
- Embedded Cloud Computing
- Digital Front Ends
- General Purpose GPU Computing
- Advanced Processor Architectures
- Secure Computing & Anti-Tamper Technologies
- New Application Frontiers

HPEC accepts two types of submissions:

1. Full papers (up to 6 pages, references not included), and
2. Extended abstracts (up to 2 pages, references included).

Preference will be given to papers with strong, quantitative results, demonstrating novel approaches or describing high quality prototypes. Authors of full papers can mark their preference for a poster display or an oral presentation. Presenters who wish to have hardware demonstrations are encouraged to mark their preference for a poster display. Accepted extended abstracts will be displayed as posters.

All paper and extended abstract submissions need to use the approved IEEE templates. Full paper submissions with the highest peer review ratings will be published by IEEE in the official HPEC proceedings available on IEEE eXplore. All other accepted submissions and extended abstracts are published on ieee-hpec.org. Vendors are encouraged to sign up for vendor booths. This will allow vendors to present their HPEC technologies in an interactive atmosphere suitable for product demonstration and promotion.

We welcome input (hpec@ieee-hpec.org) on tutorials, invited talks, special sessions, peer reviewed presentations, and vendor demos. Instructions for submitting will be posted on the conference web site shortly.

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL

Introduction to Network Function Virtualization (NFV)

Date & Time: **Saturdays, May 14 & 21; 9AM - 12 noon**

Location: **Crowne Plaza Hotel, 15 Middlesex Canal Park Road, Woburn, MA**

Speaker: **Dr. Bhumip Khasnabish, ZTE (TX) Inc.**

Introduction:
This is an introductory level course on NFV. Motivations for and implementations of (a) network functions like routers and switches, and (b) service functions like firewalls, load balancers, and quality-of-service managers using virtual machines (VMs) and virtual network functions (VNFs) will be discussed. The use cases, requirements, and frameworks as published by the organizations like ETSI/NFV, ONF and DMTF will be reviewed. Suggestions for a few hands-on assignments using open source NFV test-bed will be also included in this course.

OUTLINE

• Definitions of NFV and SFV (Service Function Virtualization)
• Motivations for NFV and SFV
• DMTF and ETSI/NFV Use cases •Overview of Information and Data Modeling
•Logical Functional Block Subsidiary Management
• Cross-Domain Identity Management of Resources and Users
• Suggestions for Hands-on Assignments (OPNFV-Arno)

Benefits of Attending:
This is an introductory level course on NFV. The students will learn how the use of virtualization of network and service functions can save both network/service infrastructure development (CapEx) and operations (OpEx) costs. The use of virtualization and automation are expected make the assignment of resources to services as seamless as practically feasible, as will be demonstrated via discussions of use cases and projects like CORD (Central Office Redesigned using Datacenter).

Materials included in the course:
May provide a summary of the slides, and a list of useful web resources including a few white papers.

Speaker Bio:
Dr. Bhumip Khasnabish works in the Strategy Planning and Standards Development division of ZTE TX Inc., USA as a Senior Specialist/Director. Previously, he worked at Verizon/GTE Laboratories (Waltham, MA, USA) and at Bell-Northern Research (BNR) Ltd. (Ottawa, Ontario, Canada). His research interests include network and system virtualization, network coding, open networks and systems, and software-defined networking and services. Bhumip initiated cloud and data-center activities in the IETF, co-chaired the T&I committee of ATIS IPTV Interoperability Forum (IIF), and founded and chaired both the ATIS NG-CI task force and the MSF Services WG. In addition, he is a member of the leadership teams of both DMTF and ONF.

As an ONF member, Bhumip contributed to the development of: Migration Use Cases and Methods, Migration Tools and Metrics, SDN Migration Considerations and Use Cases, and SDN Migration Prototype and Demo Proposals. He initiated cost-performance analyses for migrating to OpenFlow-

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based networks, and participated in SPRING-OpenFlow® activities. As the Chair of DMTF NSM WG, Bhumip initiated and completed several network service and virtualization profile works, and liaison work with ETSI/ISG NFV. Bhumip authored several books, book chapters, and journal and conference papers. He is also an inventor in 31 US patents.

Decision (Run/Cancel) Date for this Courses is Thursday, May 5, 2016

Payment received by May 2
IEEE Members $195
Non-members $215

Payment received after May 2
IEEE Members $215
Non-members $245

http://ieeeboston.org/event/introduction-to-network-function-virtualization-nfv-spring-2016/

IEEE Boston Section Online Courses:

Verilog101:Verilog Foundations
CLASS DESCRIPTION: Verilog is IEEE standard 1364. It is a Hardware Description Language that is the corner stone of much of the simulation world. Verilog Foundations is a comprehensive introduction to the IEEE 1364 (Verilog). The Verilog Foundations class has a slightly different approach to learning Verilog than other methods. There is a lecture section for each main topic. This presents a basic foundation for the language. There are nearly 100 labs/examples giving comprehensive "how to" examples of most Verilog language constructs. There are working solutions for each lab. All the work can be done independently by the engineers, at their own computer, and at their own pace. **Register at http://www.ieeeboston.org and click on course title**

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IEEE
Advancing Technology for Humanity

2016 IEEE International Symposium on Phased Array Systems and Technology

Revolutionary Developments in Phased Arrays

BOSTON 2016

18–21 October 2016

Westin Waltham Hotel, Greater Boston, Massachusetts, USA

www.array2016.org

About the Symposium

Phased array systems continue to be a rapidly evolving technology with steady advances motivated by the challenges presented to modern military and commercial applications. This symposium will present the most recent advances in phased array technology and provide a unique opportunity for members of the international community to interact with colleagues in the field of Phased Array Systems and Technology.

Plenary Session Speakers

- **William Delaney** – MIT Lincoln Laboratory (MITLL)
- **Gordon Frazer** – DSTO Australia
- **Israel Lupa** – IAI ELTA, Israel
- **Joseph Haimerl** – Lockheed Martin (NGC)
- **Toni Fischetti** – Northrop Grumman Corp.
- **Troy Olsson** – DARPA

SESSIONS

Plenary
European Phased Array Systems and Technology
Array Design I, II, III
T/R Modules
Radar I, II
Beamforming and Calibration I, II, III
Emerging Technologies for Wideband Arrays*
Communications Arrays
Array Measurements
Signal Processing and Architectures
Dual Polarization Weather Radar Arrays
Multifunction Arrays
Millimeter Wave and Terahertz Arrays
Metamaterial Phased Arrays
MIMO Arrays
Conformal Arrays
Poster Sessions I & II

*Special Session

Tutorials

- Phased Arrays for MIMO Radar
  Dr. Vito Mecca, MIT Lincoln Laboratory
- Smart Antennas
  Dr. Frank Gross, Boeing Technical Fellow, Georgia Southern University
- T/R Modules for Phased Arrays
  Dr. William H. Weedon, Applied Radar
- Phased Array Antenna Measurements
  Dr. Alan J. Fenn, MIT LL
- Advances in SiGe BiCMOS Technology with Chip Scale Phased Array Applications – Dr. Gabriel Rebeiz, UCSD
- Phased Arrays for Imaging Applications
  Dr. Carey Rappaport, Northeastern University
- Microwave Array Beamforming: Analog, Digital, and Photonic
  Dr. Jeffrey Herd, MIT Lincoln Laboratory
- Phased Arrays: Basics, Breakthroughs & Future Trends
  Dr. Eli Brookner, Raytheon (Retired)

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2016 IEEE International Symposium on Technologies for Homeland Security

IEEE Advancing Technology for Humanity

Co-sponsor: IEEE-USA

Gold sponsor: massport

10 - 12 May 2016
Waltham, MA USA

Plenary Speakers:

Acquisition Executive Mark S. Borkowski, Office of Technology Innovation and Acquisition

Mr. Dave Masters Senior Program Advisor, S&T, Borders and Maritime

Mr. Shawn Romanoski, Telecommunications Director, Boston Police Department

Richard W. Vorder Bruegge is a Senior Photographic Technologist at the Federal Bureau of Investigation

RADM Steven G. Smith USN (Ret)Senior Government Executive (SES) Director Disaster Planning & Risk Management,U.S. Small Business Administration

This is the 15th in a series of Must Attend conferences for researchers and executives seeking to contribute to this vital activity. Come and hear from DHS leaders and cutting edge technologists about the needs and the progress that is being made.

Overview

- **Over 115 presentations in, cyber security; land and maritime border security; biometrics and forensics; attack and disaster preparation, recovery and response**
- **Ample networking opportunities with speakers, including the welcome/poster reception**
- **Tutorials and business panels (tutorial/b-panel only registration is available! This will include access to all Tuesday activities)**
- **Techncial Panel Sessions**
- **Save travel costs and attend this international IEEE symposium held in the Boston area!**

Technical Sessions

Cyber Security
System Security; Cyber Analysis; Attack Modeling; Mobile Authentication; Network Security 1, 2; Risk Assessment; Research Methodologies and Ethics; Panel Session

Attack/Disaster Prep, Recovery, Response
Resilience Quantification; Fire; DIORAMA; CBNRe/HazMat; Prediction and Management; Cyber Critical Infrastructure; Info Sharing & Analysis; Social Media/IoT; Emergency Communications and Broadcast

Biometrics & Forensics
General Topics 1, 2, 3; Face Recognition; DNA; Eye; Fingerprinting; Tatoo

Land and Maritime Border Security
Border Processes, CONOPS & System Architecture; Airborne Sensing & Imaging; Big Data & Analytics; CIKR Site Protection

For more information on the technical program and registration see,

www.ieee-hst.org

Please take this short survey, https://www.surveymonkey.com/r/B8R2DYL