



ASHRAE
NEWSLETTER



April 2006

“News and Announcements from the Nashville Chapter of ASHRAE”

APRIL MEETING: “Inlet Installation Effects on Small Propeller Fans, Air & Sound”

**April 2006
Chapter Meeting**

**TOPIC:
ASHRAE Research
Project
“Inlet Installation
Effects on Small
Propeller Fans, Air &
Sound”**

**Date:
Tuesday, April 11,
2006**

**Location:
TN Engineering
Center
@ The Adventure
Science Center**

**Meeting Time:
11:30am-1:00pm**

**Speakers:
Dr. Stephan Idem
Tennessee
Technological
University**

Fellow ASHRAE Members,

Spring is here! I hope everyone is enjoying the warm weather and able to get outside to appreciate all the events in Nashville. We have a very busy month ahead with our normal meeting on April 11th, a joint meeting with our local USGBC Chapter (satellite broadcast) on April 19th and our annual Golf Tournament at Windtree GC on April 21st. The broadcast, sponsored by ASHRAE, will be held at Trane from 12PM – 3PM and will cover the subject of “Sustainability and the Building Environment”. It will be a great opportunity for our chapter to meet with our local USGBC Chapter to learn more about Building Sustainability. ASHRAE supports building sustainability as a means to provide a safe, healthy, comfortable indoor environment while simultaneously limiting on the Earth’s natural resources. PDH Certificates will be available. Please RSVP separately for the Monthly Meeting and Satellite Broadcast.

This month’s speaker, Dr. Stephan Idem, will be speaking on the topic of “Inlet Installation Effects on Small Propeller Fans, Air & Sound”. This presentation will discuss a current ASHRAE research project being held at Tennessee Tech and will show how installation can effect a fan’s airflow and acoustical performance. We are fortunate to have such a good example from one of our local Universities on how our research donations are benefiting our industry. You can see more detail on the subject later in the Newsletter.

Don’t forget to respond to our meeting announcement email if you plan to attend. Please RSVP to dwleonard@trane.com by Friday, April 7th.

Be sure to log on to www.ashrae.org to check your member status and pay your dues (national and local if necessary). You will need your ASHRAE member numbers and PIN# (both located on your ASHRAE membership card) to log on to the site. While you are there, check your contact info to make sure it is correct.

See you at the meeting,

Dan Leonard
President, Nashville Chapter of ASHRAE

THIS MONTH'S SPEAKER - Dr. Stephen Idem

This month's program will feature a current ASHRAE research project being conducted by Dr. Stephen Idem, a professor in the Department of Mechanical Engineering at Tennessee Technological University. Dr. Idem obtained his Ph.D. in Mechanical Engineering from Purdue University in 1986. He has extensive experience in scale model testing, fluid flow measurement, and thermal modeling. He is the former chairman of ASHRAE TC 5.2, Duct Design, and TC 1.2, Instruments and Measurements. He was the co-principal investigator of RP-690, "Laboratory Study to Determine the Flow Resistance of Oval Ducts and Fittings," and was the principal investigator of RP-1132, "Leakage of Ducted Air Terminal Connections". Currently he is the principal investigator on RP-1319, "Laboratory Testing of Duct Fittings to Determine Loss Coefficients" and co-principal investigator on RP-1223, the subject of our chapter program.

This presentation will describe the apparatus and test protocol which has been developed at Tennessee Tech University in support of ASHRAE RP-1223, entitled "Inlet Installation Effects on Small Propeller Fans, Air & Sound". It is well known that fan performance data measured as installed may show lower performance than manufacturer ratings, primarily because of improper inlet or outlet connections. It is proposed to experimentally measure air and sound performance of propeller fans with systematic variation of inlet flow components, intended to simulate typical "in the field" installations of the fans. Three sizes of propeller fans (24", 36", and 48" fan impeller diameter) will be studied. Each fan will be tested at five speeds, thereby generating five fan curves. At least eight operating points on each fan curve will be established by adjusting the flow rate. The acoustic measurements will be performed simultaneously with the flow measurements on the same fans under identical installation conditions. Base air performance and sound data will be obtained on an ideal installation having a discharge duct length three times that of the fan impeller diameter. There have been no previous attempts to measure system effects on sound output of small propeller fans.

SATELLITE BROADCAST/WEBCAST - SUSTAINABILITY AND THE BUILDING ENVIRONMENT

Information regarding building sustainability principles, practices, and emerging concepts will be presented in this free broadcast/webcast sponsored by the ASHRAE Chapter Technology Transfer Committee (CTTC).

PDH Credits

Earn two (2) Professional Development Hours (PDHs) or two (2) AIA Learning Units by completing the Participant Reaction Form following the broadcast/webcast.

***Details of time and location in e-mail to follow.**

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THE TIME HAS COME! SIGN YOUR TEAM UP TODAY!

2006 ASHRAE Spring Golf Outing



Windtree Golf Course

Friday, April 21, 2006

We are also looking for some volunteers to help with the tournament. If you are interested please contact Matt Nicholson (615) 770-8100, for more information.

CHAPTER PROGRAM SCHEDULE FOR 2006

2006

April 11th: Dr. Idem and students' Tennessee Tech Research Project

April 19th: SATELLITE BROADCAST/WEBCAST

May 9th: Chemical Treatment - Al Denunzio

All ASHRAE Meetings are held in the Jack Wood Auditorium at the Tennessee Engineering Center, which is located at the Adventure Science Center, 800 Ft. Negley Blvd., Nashville, TN

Meetings are Luncheon Meetings from 11:30 AM to 1:00 PM

Costs:

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|---|----------|
| Members who have PAID local chapter dues: | Included |
| Members who have NOT PAID local chapter dues: | \$15.00 |
| Guests: | \$15.00 |