

# IEEE Berkshire Section Newsletter

Update: December 2019

## Life Member Affinity Group Dinner Meeting: November 22

Tour of New Taconic High School  
by

Jason P. McCandless, Ed.D. Superintendent of Schools and  
Tammy Gage, M.Ed. Assistant Superintendent for College and Career Readiness

The new Taconic High School opened in the fall of 2018. Construction to replace the original Taconic High School, which opened in 1970, began in March of 2016. Taconic High School continues a proud tradition of featuring exciting and vital Career and Technical Education (CTE) courses for its students and is the home of vocational education in the City of Pittsfield, as well as serving students from several neighboring communities.

The 242,000 square foot building features 11 CTE areas of study including the new and much anticipated Electrical program--a much-needed profession in every community in the Berkshires and beyond. Under the leadership of Assistant Superintendent for College and Career Readiness, Tammy Gage, our CTE student body has grown from just over 100 students in 2012 to more than 400 students in 2019, providing a more stable and sustainable workforce for all communities in Berkshire County.

Meeting contacts: Rich Kolodziejczyk, P.E.

**Guest Attendance: 10**

**IEEE Member Attendance: 11**



Rich Kolodziejczyk, Section Vice-Chair, opens the meeting with speaker introduction

# IEEE Berkshire Section Newsletter



Speaker: Jason P. McCandless, Ed.D. Superintendent of Schools starts his presentation



Jason P. McCandless acknowledges the Taconic Culinary Team

# IEEE Berkshire Section Newsletter

## Computer and Control Chapter (C&C) Meeting: October 23

Modern Data Storage and Backup Solutions

“I have Terabytes of Data that I cannot afford to lose. Where do I keep it?”

by

Michael Glaberman

CGC IT Solutions + Genesis 10

If you are like most computer users, you have gigabytes or terabytes of data! This data can come in the form of communications, logs, reports, and various files or file types. Regardless of its origin, this data must be stored somewhere and somehow. For some people, local storage may be enough. However, in many cases important data must be preserved. A backup solution should be implemented to ensure that data is not lost should a disaster occur. This presentation provided several different Data Backup Solutions to keep your data at rest, safe and accessible in the future.

Meeting contacts: Rich Kolodziejczyk, P.E.

**Guest Attendance: 1**

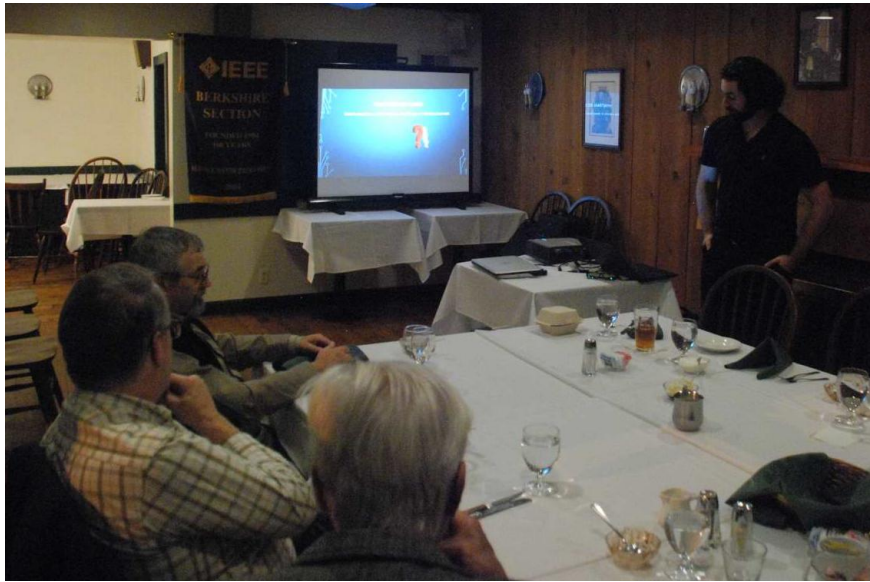
**IEEE Member Attendance: 7**



Rich Kolodziejczyk, Section Vice-Chair, opens the meeting with speaker introduction



# IEEE Berkshire Section Newsletter



Speaker: Michael Glaberman starts his presentation



Michael is presented with a gift from Rich Kolodziejczyk on behalf of the IEEE Berkshire Section

**Power Chapter Meeting: October 17**

Thomas Alva Edison – The Father of Invention  
Documentary Video (Part 2)

Thomas Edison, a forerunner of American innovation and invention, was responsible for developing many modern devices. He created the first organized industrial research laboratory where he and a team of scientists and dedicated innovators brought to life the light bulb, home electricity, car batteries, movies, music players, and thousands of other innovations.

Edison's curiosity led him to greatness. With just three months of formal schooling, he took on one daunting technical challenge after another. Most of Edison's knowledge was obtained through self-study and training. Through unwavering trial and error along with a unique team approach to innovation he was able to solve numerous engineering problems. Once, asked in what his interests lay, Edison smilingly responded, 'Everything.' If we ask ourselves where the fruits of his life are seen, we might well answer, 'Everywhere.'

A narrative video about Edison's remarkable business of innovation and some of his 1,093 patented devices is in two parts, the second Part 2, will be presented at the second meeting to be planned later this year.

Meeting contacts: David Rueger, Power Chapter Chair

**Guest Attendance: 3**

**IEEE Member Attendance: 11**

# IEEE Berkshire Section Newsletter



Rich Kolodziejczyk, Vice-Chairman, opens the meeting with introduction to documentary video (Part 2)



Berkshire Section members and their guest watching the video attentively!

# IEEE Berkshire Section Newsletter



Thomas Edison at his best, thinking about his next invention!



**Computer and Control Chapter (C&C) Meeting: September 26**

LiDAR and Haptic Feedback: An Aid for the Visually Impaired

by

Thomas P. Sullivan, Engineer  
General Dynamics Mission Systems

The LiDAR is a surveying technology that measures distance by illuminating a target with a laser light. Although thought by some to be an acronym of Light Detection and Ranging, the term lidar was actually created as a portmanteau of "light" and "radar".

LASERs have many uses today. They are used in surgery, surveying and scientific instruments. LASERs can help us explore the region near absolute zero and they can be used to scan the earth to determine elevation. They can also give us a cut line on a chop saw and they can even be bounced off a reflector on the moon.

Another use for LASERs started with a chance meeting at a piano bar. Then a friend's terrible accident a year later led Thomas to develop two devices to help the visually impaired using a time-of-flight LASER sensor.

Meeting contacts: Rich Kolodziejczyk, P.E.

**Guest Attendance: 10**

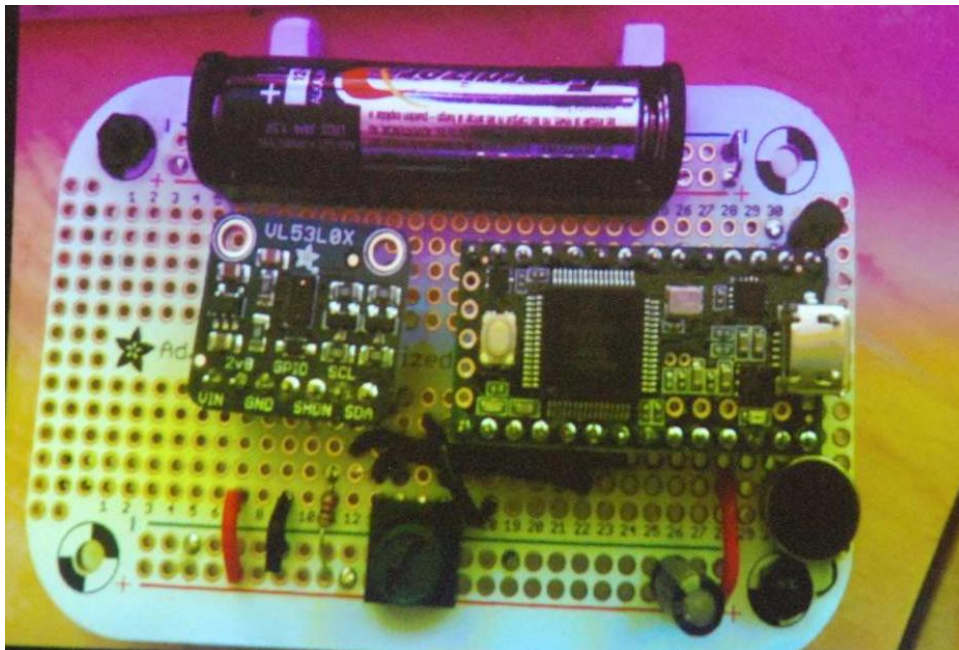
**IEEE Member Attendance: 6**



# ◆ IEEE Berkshire Section Newsletter

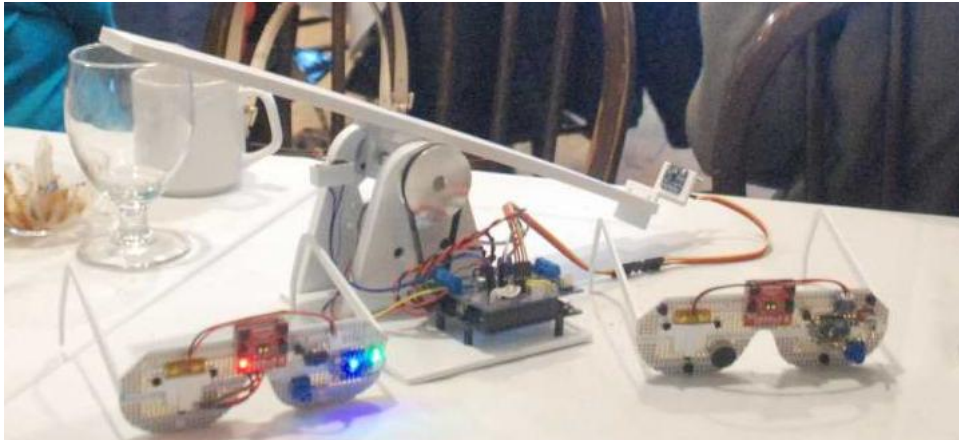


Thom Sullivan attempts to explain the LiDAR as a surveying technology that measures distance by illuminating a target with a laser light



Prototype circuit board used in Tom's experiments

# IEEE Berkshire Section Newsletter



Initial prototype glasses for the visually impaired as developed by Tom Sullivan using the LiDAR and Haptic Feedback



Tom is presented with a gift from Rich Kolodziejczyk on behalf of the IEEE Berkshire Section

**Power Chapter Meeting: June 27**

Thomas Alva Edison – The Father of Invention  
Documentary Video (Part 1)

Thomas Edison, a forerunner of American innovation and invention, was responsible for developing many modern devices. He created the first organized industrial research laboratory where he and a team of scientists and dedicated innovators brought to life the light bulb, home electricity, car batteries, movies, music players, and thousands of other innovations.

Edison's curiosity led him to greatness. With just three months of formal schooling, he took on one daunting technical challenge after another. Most of Edison's knowledge was obtained through self-study and training. Through unwavering trial and error along with a unique team approach to innovation he was able to solve numerous engineering problems. Once, asked in what his interests lay, Edison smilingly responded, 'Everything.' If we ask ourselves where the fruits of his life are seen, we might well answer, 'Everywhere.'

A narrative video about Edison's remarkable business of innovation and some of his 1,093 patented devices is in two parts, the second Part 2, will be presented at the second meeting to be planned later this year.

Meeting contacts: David Rueger, Power Chapter Chair

**Guest Attendance: 3**

**IEEE Member Attendance: 13**



# IEEE Berkshire Section Newsletter



Dave Rueger, Power Chapter Chair, opens the meeting with topic introduction



Berkshire Section members and guests socializing during dinner



# IEEE Berkshire Section Newsletter

## Berkshire Consultants Network Dinner Meeting: June 13

Berkshire Innovation Center  
by  
Scott Longley  
Executive Director  
Berkshire Innovation Center

Scott Longley presented the focus on the Berkshire Innovation Center, and the unique model it is in the process of implementing in order to stimulate innovation and investment in Berkshire County, and the critical roles Engineers will play in revitalizing the economy of Berkshire County.

Meeting contacts: Rich Kolodziejczyk, P.E.

**Guest Attendance: 5**

**IEEE Member Attendance: 9**



Speaker: Scott Longley starts his presentation

# IEEE Berkshire Section Newsletter



Scott points to the Berkshire Innovation Center physical location



Scott is presented with a gift from Rich Kolodziejczyk on behalf of the IEEE Berkshire Section

**Life Member Affinity Group Presented Annual Dinner Meeting: May 10**

**2019 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 prizes: (1st - \$600, 2nd - \$400, 3rd - \$200)**

**1<sup>st</sup> - Asa Stone** – Grade 10, Lee Middle High School: “Promising New Therapies for Spinal Cord Injuries”

**2<sup>nd</sup> - Alec Bachman** – Grade 10, Monument Mountain Regional High School: “The Modern Allergy Dilemma”

**3<sup>rd</sup> - Abigail Zeik** – Grade 10, Monument Mountain Regional High School: “Antibiotic Resistance”

**Honorable Mention – Selina Li**, Grade 10, Miss Hall's School: “History and Possible Effects of Autophagy Research”

**Honorable Mention – Alyssa Mercier**, Grade 10, Pittsfield High School, “Electric Versus Gas-Powered Vehicles”

**Grades 11/12 prizes: (1st - \$600, 2nd - \$400, 3rd - \$200)**

**1<sup>st</sup> – Jillian Artioli** – Grade 12, Lee Middle High School: “Microfragmenting Our Oceans Back Together”

**2<sup>nd</sup> – Julie Xu** – Grade 12, Miss Hall's School: “Bacteria Battle”

**3<sup>rd</sup> – Emily Mazzeo** – Grade 11, Pittsfield High School: “The Mysterious Microbiome: Science’s Secret Tool for Transforming All Blood Types into Type O, the “Universal Donor””

**Honorable Mention – Zachary Goffin**, Grade 11, Monument Mountain Regional High School, “You are What You Eat and Where You Live”

# **IEEE Berkshire Section Newsletter**

## **From Award Chairman:**

Rich Kolodziejczyk our Chairman announced the list of winners of the Member Child Awards for 2019 Member Child Awards \$100: **No applicants this year, no winners.**

**Meeting contacts:** James F. McVeigh, Education Chair  
**Guest Attendance: 23**  
**IEEE Member Attendance: 8**



James McVeigh, Education Chair, opens the meeting with Research Challenge Winners introduction



# IEEE Berkshire Section Newsletter



**First Place Winners:** Asa Stone – Grade 10, Lee Middle High School and Jillian Artioli – Grade 12, Lee Middle High School



**Second Place Winners:** Alec Bachman – Grade 10, Monument Mountain Regional High School and Julie Xu – Grade 12, Miss Hall's School

# IEEE Berkshire Section Newsletter



**Third Place Winner:** Emily Mazzeo – Grade 11, Pittsfield High School and  
**Honorable Mention** – Selina Li, Grade 10, Miss Hall's School

**Berkshire Consultants Network Presented National  
Engineers Week Dinner Meeting: February 21**

2018 Tax and Social Security Considerations  
By  
Stephen P. Galib CRPC

This talk provided an overview of the Income Tax Changes of 2018 and Social Security Considerations. In summary, the tax update for the Tax Cuts and Jobs Act of 2018 were considered:

- Tax Rates and Brackets (2017 vs 2018)
- Capital Gains rates and breakpoints
- Deductions – standard and itemized
- New Kiddie Tax Rules
- Child Tax Credit
- New Alimony Rules
- Estate and Gift Tax Rules
- Loans from Qualified Plans (e.g. 401(k) Loans)
- Qualified Business Income Deduction

Also, the some clarifications were provided for the MA Death Tax to include: Taxable Estate Determination, Tax Determination, Tax Table and Examples.

Then, the Social Security Claiming Rules reviewed included:

- Old Age Retirement
- Spouse options (current and former spouses)
- Survivor options
- Disability
- Claiming considerations

Meeting contacts: Rich Kolodziejczyk, P.E.

**Guest Attendance: 8**

**IEEE Member Attendance: 11**

# IEEE Berkshire Section Newsletter



Rich Kolodziejczyk, Section Vice-Chair, opens the meeting with speaker introduction



Speaker: Stephen P. Galib, starts his presentation



# IEEE Berkshire Section Newsletter



Stephen P. Galib explains the 2018 Income Tax changes



Steve is presented with a gift from Rich Kolodziejczyk on behalf of the IEEE Berkshire Section