



The Dewpoint

April Issue

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Central Florida Chapter
of the American Society of Heating,
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Engineers, Inc.

www.ashrae-cfl.org

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Central Florida Chapter of ASHRAE
Wade Conlan President-Elect
2601 Westhall Lane Maitland, FL 32751

April Program

Designing Buildings in Hot and Humid Climates

Thursday April 10th, 2008
Dubsdread Historic Banquet Hall
549 Par Street
Orlando, FL
(407) 650-0100

For reservations, please go to the
Central Florida Website www.ashrae-cfl.org
and pre-pay or register to pay at
the door. Cost is \$25 in advance, \$30
for non-registered at the door.
Social 6:00 pm, Dinner 6:45pm,
Speaker's Presentation 7:00pm

**Our Speaker: Ray Patenaude, P.E.,
CEM, CIAQP, RDIH – The Holmes
Agency, Inc.**

April Meeting

The April 10th meeting is shaping up to be a great event. Ray Patenaude with "The Holmes Agency, Inc. is presenting "Designing Buildings in Hot and Humid Climates", something that he is extremely versed in doing. Mr. Patenaude is a CIAQP, CEM, RPIH, and a Professional Engineer specializing in moisture intrusion into buildings, microbial contamination of building environments and indoor air quality of habitable spaces. He has been a Consulting and Forensic Engineer for over thirty years involved with the analysis, design and construction of building systems. As a recognized expert in his field, Mr. Patenaude, provides professional consultation and forensic investigation in building science including: cause and origin of construction defects; building envelope assessments; HVAC failure causation analysis; indoor air quality; moisture

Upcoming Events

Thursday, December 13th
**Strategies for Analyzing
Products**

Speaker: James Kiriazes

Thursday, January 10th
**LEED From an Owner's
Perspective**

Speaker: Doug Spencer

January 19th –23rd
2008 Winter Meeting

@ New York City

Thursday, February 7th
**UFADS – Under Floor Air
Distribution Systems**

Speaker: Gary Smith

Thursday, March 13th
6th Annual Shrimp Boil

@ Winter Park Farmers Market

Thursday, April 10th
**Designing Buildings in Hot and
Humid Climates**

Speaker: Ray Patenaude

Friday, April 18th
Spring Golf Tournament

@ Sanctuary Ridge, Clermont

intrusion; mold growth investigations; remediation management; claims and litigation support for commercial, residential, industrial and institutional buildings.

Mr. Patenaude is a former ASHRAE Vice President and Distinguished Lecturer. He currently serves the Society as Vice Chair of TC 1.12, Moisture Management in Buildings, Chair of the Project Monitoring Subcommittee for the new "ASHRAE Guide for Buildings in Hot and Humid Climates" and a member of the

Conferences & Exposition Committee. In addition, Mr. Patenaude is also the Chairman of the Board of the Certified Indoor Air Quality Professionals, a member of the National Society of Professional Engineers, the National Academy of Forensic Engineers, the Florida Engineering Society, Association of Professional Industrial Hygienists and the American Conference of Governmental Industrial Hygienists.

Also, he is allowing us to give back to the local engineers in another way. The meeting will allow for Registered Engineers in Florida the ability of attaining 1 PDH towards the "Areas of Practice" 4 hour requirement for the state. Just sign in and out and provide your Florida PE number and then report it to the state when it is time for you to renew. It is just that easy.

We look forward to seeing you April 10th at Dubsdread!!!!

Wade Conlan

President-Elect

President's Message

Mike Dillard
Chapter President

Only two more monthly ASHRAE Central Florida meetings remain and we are finishing strong! Ray Patenaude, PE, CEM, CIAQP, RPIH with The Holmes Agency, Inc. is presenting at our April 10th meeting. His presentation is entitled "*Designed Buildings in Hot and Humid Climates.*" As an added Bonus, PDH's are available for Florida PE's for this presentation!

Of course, you know by now our May meeting had been set for May 28th and will feature ASHRAE Society President, Kent Peterson, PE as our speaker. The event will combine other associations and will be held at the Orlando Museum of Art. Space will be limited and we are accepting a limited number of corporate sponsorships. Please contact me via email at mdillard@msifla.com if you're interested in being a corporate sponsor.

Spring has sprung, which means the systems that create indoor environments where we work and live will be tested again soon!

It also means some owners of commercial, industrial and institutional properties will be taking a fresh look at their energy strategies. Engineers, contractors and manufacturers will get request for budgets for improvements to HVAC, controls, lighting and water conservation devices. Those budgets will compete for capital allocation with new carpets, paint, tile floors and a host of other visual effects.

If we follow the normal pattern, we'll develop an elegant solution for any given building. It will be a great

solution. But, the owner probably won't buy it...UNLESS...we start speaking his language and thinking like an owner first.

"Going green" and "sustainability" are themes entrenched in the fabric of our society. They are not new concepts..but have a new lease on life. If you're an owner or a developer, the translation is always going to be what's the NOI and ROI. The fact is, no matter how good of a citizen a corporation wants to be, there are limits to available capital. Making a decision to improve the energy infrastructure rather than replace the common area floor tile becomes the epic battle. Visual features that attract tenants get compared to improvements that are less visible and almost unnoticed. Even more pressure is being applied to prove the value of energy infrastructure investments in today's economic environment. So, when you're developing the technical solution for your client, remember to learn about the business issues they face and position your proposal accordingly. That way, both you and the customer win.

Mike Dillard

President

Membership

Amy Pastor
Membership Promotion

By The Numbers

Our current total membership is 382, up from 374 members last month. I have to thank you as a chapter since this is probably due to you bringing friends to meetings and spreading the word about our chapter events. It's also great to hear that many of you are paying up your chapter dues using the ASHRAE - Central Florida website.

I've been hearing from many NEW folks inquiring about how to join ASHRAE. It's great to hear from you and hopefully it keeps up!! Continue to get all your co-workers involved. Tell

Continued from Page 1

Upcoming Events

Wednesday, May 7th
ASHRAE/ASPE Product Show
Central Florida Fairgrounds

Wednesday, May 28th
End of Year meeting
Orlando Museum of Art
Kent Peterson

June 21st - 25th
2008 Annual Meeting
Salt Lake City, Utah

August 7th-9th
2008 Region XII CRC
Argentina

friends that you have in the industry to check us out at this month's meeting or Golf Event!

The calling committee will be calling you again to remind you about the April meeting on Thursday, April 10th at Dubsdread.

Annual Dues/Chapter Dues

Please be sure to stay on top of your membership. With the new rolling enrollment, you may forget to pay your yearly dues! It is also important that you pay your chapter dues along with the society dues. We are still not entirely caught up with paying chapter dues.

When renewing your membership online or through the mail, please be sure to check that you have added the \$25 for the Central Florida Chapter dues. Since this option is missed by many members, a committee has been set up to help ensure that all chapter dues are paid to Central Florida. Additionally, you can check our www.ashrae-cfl.org and navigate through the "Register For Meetings" page to find an option to pay your chapter dues.

Membership-Changes and Status

There are a lot of opportunities for general members to upgrade their membership. Please be sure to check your membership status. If you have changed employers, moved and/or are unsure of your current membership status, please call Society at 800-5ASHRAE (527-4723) or contact Amy Pastor at 407-580-2088 or apastor@x-nth.com.

Student Activities

Megan Tosh

Student Activities Chair

Spring Time

On Wednesday, March 5th, ASHRAE at UCF hosted a Resume Workshop for student members. Several Central

Florida ASHRAE members attended to lend their advice to students on what they should (and shouldn't) include on the resume. Volunteers included Wade Conlan from Xnth, Kyle Davis from Harper Limbach, Tony Esposito from TLC and Rich King from Peninsula Engineering.



Wade Works with a Group of Students to Improve Their Resumes

Nearly 20 students showed up with resumes in hand, seeking advice and enjoying the opportunity to have their resume in the hands of industry professionals. A great response was received from everyone involved and we're thrilled to see the ASHRAE at UCF student chapter have so much success!



Tony Works One on One With a Student

March 13th was the Central Florida Chapter's Annual Shrimp Boil. This year, we had six students in attendance, networking with the local industry. A big thank you to CFL ASHRAE for supporting the students and welcoming them to this event!

At the end of March, registration for the 2008-2009 school year opened at UCF.

For the first time, HVAC I is being offered in the fall as an undergraduate class without the prerequisite of Thermodynamics II. This gives many more students the opportunity to enroll in the class and learn the basics of our industry. If there is a large enrollment in the fall, as expected, an HVAC II class will be offered in the Spring to continue the education of our UCF Students in HVAC! Thanks to everyone at CFL ASHRAE and UCF who made this opportunity possible.

Senior Design deadlines are fast approaching as the Spring semester wraps up at UCF. All of the students have been working very hard to get their designs finished. Thank you to all of the mentors who have helped guide the students throughout this project.

Once you file your taxes, come out to UCF on Tuesday, April 15th for the Senior Design Expo! All of the UCF Senior Design Students, including the 3 teams working on the ASHRAE International Student Design Competition, will have a booth set up to discuss their project with visitors. Come see all the hard work everyone has done!

Thank you Central Florida ASHRAE for your continued support of Student Activities.

CTTC

Chapter Technology Transfer Committee

Air Conditioning Remote Telecom Enclosures

By: Abdel-Kader Darwiche, CEEng and Samivullah Shaik

Reviewed By: John Fabian

The design challenge of this article is the ability to cool the space in a remote location without readily available electricity. The authors talk about a few solutions such as vortex and Peltier coolers, which are both reliable but have low efficiencies and small cooling capacities. Other methods include

cooling by natural convection and using phase change materials, but the one solution that grabbed my attention was a dc-powered air-conditioning system. With recent technology high efficient units were made that operate on dc. In the remote locations it the system would be powered by batteries charged by solar panels. The approximately 1 ton units have an EER exceeding 14 and have a low compressor startup current so as to not drain the batteries. The disadvantage of this type of setup is the large area required to install the solar panels. Being a remote station in the desert this will not be much of a problem. The only other problem is that it does, like every other system, require maintenance. The article also presents an example where they calculate the cooling load and size the cooling equipment batteries and solar panels. For more information please see this article in the March 2008 issue of the ASHRAE Journal.

Solar Refrigeration

By Sanford A. Klein, Ph.D., Douglas T. Reindl, Ph.D.

Reviewed by Joseph R. de Armas

When considering sustainable design using an environment friendly refrigerant is out weighted in comparison to the environmental impacts of the energy use required to operate the system. This article discusses three forms of Solar powered refrigeration; Photovoltaic Operated Refrigeration Cycle, Solar Mechanical Refrigeration, and Absorption Refrigeration. Photovoltaic (PV) involves the direct conversion of solar radiation to direct current (dc) electricity with the use of semiconductor materials. In practice the PV panels are used to power a dc motor which is tied into a compressor. An important design consideration would be to appropriately match the electrical characteristics of the motor to that of the compressor. Solar Mechanical Refrigeration uses mechanical power produced with a solar-driven heat power cycle. The heat power cycle that is

usually considered for this application is a Rankin cycle in which fluid is vaporized at an elevated pressure by heat exchange with a fluid heated by solar panels. The vapor would then flow through a turbine or piston expander to produce the mechanical power. Fluid exiting the expander is then condensed and pumped back to the boiler pressure where it can be vaporized again. The 3rd process is Absorption Refrigeration. The process is considered a heat driven systems and requires minimal mechanical power for compression. The article does note that the overall system coefficient of performance for each of the three systems is low; however in retrospect the fuel used to power the processes (i.e. solar power) is free. Also noted was that due to the design complexities, cost, size, and simply that the sun doesn't shine all the time, wide spread use of these systems has been hampered.

For more information, see this article in the September 2005 issue of the ASHRAE Journal.

Variable Refrigerant Flow Systems

By William Goetzler

Reviewed by Joseph R. de Armas

Variable refrigerant flow (VRF) was originally introduced in Japan over 20 years ago. The European market opened up to the new technology in 1987 and its use has been slowly growing through out the world. A VRF system is similar to ductless multisplit system however, is has a larger capacities and is a more complex system. The system comprises of multiple compressors, evaporators, and complex oil and refrigerant management and control systems. It should be noted that this system doesn't provide ventilation, so a separate system would be necessary. The name Variable Refrigerant Flow (VRF) refers to the ability to control the amount of refrigerant flowing to each of the evaporators. This in turn allows for the use of evaporators of different capacities and configurations. You can

also individualize comfort control, simultaneously heat and cool different zones, and attain heat recover from one zone to the other. Some of the advantages of the VRF are it's light weight and modulated design. In comparison to a chiller which often requires a crane to be installed and has increased requirements for structural reinforcement, a VRF system can fit in a standard sized elevator and doesn't have as many structural requirements. In the actual design a single condensing unit can be connected to many indoor units of varying capacity (1/2 to 4 tons). At the present time there is no ARI-certified rating for this system, which means a simple EER comparison to other systems could not be quoted. This article does not advocate VRF use for every situation however it does support VRF as an alternative design for applicable situations.

For more information, see this article in the April 2007 issue of the ASHRAE Journal.

Newpoint- Newsletter Notes

Leo Rocha
Newsletter Editor

Publication Deadlines

The *Dewpoint* is published monthly – seven days before the monthly meeting. Please submit articles to be included in advance of the following deadline dates:

Meeting Date	Article Deadline
Thurs Dec-13	Fri Nov-30
Thurs Jan-10	Fri Dec-28
Thurs Feb-7	Fri Jan -25
Thurs Mar-13	Fri Feb-29
Thurs Apr-10	Fri Mar-28
Thurs May-8	Fri Apr-25

Employment and Education

If your company is looking for individuals with particular skills to fill a position at your firm, or if your company is offering professional technical, continuing education or other learning opportunities of interest to our membership, the Central Florida Chapter of ASHRAE will publish your education/employment announcement at no charge.

Spring 2008 Golf Outing

Firouz Keikavousi
Golf Tournament Chair

Invitations

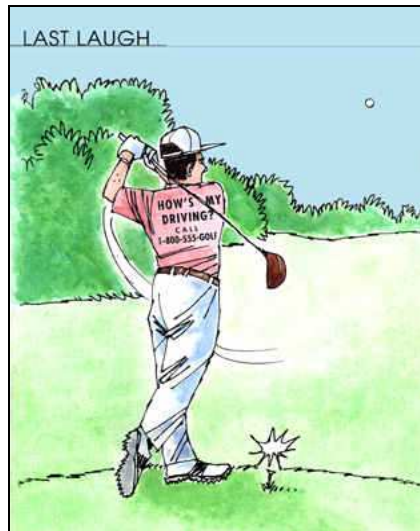
Please join the Central Florida Chapter of ASHRAE on Friday April 18th for this traditional event.

Location

Sanctuary Ridge Golf Club located at 2601 Diamond Players Club Drive Clermont, FL 34711 (352) 243-0411.

Entry Form

For more information on the Spring Golf Outing, please contact Firouz Keikavousi at: 407-303-1141 (Office) or Firouz.Keikavousi@flhosp.org



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ADDRESS CORRECTION REQUESTED

