

TC/TG/TRG MINUTES COVER SHEET

(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/TRG NO TC 1.3 DATE April 10, 2007

TC/TG/TRG TITLE Heat Transfer and Fluid Flow

DATE OF MEETING January 28, 2006 LOCATION Dallas, TX

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Steve Eckels (Chair)				Justin Kauffman, Guest
Walid Chakroun (Int'l Member)				Axel Kreigsman, CM
Jon Hartfield				Kim Lowe, Guest
Tony Jacobi				Joe Huber, CM
Amir Jokar				Jan Kihm, Guest
Branko Korenic				Rick Couvillion, CM
Satheesh Kulankara				Mike Ohadi, CM
Bruce Nelson				Steve Hancock, CM
Mike Ohadi				Fredrik Strömer, Guest
Eric Ratts				Lorenzo Cremaschi, Guest
Timothy Shedd				Josua Meyer, CM, International
Petur Thors				Ken Schultz, CM
				Srinivas Garimella, CM
				Liping Liu, Guest
				Mustafa K. Yanik
				Doug Hittle, Handbook Liaison
				S. A. Sherif, CM
				Andreas Knoepfler, Guest
				M. Sultan Khan, Guest
				Dan Kihm, Guest
				Alberto Cavallini, CM
				Samuel Yana, CM
				Yi Jia, Guest
				M. Mohammed Shah, CM

DISTRIBUTION

<i>All Members of TC/TG/TRG plus the following:</i>	
TAC Section Head:	
TAC Chair:	Eckhardt Groll
All Committee Liaisons As Shown On TC/TG/TRG Rosters: RAC Research Liaison	Martha Hewitt
Manager Of Standards Manager Of Research & Technical Services	Claire Ramspeck Mike Vaughn

Meeting Minutes
Dallas, Winter Meeting 2007
ASHRAE TC 1.3 - Heat Transfer and Fluid Flow

Committee Meeting Information:

General Meeting: 1:00 to 3:30 on Tuesday (January 30, 2007), Adam's Mark Hotel, Majestic 4. Research Review: Time: 3:00-6:00 on Sunday (January 28, 2007), Adam's Mark Hotel, Lone Star C4.

Meeting called to order at 1:00 pm

1. Introductions (Eckels)

- All in attendance introduced themselves.

2. Confirmation of quorum (Eckels)

- 10 of 10 voting members present

3. Approval of Minutes from Quebec, June 27, 2006.

- Ammended minutes from Quebec City approved (10-0-0)

4. Liaison Comments (Eckels)

- Handbook Liaison Doug Hittle was present to remind the TC that its chapters will be updated in 2 years and 1 year is required for approval.
- The TC asked about the review process and Hittle responded that any meritorious comments will be considered. Review comments from the ASHRAE Workshop are available under the handbook section of the website.
- The Chapter Technology Transfer Committee (Whalid) is trying to get feedback from everyone

5. Report from Membership Chairperson (J. Hartfield)

a. Review Rollover Roster for 2007-2008

- Currently, TC 1.3 has 7 academic, 6 industrial and 2 International members
- Typically, TCs should have 6 to 18 members; we currently have 13.
- The TC has 38 Corresponding Members.
- Hartfield surveyed 51 members and corresponding members and received 46 responses. As a result, 8 were taken off the rolls.
- Changes to the roster:
 - After summer meeting, the Chair rolls off, and Satheesh becomes chair;
 - Shedd becomes ViceChair
 - The position of secretary is now open. Any volunteers?
- S. Eckels and T. Shedd roll off after Summer meeting
- J. Huber rolls on

- J. Thome requests to roll on as voting member.
 - If you wish to become a corresponding member – contact J. Hartfield or S. Eckels
 - participate in meetings
 - participate in research committees
- b. Program Subcommittee Chairman**
- Issue – we need to replace A. Jokar as Program Subcommittee Chair. Any Volunteers?

6. Report from Program Chairperson (Jokar)

a. Report on Seminar 50Recent Developments in Microchannel Heat Transfer and Fluid Flow, 10:45 to 12:15 on Tuesday

- 67 in attendance, well received

b. Status of future program items

- Proposed seminar on Two-Phase Heat Transfer at the Micro/Nano Scale
- M. Kedzierski, J. Thome, T. Shedd have volunteered to present
- Feb. 9 deadline to be included in the Long Beach program

c. Future program ideas

- Send new ideas to S. Eckels and/or A. Jokar

7. Report from Handbook Chairperson (R. Couvillion)

a. Discussion of Research inclusion in the Handbook

b. Schedule for next Handbook update

- Chapters 2, 3, 4, and 5 of the Fundamentals are due for updates
- R. Couvillion will work on Ch. 3, T. Shedd on Ch. 4 and M. Ohadi on Ch 5
- Need to create a plan and then make changes, so create a meeting on Sunday in Long Beach before the Research Subcommittee meeting: 1:30 to 3:30.

8. Report from Webmaster (D. Nutter)

- No report

9. Report from Research Chairperson (J. Huber)

- Society Goals – sustainability, baseline building data, net-zero energy use
- Note that the California Energy Commission is co-funding energy research, particularly in the areas of residential HVAC, commercial HVAC, commissioning and diagnostics, and software tools
- There is currently ample funding for ASHRAE research
- Society is sponsoring a seminar: How to write successful Workstatements and RTARS
- Please congratulate Zahid Ayub who has received a Society Research Award
- Reminder to all PIs to submit quarterly progress reports!

a. Current Research

i. RP-1280 (Measurement and Evaluation of Single-Phase Heat Transfer and Pressure Drop Inside Enhanced Tubes for Transition Flow, PI = Joshua Meyer, PMS Chair = Petur Thors)

- Over the past 6 months, the PIs have generated a model and validated with data
- They indicate low measurement uncertainties

- Data on smooth and enhanced tube both appear very accurate
 - Nine more enhanced tubes to test; the PI is suggesting fewer data points now that model has been made.
 - Requested 12 month no-cost extension; this was approved (12 – 0 – 0)
- ii. **RP-1270, (Performance Characterization of Selected Refrigerants in Flat Plate Microscale Condensers, PI = Michael Ohadi, PMS chair = Jon Hartfield)**
- Condensation in a micro channel with hydraulic diameter of 0.7 mm
 - 80% of testing with R-134a done
 - Researchers will use R-245fa – change from original plan (instead of HFE7100) due to issues of sub-atmospheric pressures, etc.
 - Changed fluids in November and approved by PMS at that time
 - Compared fluids and operating conditions
 - R-245fa has a strong dependence on system pressure compared with R134a
 - Request 6 month extension, the PMS already voted so that Maryland could extend the contract
 - Need quarterly report!
- iii. **RP-1352 (Evaporation in Corrugated Plate Heat Exchangers with Ammonia and Ammonia/miscible oil) (PES Chair: Ayub)**
- Work is getting started in Pakistan
 - Note: Take care with test stand at low temperature conditions
- iv. **ASHRAE New Investigator Award. (Tim Shedd @ University of Wisconsin-Madison, PMS Chair is Steve Eckels)**
- New R123 loop and visualization
 - TC found the work informative and interesting
 - TC Moves that Shedd has fulfilled work indicated under the project; Approved (10-1-0, one member has left)
- b. **Long Range Research Plan from Qubec Meeting (Looking for RTAR writers)**
- i. **Determination of State of the Art of CFD for Fin Design**
- Rejected again. Comments:
 - Title needs to be modified. What is the applicability to strategic research plan? Vendors should undertake this. There are commercialism problems. Are there any indications that vendors want to use these codes? Basically not a suitable project for ASHRAE research.
 - TC will not pursue this further.
- ii. **Work Statement “Correlation for Air-Side Heat and Mass Transfer in Finned-Tube Heat Exchangers with High Latent Cooling Loads” (B. Nelson)**
- Topic expired from plan and no longer on plan;
 - Workstatement must be submitted by October 2007.
 - B. Nelson – When using 100% outdoor air, models are not working with that much latent cooling. At some point lowering the temperature did not gain in lowering air temperature.
 - However, E. Ratz did not find strong motivation. Many researchers have looked at the problem; literature shows that heat and mass transfer coefficients are insensitive to temperatures and flows

- B. Nelson – Perhaps the type of heat exchanger is quite different. The ones being considered are 10 to 12 row coils with large liquid retention
- Final date for approval is August 15
- Bruce and Bronco will complete work statement

iii. **Update on “Modeling of Frost Growth” RTAR (B. Nelson)**

- No discussion

c. **Committee review of new URP-1444**

- PES was formed to evaluate proposal; one score was low
- A motion to support funding of URP1444 was put forward and seconded
- Discussion indicated concern with the PI’s methodology and whether objectives could be achieved with test setup presented
- Move to table motion until response can be obtained from PI an e-mail ballot can be made; Move to table was approved (12-0-0)

10. New business (Eckels)

- No new business.

11. Announcements from TC chairperson meeting (Eckels)

- Rick Hall head of SSPC 41 is looking for committee members to help with the update of Standard 41

12. Adjourn (Eckels)