

IEEE Berkshire Section Newsletter

Update: December

[Computer and Control Chapter \(C&C\) Meeting, December 15, 2011](#)

Fourier Transforms by Franklin A. Fisher

The talk provided some introductory discussions of how to transform data between the time domain and the frequency domain, with special attention to time domain data taken by digital oscilloscopes. The intent was to minimize discussion of the purely mathematical aspects of such transformations, but instead to focus on some of the practical aspects, such as how much time data to accumulate, when and how to minimize noise in the measurements and how to apply windows to the data. Using software written in the BASIC language it was shown several examples of data, presented in both the time and frequency domain. The discussions included aspects of the discrete Fourier transforms, DFT, and the fast Fourier transform, FFT.

The copies of the presentation materials, and the software used to generate the material were made available for distribution at the meeting.

Meeting contact: Bert Pritchard, C&C Chair

Guest Attendance: Not available

IEEE Member Attendance: Not available



Frank Fisher, C & C Guest Speaker

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[STEM Fair at Berkshire Community College](#)

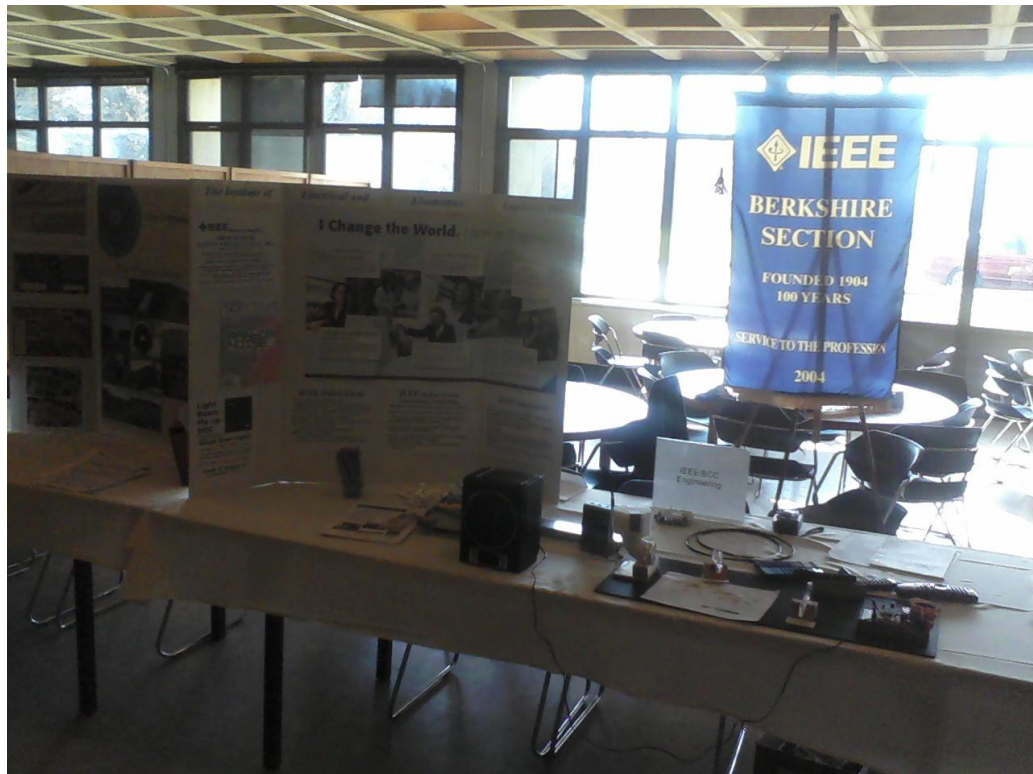
George Haus, Education Chair and Jim McVeigh, Secretary attended 2011 STEM Fair.

"We had 384 students from 11 schools attending in two sessions. The materials received from Paola Bringas, Administrative Assistant, Women in Engineering were well received by the girls that visited our table. There was very little left when the fair concluded. Boys also were attracted to the display and were quick to note that they were also were interested in going into engineering, with our compliments and encouragement.

I did save enough (14 sets) to give to the science teachers who participate in our IEEE Science Writing Contest. Your "Fold-Out" display was well received and the students were impressed that electrical engineers do become major participants in a wide range of the 'science' fields.

Our 'hands-on' display (attached) was the 1880 'photophone' invented by Alexander G, Bell, and since bolstered with electronics and fiber optics to become a major part of current communications systems. The students also had a good time experimenting with the display".

STEM Fair Contact: George Haus, Education Chair



STEM Fair at Berkshire Community College

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George Haus explains engineering to students

[Berkshire Consultants Network Dinner Meeting, October 27, 2011](#)

Bio-Fuel Renewable Power in the Berkshires by Stephen A. Sears

Berkshire Renewable Power (BRP) is a project development company that is seeking to deliver renewable energy solutions that will offer reliable, base-load power while achieving environmental benefits and economic growth for Berkshire County. In reaching for this goal, BRP has selected an innovative technology and is teaming up with several partners. BRP is planning to build and operate a bio-fuel production facility on Crane & Co., Inc.'s Ashuelot Park property on the border of Dalton and Pittsfield. The primary feedstock for the plant will consist of various types of clean wood and possibly algae. The output of the plant will be bio-fuel suitable for use in a diesel driven generator to supply electrical energy to Crane. This fuel will also be a substitute for fossil fuel in natural gas and oil-fired boilers used to produce steam for manufacturing processes and building heat. In addition, bio-fuel will also be dispatched locally to replace fossil fuels at other area institutions and businesses to generate electricity and/or produce heat.



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Meeting contact: Richard Kolodziejczyk, PACE Chair
Guest Attendance: 11
IEEE Member Attendance: 16

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[Power Chapter Meeting Tour, October 22, 2011](#)

Solar Electric Saving - The Home Owner & the Environment Tour of the Installation

by

Dave Robbins

Simulation Engineer at the Electric Power Research Institute (EPRI)

A renewable energy system that doesn't pollute, enhances energy security, and most importantly, provides tax credits and ongoing savings and energy credits for the homeowner. Like many other homeowners Dave Robbins has been concerned about rising energy costs and the environmental impact of our mostly carbon-emitting conventional energy sources. Dave Robbins described how to create a renewable energy solution that can save you money and save our world!

In addition, Dave also has a ham radio station (with a 180' tower) and high voltage insulator gallery which he proudly demonstrated.



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Meeting contact: **David Rueger**, Section Chair
Guest Attendance: 3
IEEE Member Attendance: 8

[Computer and Control \(C&C\) Chapter Presented: September 22, 2011](#)

Cloud Computing

by

Dr. James Kilbride

Dr. Kilbride provided an introduction to cloud computing, the next iteration of users, applications, data and computing resource architecture. His talk describe some of the historical elements that contributed to cloud computing, as well as the elements of cloud computing that are truly new. This included a description of the variants of clouds, IaaS, PaaS, SaaS, DaaS, Private, public, etc. It also look at how these variants solve different problems and the use and challenges cloud computing has today.

The discussion also included a brief overview of some emerging trends which promise new capabilities and offerings in the cloud computing space.

Meeting contact: Bert Pritchard, C&C Chapter Chair

Guest Attendance: 10

IEEE Member Attendance: 20

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From Award Chairman Bernard Clairmont:

Here is the list of winners of the BCC and Member Child Awards for 2011:

Berkshire Community College (BCC) \$100 Award: Jennifer Viola

Member Child Awards \$100: Jill Carter
 Iris Laurent
 Joshua Clairmont
 Justin Clairmont

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IEEE Berkshire 2010 Scholar Award

GR Haus, Education Chair

Final report August 15, 2011

Fourteen awards (\$500) have been made this year to students who graduated in 2010 and have successfully completed their first semester and were enrolled in the second. One student from 2008, (Chamberlain) took a year as a Rotary Exchange student in Argentina and is now enrolled at UMASS.

<u>Student</u>	<u>Major/College</u>	<u>High School</u>
Kristie Kordana	Engineering at Roger Williams University	CHMcCann
Jay Ringenbach	Engineering at WPI	Gateway
Victoria Hunt	Civil Engineering at RPI	Hoosac
Ashley Smith	Chem Eng, Foreign Languages at UMASS Amherst	Lee
Ryan Carty	Engineering at Northeastern University	Lenox
Norah (Noni) Crossnohere	Chemistry at Skidmore.	Miss Hall's
William Mills	Chemical Engineering at Northeastern	MonumentMt
Sterling Drake	Biomedical Engineering at Western New England	Mt Everett
Hannah Chamberlain	(2008) Environmental Science U Mass	Mt Everett
Jordan Hunter Tuboly	Computer Science at Wheaton College Mt	Greylock
Chad Civello	Engineering at University of New Hampshire	Pittsfield
Jessica Burke	Biochemistry and Forensic Science at Suffolk University	Taconic
Ryan Akramoff	Engineering at UMASS Amherst	St Joeseeph
Jesse Doble	Mechanical Engineering at UMASS Amherst	Wahconah

[Berkshire Consultants Network Dinner Meeting, June 23, 2011](#)

Trading Around a Position

**By
Roger Manzolini**

Roger presented an overview of options and how to use them to enhance our portfolio performance. The focus was on understanding options and how to use covered calls to create monthly cash flow or be forced to sell around a position at a profit.

Meeting contact: Richard Kolodziejczyk, PACE Chair

Guest Attendance: 5

IEEE Member Attendance: 13

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[Annual Dinner Meeting: Thursday, May 12, 2011](#)

What It Takes To Win the IEEE Science Writing Contest Presentations by Writing Contest Winners

Grades 9/10 prizes: (1st - \$100, 2nd - \$50, 3rd - \$25)

- 1st - **Katherina Lister** - Monument Mountain Regional High School
"Modeling Human Behavior as a Complex System"
- 2nd - **Emma Peplowski** - St. Joseph Central High School
"Producing Biofuels from Algae"
- 3rd - **Mollie Dimise** - Taconic High School
"Wind Energy Technology - the Future as I see it"

Grades 11/12 prizes: (1st - \$100, 2nd - \$50, 3rd - \$25)

- 1st - **Loren Amdahl-Culleton** - Monument Mountain Regional High School
"The Biochar Dispute: Whether Or Not The Process of Biomass Pyrolysis Has The Potential To Create A More Sustainable Energy Future"
- 2nd - **Rachael Bell** - Miss Hall's School
"Brain Development and the Recognition of Emotions"
- 3rd - **Alex Young** - Lee High School
"ACL Tears"

Meeting contact: **George Haus, Education Chair**

Guest Attendance: 20

IEEE Member Attendance: 31



**George Haus, Education Chair
IEEE Berkshire Section**



**2011 Science Writing Contest Winners
IEEE Berkshire Section**

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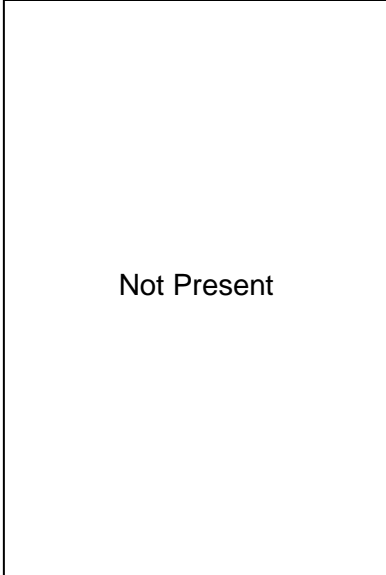
Grades 11/12 prizes: (1st, 2nd, 3rd)



**Loren Amdahl-Culleton - 1st
Monument Mountain Regional
HS**



**Rachael Bell - 2nd
Miss Hall's School**



**Alex Young - 3rd
Lee HS**

Grades 9/10 prizes: (1st, 2nd, 3rd)



**Katherina Lister - 1st
Monument Mountain
Regional HS**



**Emma Peplowski - 2nd
St. Joseph Central HS**



**Mollie Dimise - 3rd
Taconic HS**

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[Power Chapter Dinner Meeting: Friday, April 29, 2011](#)

SOLAR ELECTRIC - Saving the Homeowner & the Environment

By

Jon Child

Project Manager at Pioneer Valley PhotoVoltaics Cooperative (PV Squared)

And

Dave Robbins

Simulation Engineer at Electric Power Research Institute (EPRI)

A renewable energy system that doesn't pollute, enhances energy security, and most importantly, provides tax credits and ongoing savings and energy credits for the homeowner. It all starts with a phone call to a licensed energy system designer and ends with a turn-key solar electric product.

Like many other homeowners Dave Robbins has been concerned about rising energy costs and the environmental impact of our mostly carbon-emitting conventional energy sources. A good solution to this double crisis would involve a renewable energy source that avoids pollutant emission. An even better solution would be one where the non-polluting renewable energy source is supported by government and industry aid to the homeowner, but where does the average homeowner start? Let Jon Child and Dave Robbins tell you how they teamed up to create a renewable energy solution that can save you money and save our world!

Meeting contact: **Michael Forte, Vice-Chair Berkshire Section, Chair Power Chapter**

Guest Attendance: 15

IEEE Member Attendance: 17

[Engineers' Week Dinner Meeting: Thursday, February 24, 2011](#)

**The Challenge of the Multi-Generational Engineering Workforce
By
David Markham
Director of the Core Mission Integration
At
General Dynamics Advanced Information Systems**

Today's engineering environment at large companies most likely is a mix of people in different stages of their careers. Some baby boomers, some generation X and some generation Y. Each of these groups, at different stages of their careers, has very different career goals and expectations but more importantly have very different attitudes towards life, technology and, most importantly, work. These differences impact the way we work together, the work environment and most importantly the quality and innovation of the products and systems we design.

David Markham is the Director of the Core Mission Integration business area at General Dynamics Advanced Information Systems (GDAIS). His program responsibility at GDAIS includes the US Navy's Littoral Combat Ship and Joint High Speed Vessel core mission systems as well as several other surface Navy ship systems. Mr. Markham's experience at GDAIS has also includes Director of Engineering, Sr. Manager of Systems Engineering, Sr. Manager of Hardware Engineering and Manager of Business development. He has over 30 years experience in the defense and aerospace industry including over 20 years in design engineering at General Dynamics, Lockheed Martin and General Electric.

Meeting contact: **Richard Kolodziejczyk, PACE Chair**

Guest Attendance: 17

IEEE Member Attendance: 18

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Year 2011: David Rueger, Section Chair



Bert Pritchard releasing power to Dave Rueger at January 19 EXCOM