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THE PULSE OF LONG ISLAND IEEE

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APRIL 2007 ISSUE

IN THIS ISSUE

LISAT2007
FULL SEMINAR PROGRAM INSIDE

Chairperson's Message *By Ted Pappas*

Welcome to spring! Isn't it great not having to commute to and from work in the dark.

Another great thing about spring is the annual IEEE Long Island Systems, Applications and Technology Conference. This conference is a great example of volunteerism. The conference team has assembled a great program and a long list of exhibitors. A full day of three separate tracks in systems, applications and technology will be available as well as a student paper contest program. This contest features eight papers which will be presented by the students followed by an awards presentation. This is a great way for students to begin the process of preparing themselves for their working careers.

In addition to the technical portion of the program, a number of networking opportunities will be available, including a networking lunch. One of the highlights of the day will be the Keynote Presentations to our Honorary Co-Chairs Dr. Ralph James and Dr. Yacov Shamash. Dr. James is the Associate Laboratory Director for Energy, Environment and National Security at Brookhaven National Labs. Dr. Shamash is the Dean of the College of Engineering and Applied Science at SUNY Stony Brook. These are two outstanding members of the Long Island Section who tirelessly work to improve the lives of all of us on Long Island and throughout the world. As a bonus for all of you in need of PDHs for your PE License, it is anticipated that the conference will offer up to 0.7 CEUs (7 PDHs).

This year's conference will be held on Friday, May 4 at Farmingdale State College. More information is available in the Pulse and on our website, www.IEEE.LI.

Membership is the life blood of any volunteer organization. Without members conferences such as LISAT would not be offered. A key to membership is new members and the associated new ideas. This is a great time to encourage your friends and colleagues to join IEEE. Anyone joining IEEE now will only pay half year dues but get membership privileges through December 31, 2007. Please actively recruit.

Here is something for all the video gamers out there. If you are interested in obtaining professional training in video game production IEEE can help. The Game Institute, a new member of the IEEE Education Partners Program, offers online training designed to enhance video programming skills focusing on programming languages, math skills, 3D graphics pipeline programming, real-time game architecture and artificial intelligence algorithms. Later this year The Game Institute plans to launch a number of art and design courses for those interested in 3D game art and animation. IEEE members receive a 10% discount on all of these courses. Please visit www.ieee.org / partners for additional information.

Premiering in this issue of the Pulse is a series of articles by Cesar Bedoya about his experiences in the IT world. Cesar, thanks for contributing!!!

I hope to see many of you at LISAT where you can …

Get Involved and Network!!!

Ted Pappas
tpappas@keyspanenergy.com
www.IEEE.LI

LISAT Scholarship Announcement

On Monday, 19 March 2007 LISAT General Chair, Dr. Charles Rubenstein (Pratt Institute - also an IRTT Visiting Professor) and LISAT Facilities Chair Dr. John Fiorillo presented President Keen and SET Acting Dean Thanasas a check for $500 to create a scholarship fund at the Farmingdale State College School of Engineering Technologies for Juniors and Seniors that have demonstrated a commitment to academic excellence, leadership in extra-curricular activities and community service.

The first two $250 scholarship winners will be announced at the 2007 IEEE Long Island Systems, Applications, and Technology Conference (LISAT) at Farmingdale State College on Friday 4 May 2007. It is expected that the continued successs of LISAT will mean a larger number of scholarships each year.

History Corner - 30 YEARS AGO

Rod Lowman, Historian

After 13 years as Historian, Gregg Stephenson prepared a history of the third decade of the L. I. Section which was published in the PULSE.

The early history of the L.I. Section up to 1961 was recorded by Charlie Dean of Hazeltine who worked with Harold Wheeler. Gregg continued recording

Historical events to 1980 / 81 when Rod Lowman took over the duties.

In his summary of the 3rd decade, Gregg reported on the exciting period that included the end of the Space Race to the Moon, and the continuation of the Cold War. It encompasses the dramatic push by Long Island Section leaders Joel Snyder, Art Rossoff, Bob Bruce and Vic Zourides to get the Professional Interests of members included as part of the mission of the IEEE.

It spanned the major expansion of the IEEE membership due to the Space Race to the Moon. It reported the initiative of the L.I. Section to improve primary education in response to Sputnik shock. It included the Section's attempts to help members recover from the drop in engineering employment following the moon landing.

It was a period that included the highs and lows of engineering opportunity and the highs of our ethical response to our profession.

It reminds us also that the "30 Years Ago column" is looking half way back to the beginning of the Section history and that we are approaching the 60th anniversary of the Section. Is it time to celebrate?

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THE PULSE OF LONG ISLAND IEEE

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David L. Wolff

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For May 2007 4-25-07
For June 2007 5-15-07

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Telephonics Receives Contract from Boeing For B-52H Advanced Data Controller

Secure Digital Intercommunication System provides Net-Centric Backbone

Farmingdale, New York, Telephonics Corporation, a wholly owned subsidiary of the Griffon Corporation (NYSE:GFF) has received a contract modification from Boeing Integrated Defense Systems, Wichita, Kansas for the addition of an Internet Protocol advanced data controller function to the digital audio distribution system currently in development for the B-52H aircraft. This contract modification, which includes additional system development, is valued at $1.7 million. Telephonics' Boeing B-52H Combat Network Communications Technology (CONECT) program is scheduled to complete system design and development phase by December 2007.

Under this contract, Telephonics will install a network interface module in its Secure Digital Intercommunication (SDI) system that will provide Internet Protocol data communications between the aircraft and ground stations over Beyond Line of Sight (BLOS) satellite communication radios. This will provide the crew with secure data messages, file transfer, e-mail and text chat capability. As part of its effort, Telephonics will qualify the module to the rigorous environmental and mission requirements of the B-52. Designed to provide interfaces to both legacy radios as well as future network-centric Internet Protocol communications, the SDI system is currently deployed on a wide range of military platforms, including strategic, surveillance and tactical fixed wing aircraft as well as rotary wing aircraft and unmanned aerial vehicle ground control stations.

IEEE GOLD Graduates Of the Last Decade

FAIRLEIGH DICKINSON UNIVERSITY

2007 REGION 1 GOLD CONFERENCE

Jointly held with IEEE Region 1 Student Conference
Hosted by Fairleigh Dickinson University IEEE Student Branch

Friday April 27th to Sunday April 29th, 2007

Friday, April 27th, 2007 at Best Western Oritani Hotel

12:00noon-1:00pm	**GOLD and WIE Joint Committee Lunch**
1:00pm-3:00pm	**Region 1 GOLD and WIE Joint Committee Meeting**
3:30pm-5:00pm	**Region 1 GOLD and WIE Leadership Workshop**
6:00pm-10:00pm	**Social Dinner and Networking with Industrial Professionals**

Saturday, April 28th, 2007 at Fairleigh Dickinson University

9:30am-6:30pm	**Career Fair**
9:30am-6:30pm	**Resume Walk-In Clinic**
8:00am-12:00noon	**Student Paper Contest**
8:00am-12:00noon	**Micromouse Competition**
8:00am-12:00noon	**GOLD Competition**
1:00pm-2:00pm	**Professional Development & Leadership for Women**
2:15pm-3:15pm	**Financial Planning and Investment**
3:30pm-4:30pm	**Team Dynamics Seminar**
4:45am-5:45pm	**IEEE Leadership Seminar**
7:00pm-10:00pm	**Award Dinner Banquet and Guest Speakers**

Sunday, April 29th, 2007 at Fairleigh Dickinson University

9:00am-12:00noon	**Micromouse Workshop and Forum**
9:00am-10:00am	**Balancing your Career and Personal Life**
10:15am-11:30am	**Stuff you don't learn in Engineering School**
1:00pm-3:00pm	**Open Panel Discussion about GOLD, WIE and Students**

For more information and on-line registration, please visit Region 1 GOLD website
http://www.ewh.ieee.org/reg/1/gold/

Location:
Fairleigh Dickinson University
1000 River Rd
Teaneck, NJ 07666

Best Western Oritani Hotel
414 Hackensack Avenue
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Rate: $99 per night
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http://www.bestwesternnewjersey.com/hotels/best-western-oritani-hotel/

Conference Pass:
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JOIN YOUR FELLOW LONG ISLAND ENGINEERS AT

LISAT2007

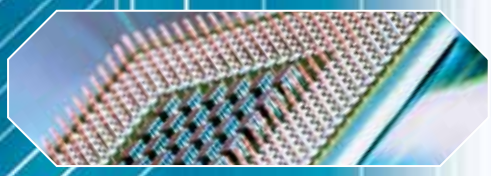
Third Annual IEEE Long Island Systems, Applications and Technology Conference

Friday, May 4, 2007

Institute for Research & Technology Transfer (IRTT)
Farmingdale State College • Farmingdale, NY

The Long Island Systems, Applications and Technology Conference and Exhibition (LISAT2007) is Long Island's own technical development and educational forum.

It is the technical highlight of the IEEE Long Island Section year and provides meaningful presentations and seminars from industry and academic leaders.



Keynote Conference Honorary Co-Chairs:

Dr. Ralph James, Associate Laboratory Director for Energy, Environment and National Security, Brookhaven National Laboratories.

Dr. Yacov Shamash, Dean of the College of Engineering and Applied Sciences, Stony Brook University (SUNY).

Dr. Ralph James

Dr. Yacov Shamash

Participate in LISAT2007!

LISAT2007 invites engineering professionals from Long Island and the entire tri-state region to attend this important IEEE, Long Island Section event. This year LISAT2007 features 2 renowned Keynote speakers, 18 selected presentations by highly qualified engineers, 8 Graduate Student Papers, and more than two dozen technical and business exhibitors.

NEW, This Year: Exhibits only registration including: Keynote addresses, Lunch and two refreshment breaks.

Exhibits and Networking: Attendees are encouraged to visit with vendors and key academic and industry leaders on the exhibit floor throughout the day and also meet and renew acquaintances with engineering leaders from Long Island and the tri-state area.

CEU Credits: Attendees are eligible for, and earn, up to 0.6 CEU credits.

IEEE

Farmingdale State College

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Additional information available at www.ieee.li / lisat

IEEE

LISAT2007 PROGRAM SCHEDULE

Conference Technical Program Sessions are all in Lupton Hall

EXHIBIT HOURS
9:30am-5:00pm

TIME	SYSTEMS TRACK Dave Mesecher Systems Track Chair	APPLICATIONS TRACK Daniel Rogers Applications Track Chair	TECHNOLOGY TRACK Jesse Taub Technology Track Chair
	REGISTRATION BEGINS AT 8:30AM ROOSEVELT HALL		
8:50am - 9:25am	**OPENING CEREMONY AND KEYNOTE PRESENTATIONS** **Roosevelt Hall - Little Theatre**		
9:25am - 9:40am	**NETWORKING BREAK** **Roosevelt Hall Multi-Purpose Room Exhibits Area**		
9:50am - 10:40am	**S1. The Advanced Hawkeye as a System Of Systems** *Alison Fusswinkel, Northrop Grumman.* An overview of the Advanced Hawkeye system is presented and considers several issues related to designing and managing this "system of systems.	**A1. Thermophotovoltaic Power Generator in Oil Fired Burners** *Thomas A. Butcher, Brookhaven National Laboratory; Ed Horne, Edtek; James Hammonds, CUNY; Bola Kamath, Heat Wise.* A novel technique using a flame in conjunction with gallium antinamide photocells is being developed to achieve battery-start, self powered operations of an oil fired heating system.	**T1. Structural Barrier Electromagnetic Effects Modeling and Simulation** *Ronald Pirich, Praveen Anumolu, Danielle Schefer, Northrop Grumman.* New methods of modeling and simulation of electromagnetic effects on structural barriers are described and their use to assure the protection of sensitive electronic equipment Is presented.
10:50am - 11:40am	**S2. Intelligent Transportation Systems Provide Operational Benefits for New York Metropolitan Area Roadways. A Systems Approach** *Charles R. Berger, Egan Smith, Dunn Engineering Associates.* A model for quantitative analysis of proposed intelligent transportation systems (ITS) is described. It is able to evaluate the benefits of any given ITS and can help government agencies to choose the correct approach.	**A2. The Use of Behavioral Diagrams in SysML** *L. Zdanis, Northrop Grumman; R. Cloutier, Stevens Institute of Technology.* A description of behavioral diagrams and an example of its use in helping system designers is presented.	**T2. CdZnTe Room-Temperature Semiconductor Gamma-Ray Detector for Homeland Security Applications** *A. Bolotnikov, G. Camarda, Y. Cui, R. James, Brookhaven National Laboratory.* The paper describes the performance of current room temperature (CZT) gamma ray detectors and efforts to improve their performance. These detectors have wide -spread homeland security applications.
11:50am - 12:40pm	**S3. Taking Software Requirements Creations from Folklore to Analysis** *Larry Bernstein, Stevens Institute of Technology.* The paper stresses the need to do software systems engineering at the early stages of a project. It illustrates the point by applying the concept to medical information systems.	**A3. Reliability Modeling and Analysis of Wireless Sensor Networks** *Akhilesh Shrestha, Liudong Xing, Hong Liu, UMass., Dartmouth.* This paper describes a unique approach to modeling and analyzing the reliability of wireless sensor networks.	**T3. A Micro Power Sigma-Delta A/D Converter in 0.35μM CMOS for Low Frequency Applications** *Adnan Gundel, Telephonics; William N. Carr, NJ Institute of Technology.* The design of a novel, very low power A to D converter is presented. It consists of a modulator and decimation filter requiring a total power drain of only 370 microwatts.
12:50pm - 1:30pm	**NETWORKING LUNCH** **Roosevelt Hall Multi-Purpose Room Exhibits Area**		
1:40am - 2:30pm	**S4. Carrier Frequency Offset Mitigation in a Proposed MIMO OFOM System** *I-Tai Lu, Hsin-Chang Wu, Yongwen E. Yang, Polytechnic University; Robert Olesen, Interdigital* Carrier. frequency offset is analyzed and means for mitigating its effect on OFDM systems that are being proposed for the next generation wireless LAN and other systems.	**A4. Use Authentification via Behavior Based Passwords** *Roman V. Yampolskiy, U. of Buffalo.* A new technique for improving network security by the use of a unique access code called PassMap is presented.	**T4. Digital Phosphor Technology Boosts RF Signal Discovery and Analysis** *Alan Wolke, Tektronix.* This paper shows how digital phosphor displays can be used to enhance many aspects of RF measurements.
2:40pm - 3:00am	**NETWORKING BREAK** **Roosevelt Hall Multi-Purpose Room Exhibits Area**		
3:10pm - 4:00pm	**S5. Direct Indoor Localization of Mobile Stations Using Statistical Knowledge of the Mulitipath Environment** *Chia-Pang Yen, Peter J. Voltz, Polytechnic University.* New techniques for Mobile Station Time of Arrival estimates are described.	**A5. Considerations on Spectral Distances Hyperspectral Image Processing** *Stefan A. Robila, Montclair State U.* This paper discusses innovative approaches to Increase the accuracy of hyperspectral image processing.	**T5. Harold Wheeler's Antenna-Design Legacy** *Alfred R. Lopez, BAE Systems.* The paper highlights Harold Wheeler's fundamental and practical contributions to impedance matching, electrically small antennas and antenna arrays.
4:10pm - 5:00pm	**S6. Evolution of GSM into the Next Generation Wireless World** *Prabhakar Chitrapu, Behrouz Aghili, Interdigital.* This paper describes how GSM, the largest second generation digital cellular standard is evolving to offer a less expensive alternative to 3G systems.	**A6. Ocean Powered Pump for Sea-Surface Cooling** *Richard La Rosa, Sea Level Control.* A method for pumping cool water from the deep ocean to the surface is described. Use of this pump offers a means to suppress hurricane formation.	**T6. Directional Detection of Fission-Spectrum Neutrons** *Peter E. Vanier, Leon Forman, Istvan Dioszegi, Brookhaven National Laboratory.* New means to determine the direction of fission-spectrum neutrons has been developed. Its use can assist in locating man-made and other localized sources.

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Program accurate as of 4/12/07 - See www.ieee.li/lisat for updates

KEYNOTE SPEAKERS

Ralph B. James, Ph.D.

Dr. Ralph James completed his Ph.D. degree in Applied Physics from Caltech in 1981. He was a Eugene P. Wigner Fellow at Oak Ridge National Laboratory from 1981-84. He then moved to Sandia where he held an appointment as Distinguished Member of the Technical Staff until 2001. Currently Ralph is the Associate Laboratory Director for Energy, Environment and National Security with the U.S. Department of Energy's Brookhaven National Laboratory. Since September 11th he has also chaired Brookhaven's Counter-terrorism Working Group, which is conceptualizing and coordinating efforts to develop technologies that can fight biological, chemical and nuclear terrorism.

Dr. James has authored over 300 scientific publications, edited 11 books, and holds 11 patents. He is the recipient of numerous scientific honors including Discover Magazine's "Innovator of the Year" award. He is a three-time winner of R&D Magazine's "R&D 100" awards, which recognizes the top 100 technical inventions of the year. Ralph is a Fellow of the International Society for Optical Engineering (SPIE) for his research in nonlinear optics, Fellow of the American Physical Society (APS) for his studies of wide band-gap semiconductors and Fellow of the Institute for Electrical and Electronic Engineers (IEEE) for his contributions to develop semiconductor radiation sensors. Ralph has played a leadership role to bring the scientific community together, having chaired over 15 international conferences.

Dr. Yacov Shamash

Dr. Shamash is Vice President for Economic Development and the Dean of the College of Engineering and Applied Sciences at Stony Brook University. As Vice President, Dr. Shamash supervises the University's three incubators, two New York State Centers for Advanced Technology, the Center of Excellence in Wireless and Information Technology (CEWIT), the Small Business Development Center, and the workforce development programs of the Center for Emerging Technologies. The College of Engineering and Applied Sciences has over 1,500 undergraduate and 900 graduate students. In 1994 he initiated the highly successful state-wide SPIR program (Strategic Partnership for Industrial Resurgence). During the past ten years, working through the SPIR program, the College has partnered with more than 220 companies to assist them with more than 1,150 projects.

Prior to joining SUNY Stony Brook in 1992, Dr. Shamash served as the Director of the School of Electrical Engineering and Computer Science at Washington State University and was responsible for the establishment of a National Science Foundation Industry/University Center for the Design of Analog/Digital Integrated Circuits.

He is a member of the Board of Directors of Keytronic, American Medical Alert, Netsmart Technologies and Invision.com. He is also a member of the Board of Directors for the Long Island Software & Technology Network (LISTnet), the Long Island Forum for Technology (LIFT) and the Hauppauge Industrial Association (HIA).

Dr. Shamash has also held faculty positions at Florida Atlantic University, the University of Pennsylvania and Tel Aviv University. He received his undergraduate and graduate degrees from Imperial College of Science and Technology in London, England. He has authored more than 130 publications and is a Fellow of the IEEE.

IEEE REGION 1

2007 GRADUATE STUDENT PAPER CONTEST PROGRAM

All Technical Session Registrants are Invited to Attend

Registration begins at 8:30am • Roosevelt Hall

Babak Beheshti GSPC Track Chair

9:50am - 10:40am	**G1.** Attack Detection in Wireless Localization
10:15am- 10:35am	**G2.** Extraction of Subterahertz Transmission-line Parameters of Coplanar Waveguides
10:40am - 11:00am	**G3.** Reliability Analysis of Dynamic Hierarchical Systems Subject to Common-Cause Failure
11:05am - 11:25am	**G4.** Algorithms for the Resizing of Binary and Grayscale Images Using a Logical Transform
11:30am - 11:50am	**G5.** A Reconfigurable Real-time Image Reconstruction Engine for Parallel MRI
11:55am - 12:15pm	**G6.** Gain Robbing Attack on an EDFA via Fiber Bend
12:20pm - 12:40pm	**G7.** Cross Layer Security Protocol Using Swarm Intelligence in WSN Applications
12 :50pm - 1:30pm	**LUNCH - Exhibits Area Roosevelt Hall Multi-Purpose Room**
1:40pm - 2:00pm	**G8.** Self-Organizing Method for Direct Data Domain Least Square Space-Time Adaptive Processing
2:15pm - 2:30pm	Paper Awards Presentation
2:40pm - 3:00pm	**BREAK - Exhibits Area Roosevelt Hall Multi-Purpose Room**
3:10pm - 4:00pm	**G9. Special Presentation. "**Safe Computing in the Age of Ubiquitous Connectivity" Robert Gezelter

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Space Alliance Technology Outreach Program

Suffolk County Department Of Economic Development And Workforce Housing

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Exhibits open 9:30am - 5:00pm

LISAT2007 Long Island Systems, Applications & Technology Conference

Farmingdale State College

Farmingdale State College of New York,
2350 Broadhollow Road,
Farmingdale, New York 11735-1021
631-420-2000

DIRECTIONS

Via Automobile:

- Northern State Parkway - to Exit 40S (Route 110). Travel south on Route 110 for approximately 3 miles. On the right hand side you will see the Broad Hollow Bioscience Park. Turn right into the campus at the College sign.
- Southern State Parkway - to Exit 32N - Route 110. Travel north on Route 110, approximately 3 miles. Turn left into the College.
- Long Island Expressway - to Exit 49 South (Route 110). Travel south on Route 110, approximately 2 miles. On the right hand side you will see the Broad Hollow Bioscience Park. Turn right into the campus at the College sign.

Via Train:

- Long Island Railroad - From Penn or Jamaica. Take the Ronkonkoma line to Farmingdale. Check with the Conductor for any necessary changes. Take a taxi from the Farmingdale Station to the College.

HOTELS NEARBY

1. Huntington Hilton
598 Broadhollow Road, Melville
1-631-845-1000
Room cost - $170 + tax

Take Route 495 east to Exit 49S. Turn right at 2nd traffic light (Route 110 south) Proceed 1.5 miles. The hotel is on your right at the corner of Spagnoli Road (entrance on Spagnoli).

2. Melville Marriott
1350 Old Walt Whitman Road, Melville
1-631-423-1600
Room cost - $199 + tax

Take Route 495 east to Exit 49S. Turn left at 1st traffic light (Walt Whitman Road). Proceed 0.3 miles. The hotel is on your right.

3. Four Points by Sheraton
333 South Service Road, Plainview
1-516-694-6500
Room cost - $180 + tax

Take Route 495 east to Exit 48. Turn right at 1st light. Turn right just after Mobil Station.

4. Broadway Motor Inn
727 Broadhollow Road
Route 110, Farmingdale
1-631-249-2810
Room Cost - $77 + tax

Take Route 495 to Exit 49S. Turn right at 2nd light (Route 110). Proceed about 5 miles south and look for the Broadway Motor Inn on left.

LISAT2007 Organizing Committee

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LISAT2007 REGISTRATION FORM

Friday, May 4, 2007

Institute for Research &Technology Transfer
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Lunch and Refreshment Breaks

Member Type	Until April 1	After April 1
IEEE Members	$125	$150
PE Members	$125	$150
Non-Members	$175	$200
IEEE Student & Life Members	$50	$75
Added Fee for CEUs*	$25	$30
Exhibits Only	$50	$50

Amount enclosed: $_____

Make checks payable to IEEE Long Island Section and send with form to Brian Quinn, LISAT2007, 47 Carnation Road, Levittown, NY 11756-2035

* It is mandatory for the CEU recipients to sign-in and sign-out on the spread sheet for each seminar.

The Long Island Chapter of IEEE Electromagnetic Compatibility Society is presenting a lecture titled:

EMI Characterization and Filtering Of DC-DC Converter Modules

Tuesday, May 8th at 6:00pm

Who Should Attend? People interested in learning about dealing with EMI in DC-DC Power supplies

Speaker: Mr. Bob Pauplis, Principal Product Line Engineer, Vicor.

Abstract:

- Review of the measurement process.
- Characterization of the DC-DC converter as a noise source.
- What makes some converters noisier than others?
- Review of filters and there limitations.
- Noise currents in the power system and chassis.
- Variable frequency DC-DC converter concerns.

Seminar Coordinators: Mr. David Sterner, Mr. Tom Schneider

Speaker Bio: Bob Pauplis is the Principal Product Line Engineer responsible for "brick" DC-DC converter applications. He has been working with power component products at Vicor for the past 14 years and has extensive experience solving EMI problems as well as the application of converters in low noise designs for a wide variety of customer applications. He has designed highly accurate automatic test systems presently used for the in-house characterization of new DC-DC converter designs. He also has extensive experience in the design of impedance measurement instrumentation used for the characterization of passive components. He holds a BS in Electronic Engineering Technology from Wentworth Institute.

Location, Time, and Registration: This lecture will be held at BAE Systems located at 450 Pulaski Road, Greenlawn, NY. The facility is located just east of Park Ave (Suffolk County Rte 35) on Pulaski Road. The presentation will begin at 6:30 PM. Appetizers, snacks & beverages will be served starting at 6:00 PM. Seating is limited. If you wish to attend, an RSVP is required prior to the meeting. To register please visit the calendar page of the IEEE Long Island Website, www.ieee.li , click on the registration link, and fill out the form. Registrants must be US citizens. Please enter through the Pulaski road entrance.

The Long Island Chapter of the IEEE
Circuits and Systems (CAS) Society is presenting a lecture titled:

An Overview of 2D Imaging-Based Barcode Scanning Technology

Tuesday, April 24th at 6:30pm

(This seminar is free and all are invited. Refreshments will be served at 6pm.)
0.2 CEU Credits See Registration on-line

Who Should Attend? Anyone interested in the emerging technology of 2D image sensor arrays to capture and decode barcodes

Speaker: Bradley S. Carlson, PhD

Abstract: 2D barcodes are being adopted in several industries including retail, transportation, manufacturing and healthcare. In this talk the basics of a digital camera system used for scanning barcodes are described including the image sensor technology, optics, digital electronics and software. The pixel electronics of CMOS and CCD array sensors and their architectures, the basics of the optical system, the hardware/software architecture of the digital system presented.

Speaker Bio: Bradley S. Carlson received his BEE from Gannon University, Erie, PA in 1987, and MS and PhD degrees in Computer Engineering from Syracuse University, Syracuse, NY in 1989 and 1991, respectively. Since 1999 he has been a Sr. Principal Engineer with Symbol Technologies, Inc. (now Motorola). He has published one book, more than forty technical articles in the areas of VLSI circuit design, VLSI-CAD, image sensor arrays and distributed computing, and holds 13 US patents. Dr. Carlson is a recipient of the best paper award at the 1993.

Location: This lecture will be held at BAE Systems located at 450 Pulaski Road, Greenlawn, NY. The facility is located just east of Park Ave (Suffolk County Rte 35) on Pulaski Road. Pizza will be served starting at 6:00 PM. Registrants must be US citizens. Please enter from the main entrance facing Pulaski Road.

Registration: Please visit the calendar page of the IEEE Long Island Website, www.IEEE.LI, click on the registration link, and fill out the form.

For further information contact Arthur Williams CAS Chairman at awilliams@telebytebroadband.com

IEEE is an Authorized CEU Provider of the International Association for Continuing Education and Training. IACET Provider #1255 New York State CE Provider #100996

IEEE Long Island Section CALENDAR

No membership requirements, no registration, no fees at meetings unless otherwise noted. Please visit our website at www.IEEE.LI & click on the calendar for online registration (as available) & for listing updates.

APRIL

24 ***An Overview of 2D Imaging-based Barcode Scanning Technology***
6:30PM
presented by Bradley S. Carlson, PhD. Will be held at BAE Systems Inc, 450 Pulaski Road Greenlawn, NY. Page 9

MAY

4 ***IEEE L.I. Section Symposium***
Third Annual IEEE Long Island Systems, Applications & Technology Conference (LISAT2007)
SUNY Farmingdale. Page 8

8 ***EMI Characterization & Filtering of DC-DC Converter Modules***
6:30PM
presented by Bob Pauplis of Vicor. Sponsored by the IEEE EMC Society. At BAE Systems Inc, 450 Pulaski Road Greenlawn, NY. The lecture is open to US citizens, but registration is required- see the announcement in this issue for details. For additional info, contact the lecture coordinator, Santo Mazzola at mazzolas@ieee.org or at 631-262-8367. Page 9

15 ***The Laplace and Fourier transform more advance and beyond....***
6:30PM
presented by Dr. Shervin Erfani. At Lupton Hall, Room T101, SUNY, Farmingdale, LI. Page 11

SEMINAR MEETING

Advanced techniques with Closed Circuit TV (CCTV) for security puposes

SPEAKERS
Suranjan Ray & Aluiso Fiigueridео
of Intelligent Security Systems

Wednesday, June 20th

Refreshments 6:00PM
Meeting 6:30PM

Telephonics
815 Broadhollow Rd, Farmingdale, NY

This is a secure installation.
Register in advance at www.ieee.li

IEEE

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The Laplace & Fourier Transform More Advance & Beyond….

Tuesday, May 15th at 6:00pm

Lupton Hall, Room T101, SUNY, Farmingdale, LI

Who may attend: Electrical Engineers in field of Communication and Signal Processing.

Speaker Bio: Shervin Erfani is a professor and former Electrical and Computer Engineering Department Head at the University of Windsor, Windsor, Ontario, Canada. His experience spans over 30 years with AT&T Bell Labs, Lucent Technologies, University of Puerto Rico, University of Michigan-Dearborn, Stevens Institute of Technology.

Dr. Erfani has published more than 70 technical papers, holds three patents, and is the Senior Technical Editor of the Journal of Network and Systems Management and an associate editor for Computers & Electrical Engineering: An International Journal.

He received a combined B.Sc. and M.Sc. degree in Electrical Engineering from the University of Tehran in 1971, and M.Sc. and Ph.D. degrees, also in Electrical Engineering, from Southern Methodist University in 1974 and 1976, respectively. He was a Member of Technical Staff at Bell Labs of Lucent Technologies in Holmdel, New Jersey from 1985 to 2001.

Abstract: The Signal, Variable System, & Transformation: A Personal Perspective….

The classical theory of variable systems is based on the solutions of linear ordinary differential equations with varying coefficients. The varying coefficients are usually functions of an independent variable, so-called the time variable. The "time variable" is assumed to be a real variable for physical systems. This assumption facilitates analysis and synthesis of fixed (so-called time-invariant) systems by allowing the Laplace transform techniques to be used. However, the assumption of "real time" is shown to be inadequate for realization of time-varying systems in the transformed domain.

This presentation is based on a different point of view. Essentially in investigating the possibility of system realization through an examination of the behavior of systems that are functions of a complex time-variable. This approach allows, in effect, a two-dimensional Laplace transform technique to be used for the time-varying systems in the same manner that the conventional frequency-domain technique is used in connection with fixed systems.

The challenge is the physical interpretation of a "complex time variable" versus the "real time," and its implications on the transformed variable, so-called the "frequency variable."

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