

**November 2007**See us on the WEB at: <http://www.ewh.ieee.org/r2/susquehanna>**November 2007 Section Meeting****“Energy Storage for Renewables –  
Background, Opportunities, and Research  
Experience at Elizabethtown College”**

Plan to join us to meet other members, enjoy a nice meal, and attend this month's talk at Elizabethtown College.

- Date:** Tuesday, November 13, 2007  
**Time:** 6:30 PM - Dinner  
7:30 PM - Presentation  
**Program:** Energy Storage for Renewables –  
Background, Opportunities, and Research  
Experience at Elizabethtown College  
**Presenters:** Troy McBride, Assistant Professor of  
Physics & Engineering, Elizabethtown  
College  
**Place:** Susquehanna Room in Myer Hall  
Elizabethtown College, Elizabethtown, PA  
**Dinner Cost:** \$12, \$6 for Students  
**Contact:** Dr. Troy McBride (by email if possible),  
Phone: 717-361-3755, E-mail:  
[mcbriDET@etown.edu](mailto:mcbriDET@etown.edu)  
**RSVP by Wednesday 11/07/07 so we can  
get the catering count right for our hosts.**

**Menu:** Spring Garden Salad, Grilled Boneless Chicken Breast w/Fresh Fruit Salsa, Smashed Red Skinned Potatoes with Fresh Garlic and Herbs, Fresh Asparagus Spears, Chocolate and White Chocolate Mousse layered in glass with cookie garnish, Rolls/Butter, Coffee/decaf/tea/ water, Rolls/Butter, Coffee/decaf/tea/ water  
(Vegetarian plate is possible if requested ahead of time.)

There is a significant need for cost effective, long lifetime, and low maintenance energy storage technologies. At Elizabethtown College, we are particularly interested in the development of improved moderate scale (10 kWhr – 1 MWhr) storage to accompany renewable generation (solar PV and wind) in remote installations, as well as grid-connected frequency regulation applications.

In this presentation, background information and an overview of opportunities in the area of energy storage for renewables support will be presented. In addition, we will present information on ongoing projects at Elizabethtown College. We have built a 200 ft<sup>2</sup> standalone solar-powered cabin. We are

now implementing a pneumatic-hydraulic energy storage system as the first test system, similar to a system described by researchers at the Swiss Federal Institute of Technology of Lausanne. We also have an ongoing EPA P3 (People, Prosperity, and the Planet) project on using hydrogen electrolysis and storage as a secondary energy storage system, for the situation when the primary system is full. A main motivation for these projects is to develop and provide highly reliable and stand-alone power systems for community-center buildings in rural village settings. Working with the Elizabethtown College Center for Global Citizenship and a consultant in South Africa, we traveled in March 2007 to the KwaZulu-Natal region of South Africa, meeting with local and regional leadership. Site photographs and initial designs for a standalone solar community-center building in a particular village in the Zulu region will also be presented.

**Directions**

**From Harrisburg:** Take Route 283. Follow 283 East to Elizabethtown/Hershey exit and turn right at the end of the ramp onto Route 743 South. Travel south on Route 743 to Elizabethtown. Turn left on Market Street (Route 230). Go past College Avenue and turn left onto Cedar Street. Follow directions from Cedar Street below.

**From Lancaster:** Travel west on Route 283 to the Elizabethtown/Rheems exit. Turn left at end of exit ramp onto Cloverleaf Road and proceed one mile to Route 230. Turn right and travel west to Elizabethtown. You will be on South Market Street. Several blocks past Lemon Street, turn right onto Cedar Street. Follow directions from Cedar Street below.

**From York:** Take Route 30 East. Get off after crossing the river and follow Route 441 north. Turn right on Route 743. You will go through Maytown and enter Elizabethtown. Turn left onto South Market Street. Travel several blocks and turn right onto Cedar street. Follow directions from Cedar Street below.

**From Cedar Street to Myer Hall:** You will see the college on your left. Park in the Elizabethtown Church of the Brethren parking lot at Mount Joy and Cedar Streets. Walk across Cedar Street to Myer Hall. Enter the Susquehanna Room by way of the ramp.

You can access other directions to Elizabethtown College at [www.etown.edu/web/directions](http://www.etown.edu/web/directions) and find campus maps at <http://www.etown.edu/campustour/campusmap>.

## October Section Meeting

On October 9<sup>th</sup>, our own Section's Life Fellow member, Dimitry Grabbe, presented an outstanding overview of the history of "contact physics". This covered from the early inception of welded electronic connections through the recent Wire EDM technologies. It was extremely obvious that our speaker was a true expert in his field and made the evening an event to remember.



## Job Announcement

A company is looking for a professional who balances their electrical design (fire alarms, power generation, security systems, lighting etc. etc.) and engineering expertise from an architecture or engineering consulting/service environment, with the ability to lead and manage a highly technical team of electrical experts across 3 offices (Albany, Boston, Washington DC) for the firm. For specific qualifications and to apply, contact:

Capstone, Inc., Jeff Dollar, Senior Project Manager  
518-783-9300 x106, [jeffd@capstone-inc.com](mailto:jeffd@capstone-inc.com)

## Capital Area Science and Engineering Fair

Penn State has been working since last year on restructuring the Capital Area Science and Engineering Fair which is a competition for middle and high school students. It is the region's fair that most schools support. Penn State Harrisburg

took the lead in offering leadership and collaboration as it moves forward. We were able to get all of the region's colleges and universities to participate financially and with personnel. We would like to ask faculty, students, and other professional members to become judges in this competition. The primary competition occurs on Thursday, February 14, 2008 from 8:00am - 3:00pm at the Whitaker Center in downtown Harrisburg. Additional information on this event can be found at

<http://www.whitakercenter.org/ScienceFair/index.asp>.

### Useful Information Column

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#### Q/A-C Column

Do you have any questions or comments? Call, email or FAX it to our Chair at the above address.

#### Newsletter Mailing or WEB Page Notification

If you do not receive your Newsletter, please notify AB Shafaye [mes121@psu.edu](mailto:mes121@psu.edu) or Soheil Tofighi [mtofighi@psu.edu](mailto:mtofighi@psu.edu). If you would like to convert from paper copy mailing of the Newsletter to WEB page delivery, please notify AB Shafaye, who serves as our Publisher.

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There is a WEB based interactive "change of address" form at:

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You can send an email to: [address-changes@ieee.org](mailto:address-changes@ieee.org)

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