

IEEE Berkshire Section Newsletter

Update: December 2023



Berkshire Section

<https://ewh.ieee.org/r1/berkshire/>

15, November

2023

Dear Member:

The nominating committee has proposed the following slate for the 2024 IEEE Berkshire Section Officers:

Section Chair	James McVeigh
Section Vice Chair	Rich Kolodziejczyk
Treasurer	Roger Manzolini
Secretary	Dave Rueger

Anyone wishing to submit a member for one of the offices should submit the name along with a letter indicating willingness to serve and endorsements of ten current members.

Send the nomination and endorsements no later than December 9, 2023 to the nominating committee at:

David Rueger, Secretary
IEEE BERKSHIRE SECTION
172 Orchard Road, Dalton, MA 01226.

NOMINATING COMMITTEE: GEORGE HAUS and GEORGE GELA.

David Rueger

Secretary
IEEE Berkshire Section

Power Chapter Presented a Webinar: October 4

James Clerk Maxwell's Ether: From Wave Optics to Electromagnetic Theory of Light

In celebration of the IEEE Day we explored James Clerk Maxwell's groundbreaking unification of electricity, light, and magnetism in partnership with the IEEE Foundation and IEEE History Center. We learned about the fascinating innovator, James Clerk Maxwell.

We saw how, in Maxwell's hands, the ether became a powerful theoretical tool to substantiate the electromagnetic field—through which he ultimately brought about a profound conceptual transformation of physical reality.

The keynote speaker, Daniel Jon Mitchell, DPhil., Senior Historian of the IEEE History Center talked about the remarkable history of how Maxwell adapted the concept of an all-pervading ether to develop and ground his electromagnetic theory of light.

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 0

IEEE Member Attendance: 6

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Note from MGA: August 9

Congratulations on meeting your Section membership development goals!

Hello! I am pleased to let you know that your Section has met both its recruitment and retention goals for the 2023 membership year. Congratulations!

Membership development goals were developed based on your Section's four-year performance. You are to be commended for continuing to grow IEEE membership locally.

In recognition of this achievement, you will receive a separate email from Accredible with a link to digital credentials signifying your achievement. You can access and download these credentials for use in your email signature, social media, and on your Section website or newsletters.

Please share this with other leaders in your Section to recognize the good work you are doing, and to let your members know you are working hard to provide them the best member experience possible.

If you are attending Sections Congress this coming weekend, please stop by the Membership Development booth in the Exhibit Hall. I look forward to meeting you. Also - we have a special IEEE-branded gift for you!

Congratulations once more, and thank you in advance for your continued support and good efforts toward ensuring membership growth in 2024 and beyond!

Regards,

Elyn Perez
Senior Manager, Member Market Development
IEEE Member and Geographic Activities Department

Berkshire Consultants Network Presented: June 8

Berkshire Consultants Network Presented: Navigating the Horizons of Aerospace and Defense Software Testing: Exploring Manual vs. Automated Approaches By Keysight Technologies

This webinar explored the benefits and challenges of manual software testing versus automated software testing in the defense and aerospace industries. Participants gained a comprehensive understanding of the differences between these two testing approaches, including their respective advantages and limitations.

The discussion included the role of manual testing in ensuring the safety and reliability of critical defense and aerospace systems, and how automated testing can enhance efficiency and reduce costs. The speakers addressed the specific challenges that arise when testing software for these industries, such as strict regulatory requirements and the need for rigorous testing protocols.

Featuring real-world case studies and examples of successful manual and automated testing strategies in the defense and aerospace industries, the webinar delivered a deeper understanding of the factors to consider when choosing between manual and automated testing, as well as practical insights for optimizing testing processes to meet the unique demands of these industries.

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 0

IEEE Member Attendance: 3

Computer and Control Chapter Presented: May 26

**The Computer and Control Chapter (C&C) Presented:
Rapid Evolution of Disruptive Digital Transformation to Society 5.0
By
Andy Chen**

Imagine a society that solves problems and creates value instead of leveraging economies of scale; a society where diversity is celebrated; a society where equal opportunities exist for everyone and not just a small concentration of elites; a society where people can confidently live and pursue ambitions without a of constant fear of vulnerability; a society where humankind lives in harmony with nature instead of placing high stress on the environment due to mass consumption of resources. This is Society 5.0 as defined by Japan at the 2019 World Economic Forum. The push towards new societal paradigms will be driven by rapid digital transformation in many aspects of our everyday lives including financial transactions, industrial structure, private life and public administration. For instance, the growing usage of AI and blockchain technology have placed all sectors at global inflection points. Already, parts of the financial industry are exploring how blockchain and AI technology can improve customer experience, reduce expenses, enhance compliance efforts and help companies increase revenue by helping them expand into new markets. Eventually, the decentralized AI Blockchain may even render many existing financial services obsolete.

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 0

IEEE Member Attendance: 3

Life Member Affinity Group Presented Annual Dinner

Meeting: May 5

2023 IEEE Berkshire Section STEM Research Challenge

Presentations by Research Challenge Winners

The following winners are students from the Berkshire County high schools' grades 9, 10, 11 and 12. We recognized the winning papers with our usual awards to students for their topic research and interesting discoveries.

Grades 9/10 prizes: (1st - \$800, 2nd - \$400, 3rd - \$200)

1st – London Krans – Grade 9, Mt. Everett High School
“Stem Cell Therapy Is Beneficial to Horses”

2nd – Ben Vella - Grade 9, Mount Everett Regional High School
“Subjectivity in the Quantification of Intelligence”

3rd – No winner

Grades 11/12 prizes: (1st - \$800, 2nd - \$400, 3rd - \$200)

1st – Bianca Kerr - Grade 12, Miss Hall's School
“A Bright Future for Extrusion-based 3D Bioprinting”

2nd – Nicolas Resca - Grade 11, Lee Middle and Highschool
“A Duality Between Wormholes and Quantum mechanics”

3rd – Ina Wang- Grade 11, Miss Hall's School
“Effects of pH on Sea Urchin's Fertilization Success Rate”

3rd – Zadie Juska - Grade 11, Miss Hall's School
“Melatonin Doesn't Just Make You Sleepy: The Connection Between Melatonin and IVF Success”

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1st – London Krans – Grade 9, Mt. Everett High School



2nd – Ben Vella - Grade 9, Mount Everett Regional High School

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1st – Bianca Kerr - Grade 12, Miss Hall's School



2nd – Nicolas Resca - Grade 11, Lee Middle and Highschool

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3rd – Zadie Juska - Grade 11, Miss Hall's School



2023 IEEE Berkshire Section STEM Research Challenge Winners

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From Award Chairman: There were no entries this year for the 2023 Member Child Award and no winners.

Meeting contact: James F. McVeigh

Guest Attendance: 14

IEEE Member Attendance: 6

Berkshire Consultants Network Presented: March 27

CNET Meeting: Running a Consulting Business and How to Become a Consultant

**By
IEEE Boston Consultants Network**

IEEE CNET Consultants Larry Nelson Sr. and Mark Fitzgerald discussed how to be an effective consultant and run a consulting business. Topics: becoming a consultant, diversification of your consulting business and keeping a steady cash flow, PE Licenses pros and cons, whether to incorporate your business and have direct clients (C2C) or go W2 through an agency, issues that are common to the consulting business, revenue stream and billing, types of business and liability insurance, among other topics.

This talk covered information that engineers may find useful in a career choice of whether to become a consultant and run a consulting business.

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 0

IEEE Member Attendance: 2

Computer and Control Chapter Presented: March 9**The Best of Two Worlds - Edge and Cloud**

By
Sanjay Kumar and Chris Liu of Siemens Industry, Inc.

Edge as well as cloud computing are becoming increasingly important for a growing number of industries. The most sensible strategy is to utilize the best of both technologies, since they optimally complement one another. Smart manufacturing does not simply mean collecting vast amounts of data with the help of sensors. Far more decisive is the ability to use that data to automatically generate information that helps improve production results. By combining both Edge and Cloud computing, data processed by edge computing can be used in the cloud to train AI algorithms.

In this session we have learn:

How Siemens Industrial Edge takes care of all data integration from the shop floor to the MindSphere cloud making live data access possible on every layer up to the cloud (bi-directional)

How the combination of local data processing enabled by Industrial Edge, and processing in the cloud on MindSphere can be the optimal solution to open up enormous potential for industry

And examples of Edge-to-Cloud

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 0

IEEE Member Attendance: 3

Life Member Affinity Group Presented Webinar: Feb. 14

Key Insights to Career Management

This talk was designed to discuss managing your career. There are 12 important things to keep in mind when living and managing your career to achieve your goals. These were explained and explored with examples and photographs based on my 48 years as an engineer, manager, and executive managing people's careers, and 52 years as an IEEE member (IEEE Life Fellow). Your career is your career, and understanding your priorities (which can change) and your company's objectives can help you have a rewarding and fulfilling career

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 0

IEEE Member Attendance: 2

Power Chapter Presented a Webinar: January 30

Benchmarking Demand Flexibility for Grid-interactive Efficient Buildings

Building demand flexibility (DF) research has recently gained attention. To unlock building DF as a predictable grid resource, we must establish a quantitative understanding of the resource size, performance variability, and predictability based on large empirical datasets. The electrical grid's geographically diverse and changing nature presents challenges to comparing building DF performance measured under different conditions (i.e., benchmarking DF). To address this challenge, a novel DF benchmarking framework focused on load shedding and shifting was presented; the foundation is a set of simple, proven single-event metrics with attributes describing event conditions. These enable benchmarking and identifying trends that represent how these attributes influence DF. To test its feasibility and scalability, the DF framework was applied to two case studies of 11 office buildings and 121 big-box retail buildings with demand response participation data. These examples provided a pathway for using both building level benchmarking and aggregation to extract insights into building DF about magnitude, consistency, and influential factors.

This webinar presented more attention from energy audience to focus on the grid-interactive efficiency buildings and participate in the SBCS subcommittee and associated task forces. The presented work also provided cutting-edge research outcome for the community.

Meeting contact: Rich Kolodziejczyk, P.E.

Guest Attendance: 1

IEEE Member Attendance: 2

2023 Berkshire Section Officers:

On January 19, the EXCOM has voted new Berkshire Section Officers:

Section Chair	James McVeigh
Section Vice Chair	Rich Kolodziejczyk
Treasurer	Roger Manzolini
Secretary	Dave Rueger

The NOMINATING COMMITTEE consisted of Dave Rueger, George Haus and George Gela.