

R1 BOG Committee – 2018 Report

Berkshire Section Report: Prepared by Richard Kolodziejczyk , Chairman

July 26, 2018

The IEEE Berkshire Section has held seven EXCOM meetings to date, one for each month in 2018.

The members of the EXCOM are:

Section Chair:	Richard Kolodziejczyk
Vice Chair:	James McVeigh
Secretary:	David Rueger
Treasurer:	Roger Manzolini

Power Chapter:	David Rueger
Computer and Control Chapter:	Richard Kolodziejczyk
Award Chair:	George Haus
Membership Chair:	George Gela
Education Chair:	Jill McKennon
PACE Chair:	Richard Kolodziejczyk
Consultant Network Chair:	Richard Kolodziejczyk
Life Member Affinity Group:	Bert Prichard
Newsletter:	Richard Kolodziejczyk
Webmaster:	Richard Kolodziejczyk
Past Chair:	James McVeigh

In addition to the monthly EXCOM meetings, the Berkshire Section has held following section meetings:

- **National Engineers Week** Dinner Meeting sponsored by the **Life Member Affinity Group**
 - American Engineering Jobs by Peter A. Eckstein HKN, 2016 President IEEE-USA
- **Computer and Control Chapter** Dinner Meeting – April 19
 - Cryptocurrency by Michael Glaberman, CGC IT Solutions + Genesis10
- **Life Member Affinity Group** Annual Dinner Meeting – May 23
 - 2018 IEEE Berkshire Section STEM Research Challenge, Presentations by Research Challenge Winners
- **Power Chapter** Dinner Meeting – June 28
 - Power Industry Transformation to the Hybrid Grid, by Michael I. Henderson

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A PACE project titled “2018 IEEE Berkshire Section STEM Research Challenge Contest” was completed. The project plan was submitted to the Region 1 PACE coordinator and the Berkshire Section. The PACE final report will be submitted soon to receive the PACE funding.

The Berkshire Section expenses to date are in line with the 2018 Budget.

A financial 2017 audit was performed by Frank Fisher, Past Treasurer, George Haus, Award Chair and James McVeigh, Section Vice-Chair. The records were found to be in good order with all transactions accountable with accompanying copies of appropriate receipts.

The Berkshire Section, at its annual meeting, hold its award drawing contest for children of IEEE Berkshire Section members who will be attending an accredited college on a fulltime basis this fall. No entries for the contest were received this year.

The 2018 Student Recognition Award was given to two students from the Berkshire county: one from Wahconah High School and one from Lenox High School.

The 2018 R1 ROB Committee meeting will be attended by Richard Kolodziejczyk Chair.

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2017 Accomplishments

The IEEE Berkshire Section has held twelve EXCOM meeting, one for each month in 2017.

Two Berkshire Section members received 2017 IEEE Region 1 awards:

- **Jim McVeigh**, Vice-Chair, a recipient of the 2017 IEEE Region 1 Enhancement of the Relationship between IEEE and Industry Award – “For Enhancement of the IEEE and Industry Through Dedicated Service to the Berkshire Section”
- **Roger Manzolini**, Treasurer, a recipient of the 2017 IEEE Region 1 Outstanding Support for the Mission of the IEEE, MGA, Region 1 and Section Award – “For Outstanding Service to the IEEE Berkshire Section through Continuing Service and Contributions as a Member of the Executive Committee”

The Berkshire Section, at its annual meeting, held its award drawing contest for children of IEEE Berkshire Section members who will be attending an accredited college on a fulltime basis this fall. One entry was received in contest and the award was given to Hannah Rueger.

In addition to EXCOM meetings, the Berkshire Section has held following section meetings, see below.

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February

Life Member Affinity Group Sponsored the National Engineers Week Dinner Meeting: “The IEEE and Region 1” by Ronald Tabroff, P.E., IEEE Region 1 Director

and

“The Berkshires and the Engineering Workforce of the 21st Century” by Carlo Zaffanella, Vice President and General Manger for Maritime & Strategic Systems for General Dynamics Mission Systems

Ronald Tabroff is a Director – Sales & Marketing for NanoBio Systems, a medical device developer in the Boston, MA, area, where he is actively engaged in the prototyping of nanotechnology based medical monitoring devices to be used for patient point-of-care. He has been actively involved as an IEEE volunteer leader for over 35 years and currently serves on the IEEE Board of Directors in his role as Region 1 Director.

Carlo Zaffanella is vice president and general manager of Maritime and Strategic Systems (M&SS) for General Dynamics Mission Systems. In this role he leads a diverse array of programs serving the US Navy, the US Air Force, restricted customers, various government labs and a variety of international and commercial customers. The business performs electronic systems integration for submarine, surface ship and unmanned underwater vehicles, as well as the design, build and support of a broad array of subsurface, surface, air, and strategic subsystems. M&SS employs over 2000 professionals across multiple locations, including Pittsfield, MA, Quincy, MA, Bloomington, MN, Greensboro, NC, and Fairfax, VA.

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 14

IEEE Member Attendance: 15

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April

Computer and Control Chapter (C&C) Dinner Meeting: CCD Technology and Applications in Remote Sensing by Justin Bell, Project Scientist at EPRI High Voltage Laboratory

A charge-coupled device (CCD) is an electrical charge transferring semiconductor; these devices can be found in everyday devices like the backup camera on your car, or in military spy satellites. This presentation and lecture covered the physics of CCD operation and a comparison to previous technologies. An overview of some common and uncommon applications was discussed, as well as how CCDs are applied in remote sensing technologies that affect our everyday lives.

Meeting contacts: Rich Kolodziejczyk, P.E.

Guest Attendance: 15

IEEE Member Attendance: 8

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May

Life Member Affinity Group Sponsored Annual Dinner Meeting: “2018 IEEE Berkshire Section STEM Research Challenge” Presentations by Research Challenge Winners

We recognized this year's winners by giving the students a few minutes to talk about their project: how they chose their topic, their research, and any interesting discoveries.

Grades 9/10

1st - Wilson Sprague - Grade 10, MMRHS: “Electromagnetic Propulsion Through Resonant Cavities”

2nd - Aubrey Blanchard – Grade 10, MMRHS: “Drug Delivery Microchips”

3rd - Ziyun (Charlotte) Rui – Grade 10, Miss Hall's School: “The Study about Quantum Mechanics---Multiverses”

Grades 11/12

1st – Colette Basiliere – Grade 12, Wahconah High School: “Effects of Vitamin D on the Progression Of Multiple Sclerosis”

2nd – Benjamin Zoeller – Grade 11, MMRHS: “No Hands On The Wheel”

3rd – Queen Tran – Grade 11, Miss Hall's School: “Light Pollution”

Meeting contacts: Jill McKennon, Education Chair

Guest Attendance: 13

IEEE Member Attendance: 11

Berkshire Consultants Network Sponsored Dinner Meeting: Sports and Media Fans by Neal H. Pilson, Former president of CBS Sports

Professional sports play an important role in our culture, be it the MLB, NCAA, NASCAR, NFL, PGA, or the Olympics. While at CBS, Neal was instrumental in negotiating contracts with and overseeing production for all of these major sports franchises. He told stories that only insiders in the sports world can tell, and showed us special videos from his days at CBS.

Meeting contacts: Rich Kolodziejczyk, P.E.

Guest Attendance: 4

IEEE Member Attendance: 4

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June

Berkshire Consultants Network Sponsored Dinner Meeting: Why did my lights go out? by Dr. George Gela, BETC

We always like to blame the utility for every outage – who else deserves our rage? But there are many possible and uncontrollable causes. For example, a falling fish knocked out power in Seattle.

This talk concentrated on power outages worldwide (including the one caused by the presenter in Pittsfield in December 1991), their causes and severity, how they can be mitigated, costs associated with outages and mitigation, and research underway to prevent power outages or at least to minimize their impact on consumers. The speaker also reviewed the myriad of reliability indices that utilities calculate and report, and reasons for some long-duration outages.

What is a “power outage”? Let’s start with a formal definition: *“Outage” ... describes the state of a component when it is not available to perform its intended function due to some event directly associated with that component. An outage may or may not cause an interruption of service to consumers depending on system configuration.*

Meeting contacts: Rich Kolodziejczyk, P.E.

Guest Attendance: 8

IEEE Member Attendance: 10

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July

Power Chapter Sponsored a Tour of Solar Farm: SOLAR ELECTRIC – Solar Farm by Roger Manzolini

Tour of the Photo-Voltaic Solar 7 Acres Farm:

Solar electric systems consisting of 6,000 panels harness energy from the sun each and every day year round. Solar energy capabilities are increasing each year, and part of that increase is provided by Solar Farms which provide environmental and financial benefits.

Roger discussed the design and installation of this 1.6 MWatts PV solar system and provided a tour of the installation on his brother's property in Pittsfield, MA.

Meeting contacts: David Rueger, Power Chapter Chair

Guest Attendance: 8

IEEE Member Attendance: 7

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September

Power Chapter Sponsored a Tour to West Point United States Military Academy:

A tour of the West Point Academy was hosted by the West Point IEEE Student Branch for the IEEE Berkshire Section, the IEEE Mid-Hudson Section and the IEEE SUNY New Paltz IEEE Student Branch.

The History of West Point is integral to the history of the United States of America. From the day of its founding on March 16, 1802, a favorite expression at West Point is that "much of the history we teach was made by people we taught." Great leaders such as Grant and Lee, Pershing and MacArthur, Eisenhower and Patton, Schwarzkopf and Petraeus are among the more than 50,000 graduates. Countless others, following military service, have had distinguished careers in business, medicine, law, sports, politics, and science. The academy has a stellar engineering curriculum. Cadet studies in Electrical Engineering consist of a base of fundamental skills and knowledge followed by an opportunity to focus on a particular technology-based "thread" of study.

The itinerary consisted of a bus ride from Pittsfield, MA to the visitor's center in Highland Falls, NY for a security screening, visit to the museum, a tour of the Electrical Engineering Department that included robotics, and optoelectronics, a boat tour on the Hudson with a lunch on the boat.

Meeting contacts: David Rueger, Power Chapter Chair

Guest Attendance: 9

IEEE Member Attendance: 7

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October

Computer and Control Chapter Sponsored a Dinner Meeting: 3D Raised Relief Maps by Thomas P. Sullivan, Engineer General Dynamics Mission Systems

In February 2000 the Space Shuttle Endeavour embarked on an 11 day mission to collect elevation data using two RADAR systems to form an Interferometer. The data collected has resulted in the creation of elevation databases for most of the planet.

This presentation showed how the various pieces of software were developed to create the open source software, SRTM2STL, from which this data produces 3D STL files that can be printed as physical maps using a 3D printer.

Meeting contacts: Rich Kolodziejczyk, P.E.

Guest Attendance: 9

IEEE Member Attendance: 16