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# IEEE Baltimore Section 'Watts New' Newsletter: June 2017

## 'Multiplexing the Signals of the Monumental City'

**In this Newsletter:**



**Contact Details**


National Electronics Museum
1745 W Nursery Rd
Linthicum, MD 21090

**r.klein.us@ieee.org**
**http://ewh.ieee.org/r2/baltimore/**


### In Search of Nominees for 2018 IEEE Baltimore Executive Committee

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IEEE Baltimore Executive Committee

The IEEE Baltimore Section Executive Committee (ExComm) is seeking nominations for officers for 2018. The ExComm is responsible for managing and coordinating Section activities and events, including conferences, continuing education, membership growth, and middle and high school outreach, to name a few. The Section is comprised of 12 Society Chapters and two Affinity Groups (Young Professional Program and Women In Engineering).

We are currently looking to fill the positions are Secretary, Treasurer, Vice-Chair, and Chair. We will be gathering nominations throughout the summer for voting during the fall. If you are available to support the Section in one of these positions, or know of someone who might be interested, please contact me, dkisak@ieee.org. Our goal is to complete the nominations process & distribute candidate resumés by mid-September to allow for voting to occur during November. Thank you for your support!

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### Bioprocessing and Biomedical Instrumentation – Miniaturization and Cost Reduction

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IEEE Baltimore Section Continuing Education

Saturday, June 17, 2017 from 10 am – 2 pm.

Abstract:

Bioinstrumentation targets measurement of concentrations of variety of parameters, from bioprocessing parameters like pH, dissolved oxygen, etc., to measurements of measurements of prion concentrations, antibodies, antigens, allergens, etc. One of the most versatile approaches to the task is to use light as a probing method. Light-matter interaction is one of the fundamental physical interactions, and therefore it is used in numerous scenarios. With the advent of semiconductor light sources and photodetectors, it became possible to shrink the standard instrumentation to wearable, low cost formats. A number of examples regarding such instrumentation are given.

Speaker:

Dr. Yordan Kostov is the Assistant Director of the Center for Advanced Sensor Technology, a Research Professor with the Department of Chemical & Biochemical Engineering, and an Affiliate Professor with the Department of Computer Science and Electrical Engineering at the University of Maryland Baltimore County.

Learning event description

A 4-hour workshop targeting a broad range of fellow members from areas like EE, ECE, BME, CS, sensors, who would like to improve their knowledge of bioprocessing and biomedical instrumentation, with special emphasis on miniaturization.

Logistics/Schedule
Saturday, June 17, 2017 from 10 am – 2 pm.

The workshop is scheduled to take place at the National Electronics Museum (NEM):
1745 W Nursery Rd
Linthicum, MD 21090
http://www.nationalelectronicsmuseum.org/

Registration:

The course is free of charge and is sponsored by the Baltimore Section of the IEEE. All course applicants should register through vTools, no exceptions will be made:
http://meetings.vtools.ieee.org/ or directly at:
https://meetings.vtools.ieee.org/m/44775

Attendees can obtain a CEU credit and a certificate from the IEEE by sending an email in advance to Boris Gramatikov (bgramat@jhmi.edu, subject: “CEEE”) indicating IEEE status and IEEE membership number. Non-members who wish to attend and receive a CEU certificate should also bring a check for $9 to the course.

All attendees who apply for a CEU certificate should complete the evaluation forms at the end of the course.

For more detail please check out:
http://ewh.ieee.org/r2/baltimore/continuing_education/Web_Ad_Yordan_Kostov_Outline_and_Bio.htm

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## STEP Into the Sun: Solar Training for Design Professionals (Washington DC)

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The Building Codes Assistance Project (BCAP), U.S. Department of Energy SunShot Initiative

Tuesday, June 27th 2017

Abstract:

An exciting new accredited course on solar energy design debuts in Washington, D.C on June 27 at the District Architecture Center. Created exclusively for architects and engineers, the one-day training was developed by the Building Codes Assistance Project (BCAP), the Center for Sustainable Energy (CSE), and 15 national solar energy experts, in partnership with AIA and ASHRAE. The training is partially underwritten by the U.S Department of Energy's SunShot Initiative.

The training is specially designed to educate architects and engineers on how to incorporate solar photovoltaics (PV) into design plans, how to differentiate themselves in the marketplace by offering solar PV to the clients, how to speak with clients about the benefits of solar PV, and where to find information on financial incentives. Continuing education credits (6.5 LU/HSW) will be provided to attendees.

District Architecture Center, Hickok Cole Room
421 7th St., NW
Washington, DC 20004

Register at: http://bcapcodes.org/beyond-code-portal/sunshot/register/
For more information contact Maria Ellingson at mellingson@bcapcodes.org

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## IEEE Women In Engineering USA East Forum

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IEEE Women In Engineering Affiliate Group

Thursday, November 30th to December 2nd, 2017

Abstract:

IEEE WIE Forum USA East Nov 30 – Dec 2, 2017 in Baltimore, MD focuses on developing and improving leadership skills for individuals at all stages of their careers. Attendees will have the opportunity to hear inspirational and empowering talks presented by successful leaders from IEEE Northeast. Emerging technologies will also be demonstrated, engaging attendees to facilitate discussion and potential advancement of STEM outreach class ideas.

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## Power Quality in Electro-Magnectic Systems

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IEEE Baltimore Section

Monday, June 26th, 2017 from 5:30 pm to 8:30 pm

Abstract:

The concept of a rotating electric field is developed by analogy with N. Tesla's rotating magnetic field which formed the basis for the induction motor. Three capacitors connected between the 3 electrical phases define the Delta Trinity Circuit. When the Trinity Circuit is joined to three-phase power systems, the rotating electric field stabilizes these joined systems. The mechanism of phase balancing is shown to be a structural memory resulting from the lag in the polarizing dielectric required by the van der Waals stretching and rotation of the affected molecules. The applications of phase balancing in 3-phase systems are discussed. Also, the capacitors of the Trinity Circuit interact with the field coils of a parallel-connected, 3-phase motor to form a low-pass RCL harmonic filter that retains the amperage harmonics in the motor circuit and improves the motor efficiency. The mechanism of this passive harmonic filter is described using SPICE Modeling and applications suggested.

Where:
National Electronics Museum
1745 West Nursery Road
Linchicum, Maryland
United States 21090

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## 2017 Symposium on EMC+SIPI

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IEEE Electromagneetic Compatibility Society (EMC-S)

Monday, August 7th to Friday, August 11, 2017

Abstract:

The 2017 Symposium on EMC+SIPI is the leading event to provide education of EMC and Signal and Power Integrity techniques to specialty engineers. The Symposium features five full days of innovative sessions, interactive workshops/tutorials, experiments and demonstrations, and social networking events.

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## 2017 IEEE Military Communications Conference (MILCOM)

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IEEE Communications Society & AFCEA International

Monday, October 23rd to Wednesday, October 25th, 2017

Abstract:

At MILCOM, global military communications professionals face command, control, communications, computing, intelligence, surveillance and reconnaissance (C4ISR) challenges head on. They look at them from every angle and discuss them from end to end – research and development through future needs. The conference allows industry the opportunity to hear and understand the requirements, pace of change and state of play in a variety of C4ISR markets serving the military, federal agencies and multinational entities.

Where:

Baltimore Convention Center
One West Pratt Street
Baltimore, Maryland 21201