



Giga-Joule

Greenville
Chapter of
ASHRAE

September 2005

Meeting Announcement

For September we have a meeting and are sponsoring a 3 hour Technical Seminar on Tuesday, September 20th at the Roper Mountain Science Center. Your options are to join us for the full seminar or just for the 1 hour lunch meeting/program. The details are listed on the Programs Page. We are offering a discount for pre-registration for Chapter Members, so don't let the RSVP date slip up on you. Regardless of your preference for registration, we must have your RSVP to secure your spot and provide for lunch. Walk-ins for the morning seminar are welcome, but **you must RSVP to be assured of having Lunch!** For more information, please contact Programs Chairman, Eric Scott, by phone at 864-232-6633 x21, or by email at programs@ashrae4greenville.com

A Message from the President

James Bryan PE
Greenville
Chapter President



September is the start of a new year for ASHRAE and all you football fans as well. It is my privilege to serve as your Chapter President for the 2005-2006 year. Thank all of you who attended the August Chapter Regional Conference (CRC) and saw either Julian de Bullet (Distinguished Lecturer, DL) present on Heat Recovery Chiller Design, or Jim Carlson present on the Basics of Seismic Code Requirements. I'd like to thank them both for the time and excellent seminars.

I would also like to thank all the officers and board of governors from last year: Karl Counts, Devon Cortright, Caroll Suttles, Dennis O'Keefe, Jamie Porterfield, Steve Abernathy, Mark Schnetzka, Bill Knight, and Patrick Leake. At CRC many awards were presented. The Greenville Chapter received the **Most Improved Chapter Award**, the **Presidents Award of Excellence Star Award**. Caroll Suttles beat out all of South and North Carolina and Georgia for the **Beacon Award** in Membership Promotion. Dennis O'Keefe received the **Honor Roll Award** for Research Promotion. Bill Knight picked up a **Project Technology Award** and a **Regional Award of Merit**. Let's keep the efforts rolling stronger this year.

We've got an exciting year ahead of us with most of the programs already established. We will be trying a few new things this year, so keep an eye out on the Giga-Joule over the next several months. I would also encourage you to become more involved in your local chapter. We have numerous committees that would only require a couple of hours a month of your time. Also feel free to bring friends to the ASHRAE chapter meetings. If you know someone that's new to the area and relates to our industry, please invite them to our monthly meetings. Our chapter (and Society) exists of members to serve members.

Would you like to become an ASHRAE member? If so, plan to attend our local meetings held at the Roper Mountain Science Center on every 3rd Tuesday of the month from September to May at 11:30 a.m. to 1:00 p.m. Joining ASHRAE builds relationships throughout the engineering community and also promotes sharing industry knowledge. You also have the opportunity to change or modify ASHRAE standards.

I encourage your continued participation in ASHRAE. Your involvement correlates directly to some of your job functions. It's great to know that the membership cares and is willing to donate the time to make our world a better, safer place. Thank you for your continued support in making ASHRAE a unique and valuable organization to the HVAC global industry. I look forward to seeing you at the next meeting!

James Bryan PE
Greenville ASHRAE President
president@ashrae4greenville.com

Chapter Programs

I would like to recognize and thank James Bryan for the fantastic job he did during the 2004 – 2005 year as Programs Chair. I am excited about the opportunity to take over as Programs Chair and I am planning on another successful year of informative topics. Our first meeting of the year is a 4 Hour Seminar with distinguished lecturer Dr. Stanley Mumma of Penn State University.



ASHRAE Distinguished Lecturer, Stanley Mumma PhD Pennsylvania State University

Dr. Mumma is currently a Professor of Architectural Engineering at the Pennsylvania State University. Prior to joining Penn State in 1984, he was a General Motors Corporation project engineer for 3 years between his undergraduate studies in Mechanical Engineering at the University of Cincinnati and his graduate work at the University of Illinois at Urbana-Champaign, Illinois. Since earning the Ph.D.-Mechanical Engineering in 1974, under the mentorship of Dr. Will Stoecker, he has also held faculty positions at Ohio State University and Arizona State University. In the first half of his academic career, his research focused principally on solar and alternate energy. Then his interests changed to innovative ways of meeting ASHRAE Std. 62 in an energy efficient fashion. That work has led to his current intense interest in dedicated outdoor air systems (DOAS). In the past several years he published over 35 papers on the subject, and that number continues to grow. During his career, he has nearly 100 peer reviewed publications and scores of other publications. Two of his publications were recipients of ASHRAE best paper awards. He has also received ASHRAE's Distinguished Service award, the E. K. Campbell Award of Merit in recognition of outstanding achievement in teaching, the grade of Fellow, and Distinguished Lecturer. Currently Dr. Mumma is a member of the Society Publication Committee.

Seminar: Dedicated Outdoor Air Systems (DOAS): For Enhanced Indoor Environmental Quality, First And Operating Costs

This 3+ hour presentation will unfold around the following topics:

- Meeting ASHRAE Standard 62.1-2004 ventilation requirements.
- DOAS defined.
- Role of Total Energy Recovery.
- Supply air conditions (neutral or low temperature) and envelope quality to decouple the Space Sensible and Latent cooling loads.
- System Psychrometrics.
- What happens without an Air Side Economizer?
- Role of CO₂ based demand controlled ventilation with DOAS.
- Parallel sensible cooling technologies: energy, environmental comfort & safety.
- ATC design issues.
- Analysis of a Campus Building using DOAS with both FCU and CRCP parallel systems.
- Energy Savings potential of the 15 most promising HVAC technologies: per DOE.
- Conclusions

**Lunch Program: An Introduction to Chilled Ceiling Technologies:
Panels and Beams**

This 45 Minute presentation will explore the following topics:

- Radiant panel description and operating fundamentals.
- Conceptual integration of radiant panels into an HVAC system.
- What's In It for Me (WIIFMe), i.e. pros of radiant systems for owners, architects, and engineers?
- Perceived Cons of radiant systems - or why they are rejected out of hand so often.
- Examples of some successes.
- Presence of chilled Panels and Beams in the ASHRAE handbooks.
- Conclusions

Location: Roper Mountain Science Center - Auditorium

Date: Tuesday, September 20, 2005

Schedule:	8:00 to 8:15 a.m.	Doors Open
	8:15 to 11:30 a.m.	Dedicated Outdoor Air Systems
	11:30 to 11:45 a.m.	Lunch served & lunch meeting participants arrive
	11:45 to 12:00 p.m.	Chapter business
	12:00 to 1:00 p.m.	Introduction to Chilled Ceiling Technologies

Cost: \$35/person at the door (includes lunch if RSVP received) Guests welcome!
\$25/person if check received by Tuesday, September 13th
\$10/person to attend the lunch program only

Education: The complete program qualifies for 4.0 PDHs

Eric Scott
Programs Chairman

RSVP REQUIRED TO ENSURE LUNCH

Please reply to programs@ashrae4greenville.com no later than Tuesday, September 13th.
Receive discount if check received by Tuesday, September 13th.

Mail checks to: ASHRAE – Greenville Chapter
c/o H2L Consulting Engineers
Attn: Devon Cortright
122 Edgeworth Street
Greenville, SC 29607

Membership Corner

There are a few tasks I need some help with as we enter the new ASHRAE year. If I could get a volunteer for each one then no one would have much to do:

- ❖ Someone to call Society Members who are not Chapter Members and invite them to become involved with Chapter activities
- ❖ Someone to contact new Society Members assigned to our Chapter
- ❖ Someone to survey employers to identify new employees that are recent engineering or technical school graduates
- ❖ Someone(s) to be a welcoming committee at Chapter Meetings
- ❖ Someone to follow-up with delinquents



If you will volunteer I'll buy you lunch and explain details of the task, I will be able to provide the names and contact information to you for items 1, 2, and 5. First come, first serve, if you want an easy one and be able to say you are doing your part please give me a ring soon.

Applications can be obtained at our regular meetings or call me at (864) 233-7966.

Caroll Suttles
Membership Chairman

Technology, Energy, & Government Activities

Technology Awards

Know of an innovative project that may be award worthy? If so, submit it for an ASHRAE Technology Award. Contact me or visit: <http://www.ashrae.org/standcom/tegaward.htm> for forms and more information. Then proceed as follows:

- Complete the "Short Form" and use it as the cover page.
- Provide a system schematic/diagram not larger than 11" x 17" in size. In addition, attach a brief narrative (maximum of 2 pages). The narrative should include the gross and net building areas applicable to the project, a description of the major building areas (i.e., operating rooms, laboratories, computer rooms, industrial processes, offices, warehouses) and a brief discussion regarding the following five criteria (if a criterion is not applicable, state accordingly):
 - Energy Efficiency
 - Indoor Air Quality
 - Innovation
 - Operation & Maintenance
 - Cost Effectiveness
- Submit your schematic, brief narrative, and completed form to me for judging at the Chapter level.

Applicants will receive recognition and have the chance to advance to Regional & Society level competition.

Jamie Porterfield
CTT (Chapter Technology Transfer) Chairman

Research Promotion

Society has changed the name back to Research Promotion and I couldn't be happier. The name "Resource Promotion" always made me feel like some kind of environmental activist – not that there's anything wrong with that.

I'm looking forward to another productive year as RP Chairman for the Greenville Chapter. Like most things, it gets a little easier each time and as this is my 4th time out, I'm hoping I won't lose too much sleep this year. In previous years, I've always been a committee of one and this has hampered my efforts. I'll need some volunteers for calling campaigns, etc., so if you're interested in helping out the Chapter, RP is the way to go.



We raised \$8,082.50 last year, which was fair considering I didn't have a calling campaign, (this will change!) and a sluggish local economy. Our goal for 2005-2006 is \$10,000. I hope to accomplish this by getting most, if not all, members to commit to at least par, which is \$50. This is only \$0.27/day, most of you spend four times that in your breakrooms each day. If you haven't filled out your membership renewal yet, please consider adding that \$50 with your renewal fee and remember to check off the donation to RP.



Date: October 11th, 2005, 9:30 AM

Location: Willow Creek Golf Club, Greenville.

Information: <http://www.willow-creekgolf.com/>
(864) 476-6492

To kick off our RP fund raising campaign, we'll be holding our Fall ASHRAE Golf Outing on Tuesday, October 11th, 9:30 am, at Willow Creek Golf Club. Details and signup forms for golfers & sponsors will be available soon, in the meantime start recruiting your winning foursomes now! We'll be having a shotgun start with a box lunch, so come around 8:30 to sign-up, then get out onto the range to warm up. \$60 fee includes range balls, greens fees, cart, lunch, beverages and all the fellowship you can stand! Driving range and registration desk to open at 7:30 am. A \$50 gift certificate will be given for the 1st and 2nd place teams, closest to the pin, and longest drive.

This will be a major fundraising effort so I'm counting on our proud sponsors to fill up the course with sponsorship signs. Please make sponsorship checks out directly to ASHRAE Research Promotion. If you or your company can sponsor the event let me know.

I want to thank all of you who have worked for and contributed to, Resource Promotion in the past. We'll be having an RP night in November to recognize individual donors (\$50 and up) and companies (\$150 and up) who have helped make ASHRAE what it is today.

If anyone has any ideas on fundraising events that we could apply to this Chapter please see me after the meeting. Thanks!

Dennis O'Keefe
Research Promotion Chairman

Financial Report

Between July 1, 2004 and June 30, 2005 the chapter had total receipts of \$13,960.26 and total expenses of \$11,864.99. As of June 30, 2005 the checkbook had a balance of nearly \$5500. \$6600 of the receipts and expenses are related to the transactions for two golf tournaments. The chapter received \$3890 from membership fees for 2004-2005, donated \$1300 to ASHRAE Resource Promotion (research), and donated \$500 to Roper Mountain Science Center. Feel free to contact me for a copy of the transactions for 2004-2005.



The chapter also carries a second checking account reserved for hosting the regional conference. After a long dormant period with a token balance, the account contained \$8200 at the end of June as the conference committee started receiving sponsor donations and registration deposits for the August event. Once all expenses are paid, the account will again be left dormant with a token balance of about \$50 until the next CRC lands in Greenville. The chapter also has a CD that was established with profits from the last regional conference hosted by Greenville. That CD had a balance of \$7177.22 at fiscal year end. The conference committee targeted the 2005 conference finances to break even. As I write this, I am working on finalizing the finances for the 2005 conference. Although still preliminary, it appears that the final tally will nearly balance or be slightly negative. Some portion of the CD may be used to cover any significant losses on the conference. Once finalized, I will share the finances of the conference with anyone interested.

The chapter is on sound financial ground with no cause for concern.

Devon Cortright PE
Treasurer

Student Activities Report

Thank you to everyone that responded to my last minute survey of student activities happening in our chapter. We had members involve with all ranges of education. As I move into this role full time this year, I want to keep track of all of these efforts and all the other activities that I'm sure is occurring in our area.

If you or your company participates in Teach-ins at K-12 schools, Career Days, Junior Achievement, MathCounts, Scouting, National Engineers Week, Student Work Tours, Bring your Child to Work, Summer Intern, or similar programs, would you please drop me a quick email and fill me in?



Karl Counts PE
Student Activities Chairman

Greenville Chapter ASHRAE

2004-2005 Chapter Officers

Office	Officer	Company	Phone	Fax	email
President	James Bryan	O'Neal, Inc.	298-2148	298-6330	president@ashrae4greenville.com
Programs/ PE	Eric Scott	Carrier Carolinas	232-6633 x21	242-0290	programs@ashrae4greenville.com
Secretary	Scott Houston	Thermal Resource Sales	250-2822	250-0585	secretary@ashrae4greenville.com
Treasurer	Devon Cortright	H2L	233-8844	232-2679	treasurer@ashrae4greenville.com
Membership	Caroll Suttles	Piedmont Natural Gas	235-5844 x3055	233-6104	membership@ashrae4greenville.com
Research Prom.	Dennis O'Keefe	Piedmont Natural Gas	250-2822	250-0585	rp@ashrae4greenville.com
CTT	Jamie Porterfield	Waldrop Heating & Air	578-7252	578-3414	ctt@ashrae4greenville.com
Student Activities	Karl Counts	Day & Zimmermann	241-8335	241-6750	sa@ashrae4greenville.com
Historian	Paul Jensen	Trane Upstate Carolina	672-6130	672-6001	history@ashrae4greenville.com
Webmaster	Karl Counts	Day & Zimmermann	241-8335	241-6750	webmaster@ashrae4greenville.com

Tentative Meeting Dates for 2005-2006

Tues 9/20/2005	Seminar: Dedicated Outdoor Air Systems Lunch Program: Radiant Cooling Panels	Dr. Stanley Mumma PhD, PE; Penn State
Tues 10/18/2005	Why Water Source Heat Pumps?	Chris Edmondson PE, James M Pleasants
Tues 11/15/2005	Controls Protocols and Interpretation	Jeff Swiderski, Carrier Controls
Tues 12/13/2005	Interpretation of Mold Analysis	John McNamara CIAQP, AAA Environmental
Tues 1/17/2006	Warehouse and Industrial Heating & Make Up Air	Jamie Fry, Faulkner/Haynes & Associates
Tues 2/21/2006	Ductwork for Pharmaceutical/Biological Facilities	Manuel Del Valle PE, Fluor
Tues 3/7/2006	Joint Meeting with Mechanical Contractors Asso.	David Hensley, Hosted by GM Mechanical
Tues 3/21/2006	Natural Gas Piping 101	Steve Abernathy, Piedmont Natural Gas
Wed 4/12/2006	ASHRAE Satellite Broadcast	ASHRAE
Tues 4/18/2006	Understanding Waterhammer in Steam Systems	Wayne Kirshner PE
Tues 5/16/2006	Humidity Control for Commercial Buildings	Mark Nunnally PE, Nunnally & Associates

Greenville Chapter of ASHRAE



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