



# *Giga-Joule*

May 2013

<http://www.ashrae4greenville.com/newsletter.php>

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## *Meeting Announcement*

The May meeting will be held on Thursday, May 9, at the Roper Mountain Science Center in the Paleo Lab in the Natural Science Building. For more information, please contact our Secretary, Liz Ambrose, at [secretary@ashrae4greenville.com](mailto:secretary@ashrae4greenville.com).

## *A Message from the President*

This month will be our last meeting of this 2012-2013 ASHRAE year, and it should be a good one. Heather Buckberry will be discussing HVAC Equipment Research at Oak Ridge National Laboratories. Thank you all who came to our presentation last month on responsible use of refrigerants and thermal storage-peak load avoidance. We look forward to seeing you all again this month.



Please be sure to take a look at our spring golf tournament, planned for May 10<sup>th</sup> at Furman University Golf Course. The forms will be included with the Giga-Joule email, and please contact Lee Chapman ([lee.b.chapman@jci.com](mailto:lee.b.chapman@jci.com) or 864-234-3802) to RSVP. We are always looking for new faces to participate on a committee or serve on the Board of Governors. If you would like to hear more information on what this would entail, please let me know.

All presentation slots for this ASHRAE year have been filled, so please take a look at the schedule at the bottom of this document and attend as many as possible. We still like to hear of ideas for future meetings, so please let me know if you have a topic that would make for a good meeting. ideas for future meetings, so please let me know if you have a topic that would make for a good meeting.

**Ryan Tonnsen**  
Greenville ASHRAE President  
[president@ashrae4greenville.com](mailto:president@ashrae4greenville.com)

## *Membership Corner*

**The ASHRAE Greenville Chapter is excited to welcome Tigue Garick as our new Membership Promotion Chair**

Please allow me to introduce myself. My name is Tigue Garick, and I will be serving as the new Membership Promotion Chair for our chapter. Originally from Orangeburg, SC, I am a 2003 graduate of Clemson University. I started my career with Ferguson Enterprises serving both the Asheville, NC and Greenville, SC market. In 2008 I joined the James M. Pleasants Co. where until recently I have been working in our Birmingham, AL office. While there, I served for three years on the Board of Governors and as the MP Chair for the Birmingham Chapter. I am certainly excited to be back in the upstate and look forward to meeting each of you. If you have any questions or concerns, please do not hesitate to email or call. Thank you in advance for helping promote our chapter!



**Tigue Garick  
Membership Promotion Chair  
Greenville, SC ASHRAE**

### ***Just a reminder:***

**Chapter Members** in good standing (paid dues) **\$10.00** per meeting – lunch included.

**Non-Chapter Members** **\$15.00** per meeting – lunch included.

## *Chapter Programs*

This month, the technical presentation is entitled “HVAC Equipment Research at Oak Ridge National Laboratories.” Please RSVP so that we can make arrangements to have the appropriate amount of food available.

### **Presenter: Heather Buckberry**

Heather Buckberry is a Senior Technical Project Manager with Oak Ridge National Laboratory. She holds a B.S. degree in Mechanical Engineering from Johns Hopkins University and an M.S. degree in Engineering Management from the University of Tennessee. She is a Certified Energy Manager, a Project Management Professional, and LEED AP BD+C. She is a registered engineer in both mechanical engineering and fire protection engineering. She is a past president of the East Tennessee chapter of ASHRAE and is active in several ASHRAE technical committees.

Prior to joining ORNL, Heather worked for over 18 years in building design, most recently as project manager and mechanical engineer for a multi-discipline engineering consulting firm. She has extensive experience in the design of HVAC, plumbing and fire protection systems for industrial, commercial and government facilities.

<b>Location:</b>	Roper Mountain Science Center ( <a href="http://www.ropermountain.org">www.ropermountain.org</a> )
<b>Date:</b>	Thursday, May 9, 2013
<b>Time:</b>	11:30 a.m. Doors Open 11:35 a.m. Lunch Served 11:45 a.m. to 12:00 p.m. Chapter Business 12:00 p.m. to 1:00 p.m. “HVAC Equipment Research at Oak Ridge National Laboratories” Program
<b>Cost:</b>	Lunch Program: \$10/chapter member \$15/non-chapter member (catered lunch)
<b>Education Credit:</b>	The Technical Programs qualify for 1.0 PDH (including NC PE)

**Please RSVP to [secretary@ASHRAE4greenville.com](mailto:secretary@ASHRAE4greenville.com)  
No later than Noon Tuesday, May 7, 2013**

# Chapter Technology Transfer

## ASHRAE Free Resources

Did you know that there are many free resources available on the ASHRAE website?

Check out: <https://www.ashrae.org/resources--publications/free-resources>

There are also links to the following free software:



### ASHRAE: Service Life and Maintenance Cost Database

This database provides current information on service life and maintenance costs of typical HVAC equipment.

### Back-of-the-Envelope Calculator

This tool shows energy interactions in buildings. Energy engineers at the Energy Center of Wisconsin developed the Back-of-the-Envelope Calculator to provide greater initial insight into the energy usage and environmental impacts of a proposed commercial building project. The calculator is available for free download and lets you see real-time energy connections among building components, isolate the effects of a change to a single energy parameter or produce concept-level energy estimates. Not only can you see real-time energy connections, but you can calculate total CO<sub>2</sub> emissions for a building from both electricity and gas consumption. It can be used to analyze multiple-story buildings, instead of just a single-story building.

### CONTAM

The National Institute of Standards and Technology (NIST) recently announced that an enhanced version of its CONTAM indoor air quality modeling software is now available. CONTAM is the popular NIST tool that predicts airflows and contaminant concentrations in multizone building systems. CONTAM is based on a graphic interface that allows the user to draw floor plans on a "sketchpad" and employ "icons" to represent airflow paths, ventilation system components, and contaminant sources. CONTAM has been used by NIST and others around the world to study the indoor air quality impacts of heating, ventilation, and air-conditioning systems in single-family residential buildings, ventilation in large mechanically ventilated office buildings, radon entry and transport in large residential, office, and school buildings, and the design and analysis of smoke management systems.

### Free software models hybrid geothermal systems

An easy-to-use, but sophisticated method of analyzing various hybrid geothermal configurations is one piece that has been missing from the world of geothermal analysis tools. This new HyGCHP (Hybrid ground coupled heat pump) modeling tool, fills a gap for engineers and designers by modeling hybrid systems that can lower the up-front costs of geothermal. The tool is based on a study by The Energy Center of Wisconsin with assistance from the University of Wisconsin Solar Energy Laboratory, funded by the U.S. Department of Energy, Alliant Energy, and Madison Gas and Electric.

### The EPA Power Profiler

This tool will generate a report about the electricity you use. It will quickly provide you with details about specific air emissions impacts associated with your electricity use (including average annual pounds of CO<sub>2</sub>/MWh).

## **EnergyPlus 8.0.0**

The US Department of Energy recently released EnergyPlus 8.0.0

<http://apps1.eere.energy.gov/buildings/energyplus/>



EnergyPlus building energy simulation program that engineers, architects, and researchers use to model energy and water is a whole use in buildings. Modeling the performance of a building with EnergyPlus enables building professionals to optimize the building design to use less energy and water.

EnergyPlus models heating, cooling, lighting, ventilation, other energy flows, and water use. EnergyPlus includes many innovative simulation capabilities: time-steps less than an hour, modular systems and plant integrated with heat balance-based zone simulation, multizone air flow, thermal comfort, water use, natural ventilation, and photovoltaic systems.

EnergyPlus runs on the Windows, Macintosh, and Linux platforms. Free add-ons and other third-party software products are available for use with EnergyPlus.

**Myrna Dayan**

**Chapter Technologies Transfer Chair, Greenville Region IV**

[myrna@mail.ashrae.org](mailto:myrna@mail.ashrae.org)

## Event Dates for 2012-2013

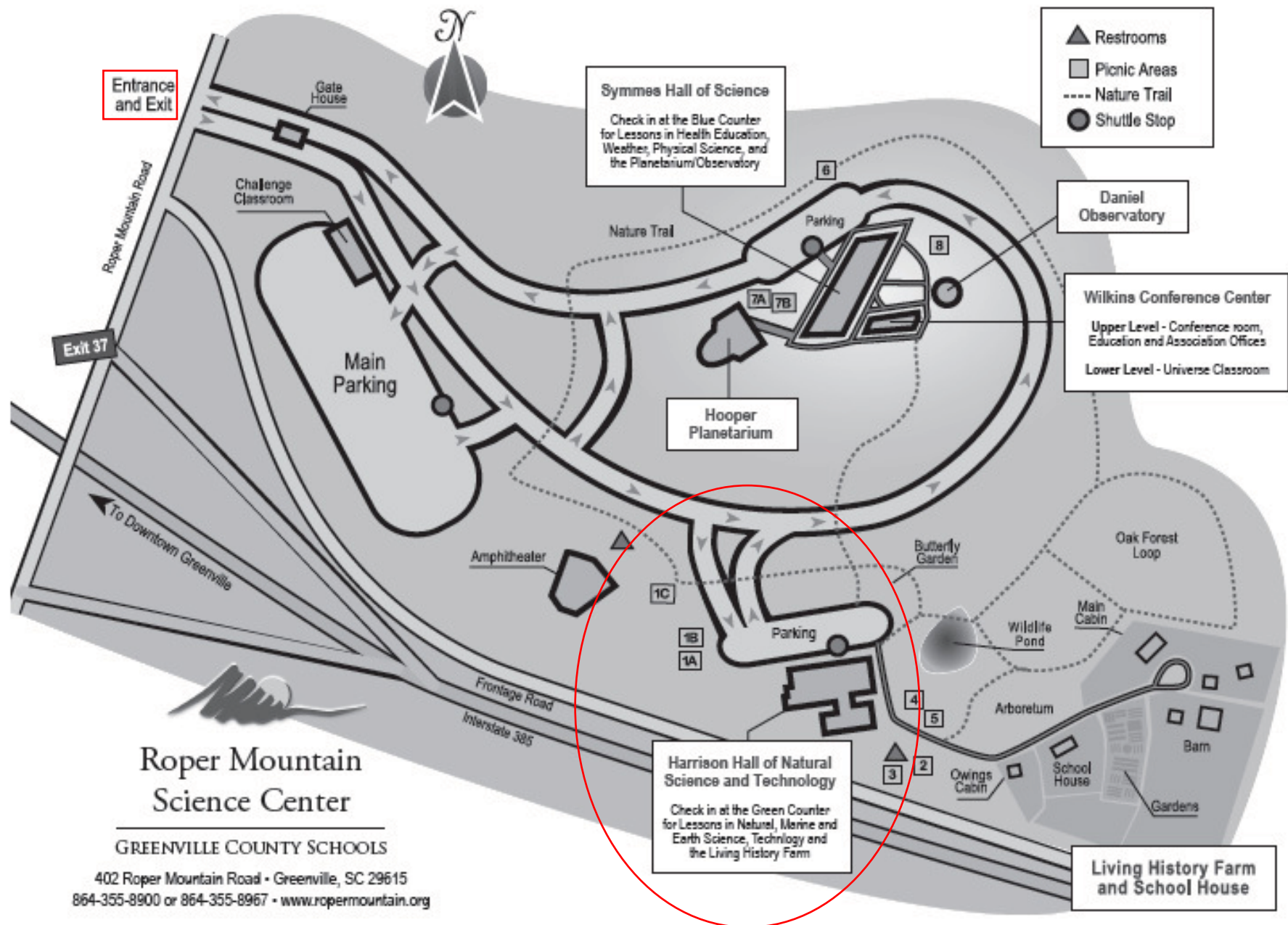
Thursday 09/13/2012	LEED Litigation	Presenter: Stephanie Burton
Thursday 10/11/2012	Today's Project Design Challenges ..... A Contractor's Perspective	Presenter: Bill Caldwell
Thursday 11/8/2012	Building Energy Quotient (BEQ)	Presenter: Thomas Phoenix
Thursday 12/13/2012	Solar Thermal Additional Seminar: Primary Secondary vs. Variable Primary debate	Presenter: Chris Edmondson, Distinguished Lecturer
Thursday 01/10/2013	Mold Control	Presenter: Andy Schauder
Thursday 02/14/2013	Acoustics/Vibration Best Practices for HVAC Equipment	Presenter: Dwight Landry
Thursday 03/14/2013	Residential Energy Efficiency	Presenter: James Groman
Thursday 04/11/2013	Responsible Use of Refrigerants Additional Seminar: Thermal Storage-Peak Load Avoidance	Presenter: Julian De Bullet, Distinguished Lecturer
Friday 4/26/2013	ASHRAE Golf Tournament	
Thursday 05/9/2013	HVAC Equipment Research at Oak Ridge National Laboratories	Presenter: Heather Buckberry



**ASHRAE**  
Technology for a Better Environment

**Region IV**  
**Greenville Chapter**





Entrance and Exit

**Symmes Hall of Science**  
 Check in at the Blue Counter for Lessons in Health Education, Weather, Physical Science, and the Planetarium/Observatory

- ▲ Restrooms
- Picnic Areas
- Nature Trail
- Shuttle Stop

Daniel Observatory

**Wilkins Conference Center**  
 Upper Level - Conference room, Education and Association Offices  
 Lower Level - Universe Classroom

Hooper Planetarium

**Harrison Hall of Natural Science and Technology**  
 Check in at the Green Counter for Lessons in Natural, Marine and Earth Science, Technology and the Living History Farm

**Living History Farm and School House**

# Roper Mountain Science Center

GREENVILLE COUNTY SCHOOLS  
 402 Roper Mountain Road • Greenville, SC 29615  
 864-355-8900 or 864-355-8967 • www.ropermountain.org