

**Update:** December 2021

**Computer and Control Chapter Presented:** December 28

**Ancient Computer NOVA HD  
(VIDEO)**

Ancient Computer was an episode of Nova starring Mike Edmunds, Tony Freeth, and Panagiotis Tselekas. The arms and faces of ancient statuary litter the seabed at the site of a shipwreck off the coast of Greece. But that's not the most interesting find. Encrusted with over 2,000 years of mineral deposits are highly engineered gears clearly visible as part of a mysterious device dating back to about 50 BCE. Using X-ray technology and working off of the realization that the gears' teeth are prime numbers relating to astronomy, the device was revealed to be the earliest known computer used for predicting eclipses and demonstrating planetary motion.

An ancient analog computer designed to predict astronomical positions and eclipses. It was recovered in 1900–01 from the Antikythera wreck, a shipwreck off the Greek island of Antikythera. The instrument has been designed and constructed by Greek scientists and dated between 150 to 100 BC. Technological artifacts approaching its complexity and workmanship did not appear again until the 14th century, when mechanical astronomical clocks began to be built in Western Europe.

This is event was free, but the registration was required.

Meeting contact: Rich Kolodziejczyk, P.E.

**Guest Attendance: 0**

**IEEE Member Attendance: 5**

# **IEEE Berkshire Section Newsletter**

## STEM Research Challenge - 2022

Papers Due – March 7, 2022



# IEEE

Berkshire Section

## HIGH SCHOOL

# STEM Research Challenge - 2022

Papers Due – March 7, 2022

### *AWARDS:*

*Awards will be made in two divisions; grades 9–10, and grades 11–12.*

*Each division will be eligible for the following prizes:*

***FIRST: \$800, SECOND: \$400, THIRD: \$200***

Winning authors are invited with their parents and teacher to the  
May 6th IEEE Annual Meeting to comment on their papers.

*(Note: In 2020 and 2021 we were unable to have the Annual Meeting due to the coronavirus pandemic.)*

An *Honorable Mention* will be awarded to the student with the best qualifying paper in each participating school division with no prize awarded.

For additional information, see: <http://www.ewh.ieee.org/r1/berkshire/>

[Life Member Affinity Group Presented Zoom Meeting: December 15](#)

**Realizing The Promise of Smart & Connected Cities**  
**By**  
**Carlos Jiminez**

The cities around the world are, more and more, aiming at becoming a smart city. But what is a smart city? What is behind the concept: a trendy term or real implementation? What does therefore becoming smart entail and what type of initiatives and technologies can make a city smart(er)? During this presentation, all these questions will be discussed, taking into account that a smart city is a multi-dimensional and multi-stakeholder phenomenon that requires decisions about goals (the vision), tools (the technology), and processes (among other, the engagement of citizens and other stakeholders).

Carlos E. Jimenez-Gomez is an independent consultant in Government Digital Transformation. He has 30 years of experience in the public sector. He has worked for governments and international organizations in Europe, Middle East, North of Africa, and America, having participated in the elaboration of important policy documents, like the Ibero-American e-Government Interoperability Framework, officially signed by 21 countries in 2010.

This is event was free, but the registration was required.

Meeting contact: Rich Kolodziejczyk, P.E.

**Guest Attendance: 0**

**IEEE Member Attendance: 1**

# **IEEE Berkshire Section Newsletter**

[Life Member Affinity Group Presented Live Stream: December 7](#)

## **IEEE Seattle Financial Summit 2021**

Live Stream from 3:00 pm to 8:00 pm was presented with top speakers presenting on new and innovative techniques in the Financial Industry.

Speakers: Smith, Jones, Larson, Riley, and James reported on:

- Securities
- Long Term Care
- Insurance
- Mutual Funds
- The Best Financial Institutes
- Real Estate
- Business exit Strategies
- Estate Planning
- College at 50% off
- IRA
- Tax Laws
- Retirement Planning

This event was free, but the registration was required with the Seattle section.

Meeting contact: Rich Kolodziejczyk, P.E.

**Guest Attendance: 0**

**IEEE Member Attendance: 1**

# **IEEE Berkshire Section Newsletter**

## **2022 IEEE Berkshire Section Officers Nominations**



**Berkshire Section**  
<http://www.ieee.org/berkshire>

2 December 2021

Dear Member:

The nominating committee has proposed the following slate for the 2022 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 31, 2021 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 Zoom Meeting: November 30**

IEEE Std 3003.2-2014 IEEE  
Recommended Practice for Equipment Grounding and Bonding in Industrial  
and Commercial Power Systems  
By  
Raymond Strittmatter

The event was free but **pre-registration was requested**. **More information** and the Registration Form was located at the **following link**:  
**<https://events.vtools.ieee.org/m/289812>** . Access Codes were send out the day before the event.

The grounding and bonding of equipment in industrial and commercial power systems was covered in this recommended practice. The interconnection and grounding of the non-electrical metallic elements of a system were covered first. This was followed by a discussion of the objectives of equipment grounding and bonding, including minimizing electric shock hazard to personnel, providing adequate current carrying capability for ground faults, and ensuring the timely operation of overcurrent protection.

This Tech Talk cover the following:

- AC Substation Grounding Grid Design Basics
- Low Resistance Vs. High Resistance Vs. Solidly Grounded DC Equipment Enclosures
- Grounding Methods for Passenger Station Platform Screen Doors

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Raymond Strittmatter, Senior Systems Project Engineer at Lea+Elliott, Inc. Design, computer modeling, and onsite tender documents preparation for the Dubai Route 2020 Project's 132kV/33kV/750Vdc power distribution networks for a new 15km 3rd rail transit system and upgrading the existing Red and Green Lines for 90 second train headways. Project involves three new 132kV/33kV Main Power Substations with 132kV & 33kV GIS, 33kV power distribution system, and DC WESS & reversible substations for the world's longest driverless train system with no onboard braking resistors. Raymond graduated from the Gannon University in Erie Pennsylvania.

Meeting contact: Rich Kolodziejczyk, P.E.

**Guest Attendance: 0**

**IEEE Member Attendance: 2**

**Power Chapter Presented Zoom Meeting: October 28**

**THE BENEFITS OF ESTER TECHNOLOGY**

**By  
Dr. Kevin Rapp**

The event was free but **pre-registration was requested**. **More information** and the Registration Form was at the **following link**: [DEIS Technical Talk - Benefits of Ester Technology: vTools Events \(ieee.org\)](#)

The presentation and discussion of the benefits of ester technology begin with details and history of the invention of “natural ester liquids for use in electrical equipment.” The main differences between natural and synthetic ester liquids versus mineral oil was explained. The application of mainly natural ester liquids in transformers and other electrical devices was presented along with field data that was utilized to establish standard values used to develop IEC 62975 Use and Maintenance Guide published in 2021. The specific properties of ester liquids which promote their use and establishes their superior performance that provides end users with more robust transformers. Finally, a discussion on the how’s and why’s that make the world a better place with the use of natural ester liquids in transformers.

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Kevin J. Rapp earned his degree in Chemistry from the University of Wisconsin-Parkside. He is the Principal Scientist for the Global Dielectric Fluids business of Cargill Bioindustrial since June of 2012. Previously, Kevin spent 36 years with Cooper Power Systems (CPS), now Eaton, including 27 years in R&D where he co-invented FR3™ fluid and found that ester liquids enhance the life of cellulose insulation which an extend the life of an insulation system in transformers. Kevin is involved in numerous international standards working groups as Technical Advisor/Chairman of the United States National Committee (USNC) of ANSI/IEC Technical Committee 10 (TC 10 - insulating fluids), and USNC technical expert on TC 14 - power transformers, TC 31 – Equipment for Explosive Environments, TC 89 – Fire Testing and TC 112 – Electrical Insulation Systems.

He holds many patents and has published and presented numerous technical papers at conferences around the world. Kevin is a member of the American Chemical Society (ACS), American National Standards Institute (ANSI), American Oil Chemists Society (AOCS), American Society for Testing Materials (ASTM), CIGRE, IEC and IEEE.

Meeting contact: Rich Kolodziejczyk, P.E.

**Guest Attendance: 0**

**IEEE Member Attendance: 3**

**Life Member Affinity Group Dinner Meeting: August 26**

**Estate Planning – It's for Everyone**

**By**

**Stephen P. Galib CRPC**

This talk was to provide an overview to an Estate Planning.

The following was planned for the discussed:

- Why you need an estate plan
- Getting started: the essential documents; for example, power of attorney (POA)
- Durable POA for financial matters
- Health care documents
- Last will and testament
- Revocable trust
- Other considerations
- How to find an experienced professional

Although estate planning may seem complex, working with an experienced professional will help ensure that your plan will meet your needs.

However, the talk was **CANCALED** due to lack of interest.

Meeting contact: Rich Kolodziejczyk, P.E.



**Berkshire Consultants Network Presented Annual Dinner Meeting: July 24**

**Experiencing Hubble – The Greatest Images of the Universe**

By

**David M. Meyer, Ph.D.**

**(VIDEO Part 3)**

As we continue the study of the Hubble Space Telescope (HST) which revolutionized our understanding of the universe both near and far. Its stunning images of stars, nebulae and galaxies have captivated our attention and inspired students of all ages. In these two parts videos we will view the scientific stories behind 10 of HST's most spectacular images. These images were chosen on the basis of their visual beauty and scientific impact. Out of these ten images, due to time constraints, we can only view two lectures tonight: **The Sagittarius Star Cloud and The Star Factory inside the Eagle Nebula.**

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The videos were narrated by David M. Meyer, a Professor of Physics and Astronomy, director of Dearborn Observatory, and co-director of the Center for Interdisciplinary Exploration and Research in Astrophysics at Northwestern University. He received his B.S. in Astrophysics at the University of Wisconsin-Madison after completing a senior honors thesis on ultraviolet interstellar extinction. Professor Meyer earned his M.A, and Ph.D in Astronomy at the University of California, Los Angeles.

Meeting contact: Rich Kolodziejczyk, P.E.

**Guest Attendance: 7**

**IEEE Member Attendance: 4**

# IEEE Berkshire Section Newsletter



Berkshire Section members and guests observing the VIDEO

**Berkshire Consultants Network Presented Annual Dinner Meeting: June 24**

**Experiencing Hubble – The Greatest Images of the Universe**

By

**David M. Meyer, Ph.D.**

**(VIDEO Part 2)**

The study of the Hubble Space Telescope (HST) continued. The HST revolutionized our understanding of the universe both near and far. Its stunning images of stars, nebulae and galaxies have captivated our attention and inspired students of all ages. In two videos, we viewed the scientific stories behind 10 of HST's most spectacular images. These images were chosen on the basis of their visual beauty and scientific impact. Out of these ten images, due to time constraints, we viewed: The **Sagittarius Star Cloud** and **The Star Factory Inside the Eagle Nebula**.

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Meeting contact: Rich Kolodziejczyk, P.E.

**Guest Attendance: 12**

**IEEE Member Attendance: 9**

**From Award Chairman:**

Our chairman announced that there were no applications this year for the 2021 Member Child Awards: **No applicants this year, no winners.**

# IEEE Berkshire Section Newsletter



Berkshire Section members and guests observing the VIDEO



# **IEEE Berkshire Section Newsletter**

## **2021 IEEE Berkshire Section STEM Research Challenge Winners**

The following winners are students from the Berkshire County high schools' grades 9, 10, 11 and 12. Although, we could not have students at our annual dinner meeting this year due to the COVID-19, we recognized the winning papers with our usual awards to students for their topic research and interesting discoveries.

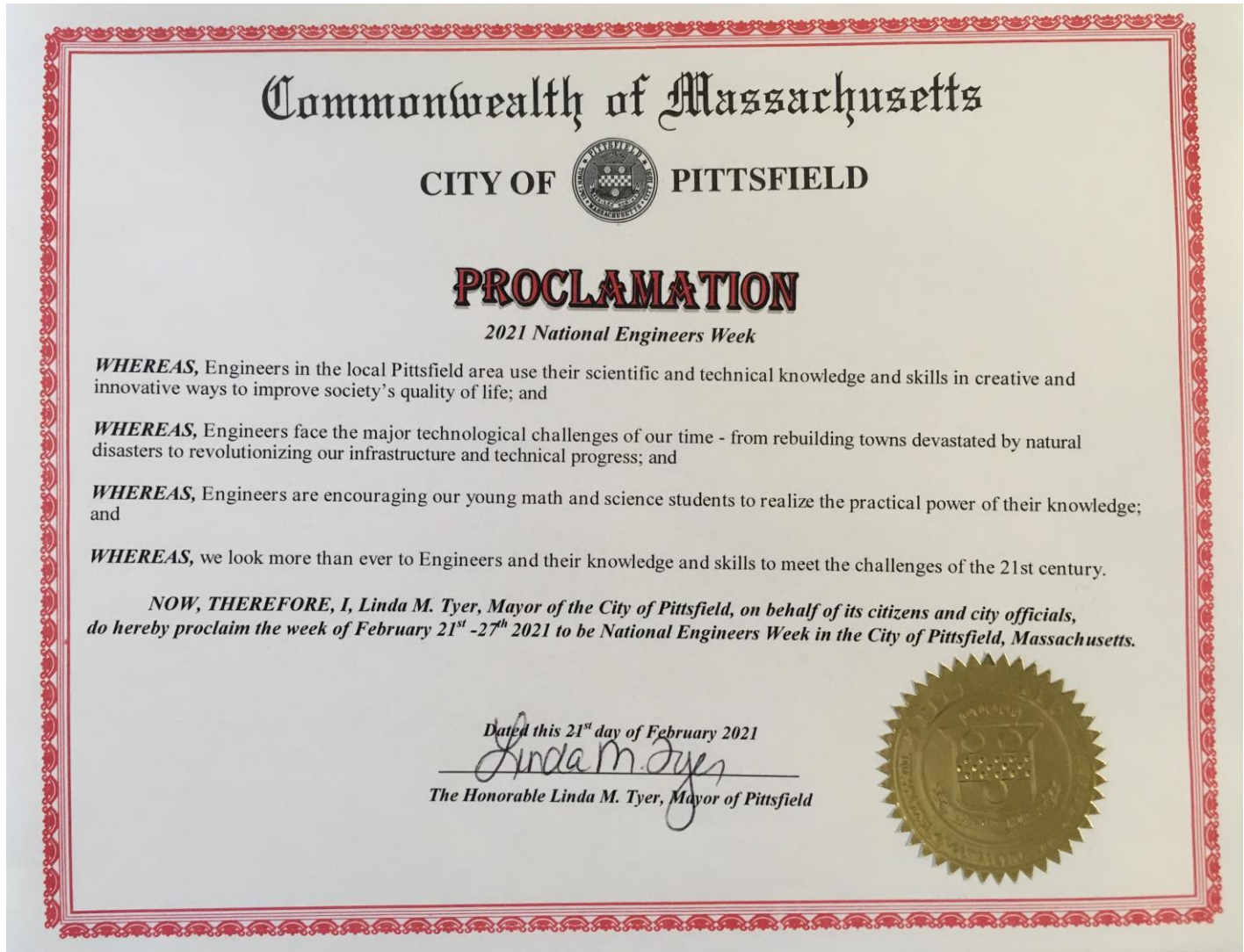
### **Grades 9/10 prizes: (1st - \$800, 2nd - \$400, 3rd - \$200)**

- 1<sup>st</sup> – Lucia Cicerchia** - Grade 9, Mount Everett Regional High School  
“Do Re Mi(nd): the Effects of Music on Medicine and Why They Should Exist Simultaneously”
- 2<sup>nd</sup> – Fernanda Morais-Laroça** - Grade 10, Miss Hall's School  
“GRAVITATIONAL WAVES AND LIGO”
- 3<sup>rd</sup> – Emily Steuernagle** – Grade 9, Mount Everett Regional High School  
“Subliminal Messaging and How It Affects Behavior”

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

- 1<sup>st</sup> – Katherine Kerwood** - Grade 12, Miss Hall's School Teacher  
“The *Challenger* Disaster of 1986”
- 2<sup>nd</sup> – Christina Zheng** - Grade 11, Miss Hall's School  
“Electronic Cigarettes: A Catalyst for Lung Diseases”
- 3<sup>rd</sup> – Emma Puleri** - Grade 11, Lee Middle and High School  
“America is Burning”
- 3<sup>rd</sup> – Lauren Durken** - Grade 12, Lee Middle and High School  
“Stem Cell Use in Organ Transplants”

**Proclamation for 2021 National Engineers Week:**



## **IEEE Member Discounts**

Emily Surratt, Sr. Administrator Member Group Insurance Programs, Finance and Administration is asking to promote the IEEE Member Discounts to local members.

The Member Discounts is the IEEE member benefit program that features group insurance and sponsored discounts, exclusively to members.

The IEEE Member Discounts Program:

- All visual communications were redesigned, including the Member Discounts banner ad and the Member Discounts website ([www.ieee.org/discounts](http://www.ieee.org/discounts)). You can download the new Member Discounts banner in a size of your choice by going to the [IEEE Promo Library](#) and hyperlink the new banner ad to [www.ieee.org/discounts](http://www.ieee.org/discounts).
- The MGA Board approved the following two new member discounts in 2020:
  - Wolfram - Mathematica technical computing software, available to students and professional members worldwide
  - GradFin- student loan refinance advisory available for US borrowers
  - More new discounts coming in 2021
- Now, members may register for the “[Insurance Circuit](#)”, a free, monthly newsletter from Mercer, which covers news and information about the IEEE Member Group Insurance Program and financial wellbeing.

IEEE members can save on insurance and a variety of products and services (where available) as a benefit of IEEE membership. Discover what [IEEE Member Discounts](#) can offer you, see below.

**The IEEE Member Group Insurance Program Administrator, Mercer, is providing free information as a benefit of your membership (US, Canada & Puerto Rico)**

As a member of the IEEE Member Group Insurance Program, you may receive a free monthly email newsletter called "The Insurance Circuit eNewsletter."

**IEEE Member Discounts Marketplace presents:  
Protect your family and save on legal fees (available in the US)**

IEEE members in the US can get a discount on America's number one estate planning software, offering a step by step easy to use interview format that lets you complete documents at your own pace.

# **IEEE Berkshire Section Newsletter**

## **Take advantage on Dell equipment in the month of February (available in the US)**

IEEE members in the US can save on Dell equipment throughout the month of February.

## **UPS discounts (US and Canada)**

[Sign into the member-only UPS Program \(US and Canada\)](#)

## **IEEE members get a 35% discount on all Wiley Books**

[Sign in to get a 35% discount on all Wiley books and access the discount code](#)

## **The IEEE Car Rental Discount Program**

[Visit the IEEE Car Rental Program to learn more](#)

## **Member Discount for Proceedings of the IEEE Special Issues**

For questions, please email [proceedings@ieee.org](mailto:proceedings@ieee.org) [Sign in to access the discount code](#)

## **The IEEE Learning Network**

[Visit iln.ieee.org to learn more](http://iln.ieee.org)

## **IEEE Member Digital Library: Get comprehensive access with two great options**

[Learn more about the IEEE Member Digital Library or the IEEE Member Digital Library Basic](#)

## **IEEE Society memberships**

[Learn more about IEEE Society memberships](#)



# **IEEE Berkshire Section Newsletter**

## **2021 Berkshire Section Officers:**

On January 20, 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 George Haus, Bert Pritchard, and George Gela.