

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING
ENGINEERS, INC.
1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400**

TC/TG/MTG/TRG MINUTES COVER SHEET

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

TC/TG/MTG/TRG No. 1.3 DATE 08/25/14

TC/TG/MTG/TRG TITLE Heat Transfer and Fluid Flow
DATE OF MEETING 1 July 2014 LOCATION Seattle, WA

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Steve Eckels	2014	Steve Brown	2015	Justin Kauffman
Amir Jokar	2015	Petur Thors	2014	Lindsey King
Stanislav Perencevic (NQ)	2016	Ebrahim Al-Hajri	2015	Lorenzo Cremaschi
Ken Schultz	2014	Branko Korenic	2016	Liping Liu
Michael Ohadi	2016	Rick Couvillion	2017	Ben Dingel
Tony Jacobi	2016	Zahid Ayub	2015	Satheesh Kulankara
Joe Huber	2017			Achim Gotterbarm
				Yirong Jiang
				Evraam Gorgy
				Oman Abdelaziz
				Kashif Nawaz
				S.A. Sherif
				Vikrant Aute
				Bill Fox
				Yang Zou
				Shenghan Jin
				Melanie Derby
				Will Asher
				Sankar Padhmanbham
				Pega Hrnjak
				Stefan Elbel



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				Jun Wang
				Karine Brand
				Harvey Schowe
				Andrea Knoepfler
				Ammar Bahman
				Cristian Bach
				Apichit Lpana
				Florian Hudelmaier
				Ray Rite

DISTRIBUTION

<i>All Members of TC/TG/MTG/TRG plus the following:</i>	
TAC Section Head:	Jeff J Traylor
TAC Chair:	Walter T Grondzik
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters:	Arthur L Giesler, Van D Baxter, Cecily M Grzywacz
Manager Of Standards	Stephanie Reiniche
Manager Of Research & Technical Services	Mike Vaughn



ASHRAE TC 1.3 – Heat Transfer and Fluid Flow Annual Meeting, 1 July 2014

Call to Order and Reading of TC 1.3 Scope (Amir Jokar)

Chair Amir Jokar called the meeting to order at 1:00pm. The title, purpose and scope of the TC were read.

Introduction of members and guests (Amir Jokar)

Introductions around the room followed.

Establishment of Quorum (R. Rite)

7 of 13 voting members were present at this time so a quorum was established. Voting members present included: Schultz, Eckels, Perencevic, Jacobi, Ohadi, Jokar, Huber
Voting members absent were: Thors, Korenic, Al-Hajri, Ayub, Brown, Couvillion
Voting members and the year they roll off are shown below:

Ken Schultz (2014)
Petur Thors (2014)
Steve Eckels (2014)

Amir Jokar (2015)
Ebrahim Al-Hajri (2015)
Zahid Ayub (2015)
Steve Brown (2015)

Stanislav Perencevic (NQ) (2016)
Tony Jacobi (2016)
Branko Korenic (2016)
Michael Ohadi (2016)

Rick Couvillion (2017)
Joe Huber (2017)

Review/Approve Minutes from New York, January 2014 (R. Rite)

Motion: Approve minutes as submitted. (Schultz/Eckels) 7-0-0

Liaison/Chairman Comments (Amir Jokar)

There is a new TC award – Outstanding TC. It is an annual award for the outstanding TC in each section.

Hightower award nomination deadline is 9/1. This award is for outstanding tech leadership and contribution to TC/TGs over last four years. Service to ASHRAE research award deadline is 10/30/14. ASHRAE is looking for nominations.

There is a new MTG on Building Dampness.

Beta testing of remote access to meetings continues. TC 1.3 is not interested at this time.



Amir asked **Jon Cohen (CEC)** to appear at the TC 1.3 meeting to answer questions about why TC 1.3 programs have been rejected. There has been much dissatisfaction among members on program acceptance rate. Several members were very passionate on the topic and could not understand why several programs proposed by the TC with internationally known presenters would have been rejected not once but twice in one case. Jon clarified the misconception that rejected programs get priority. They do not. Programs are selected by track chairs. Top programs from each track get selected by the chair for each track and assistants.

Omar Abdelaziz asked how tracks are selected. Requests can come up from members, e.g., one of the current tracks was suggested by a member to Jon at San Antonio. Programs selected based on abstract.

Jon suggested submit as conf. paper. However, conf. papers take longer to prepare and deadlines are sooner, so there was resistance to do that by some TC members. Conf. papers are not in transactions, but are published separately and available only through ASHRAE for purchase. This is non-archival and so problem for academics. The CEC membership does include several academics, so they are aware of the problem. ASHRAE is looking at Orchid as another venue for conf. paper distribution. Conf. paper successful acceptance process: Submit to track. Track chair should be contacted and lobbied. Conference papers more numerous. And slot availability is getting slim. Need complete submissions or lose points.

Amir Jokar asked if a TC could get more than two programs in a conference. Jon thought that was not likely. Track chairs do talk. Number of programs per each TC is considered. Chicago has fewer conf. submissions so far should be easier to get seminar in there.

Jon was asked about poster sessions to increase the number of papers that can be accepted. Poster sessions are not allowed. Would need to have change from ASHRAE board was the answer.

Steve Eckels asked how to interact with CEC on grouping conference papers into a session. Jon urged him to send e-mail to conference chair with proposal.

Ken Schultz suggested that ASHRAE was more externally focused now rather than internally, so manufacturers are being left out.

Art Geisler (Research Liaison) New policy on RTARS: Will accept with comments or reject. This should stop the RTAR re-writing with the expectation that comments are addressed in WS. List of proposal criteria in Research Handbook is an example only. We are free to select and create criteria appropriate to the work statement. Research Promotion set a record this year, so they have money. \$10M currently under contract. Art mentioned that RTAR 1737 (hydrophilic coatings) was rejected under new policy. Experienced people on committee didn't think coatings would hold up (fouling), so no point to longer term project. Even if there is a no, new info can get it accepted. Submit as new RTAR will get new number and fresh look. Chair of RAC is Don Bivens right now.

Section Head Comments (Jeff Traylor)

Amir did not see Jeff at this conference.



Program Subcommittee (Lorenzo Cremaschi)

Before this report was started in earnest, Amir Jokar had these stats from the Chair's breakfast:

Seattle: Conference papers Abstracts submitted/accepted: 216/189, 120 became drafts and 116 were finally accepted.

Seminars submitted/accepted: 109/51; Forums: 14/1; Workshops: 35/17

Discussion ensued. It was observed that it looks like a conf. paper is near certainty (116/120). However, there is concern that Tech. content of conferences now are not guaranteed by TCs. Steve Eckels expressed the need for clarity on how they count. Are conf. papers repackaged seminars (PPT and 8 pages)?

Status of current/proposed programs

"Modern Measurement Techniques in HT and Fluid Flow" was submitted twice and rejected twice and will not be resubmitted.

Plans for future programs (seminar/forum/workshop)

Chicago: For a conf. session entitled TBD there are two conf. papers: Lorenzo Cremaschi (Nano-lubricants) and Liping Liu (Uncertainty) deadline 7/7 for draft. Abstracts already submitted. Does anyone have another paper? Contact Lorenzo.

Motion: Submit conf. paper session (Eckels/Huber) 7-0-0.

Workshop "Fundamental Applications of Liquid-to-Ref HXs" sponsor 8.5.

Motion: TC 1.3 to co-sponsor workshop (Shultz/ Jacobi) 7-0-0

New ideas. E-mail solicitation not working. Requesting input at this meeting.

Atlanta (9/22/14 abstract): Nothing so far. Ideas: Seminar/Conf. Paper co-sponsor two 8.4 current research projects (L. Cremaschi/C. Liu), Frost: Andrew Summers, Omar Abdelaziz, Tony Jacobi. Have until after Chicago to submit.

Handbook Subcommittee (Amir for Rick Couvillion)

Van Baxter liaison. Deadlines are as follows:

Chapter	Deadline
3	3/8/16
4	3/29/16
5	4/19/16
6	5/10/16
30	7/19/16

Membership Subcommittee (Achim Gotterbarm)

As of 7/1/14 there are 13 members. Rolling off: Schultz, Eckels, Thors

On 7/2/14, there will be 15 members Rolling on: Achim (NQ), Lorenzo, Liping, Ray, Satheesh



There are 82 CM. Achim has contacted everyone. Will send one more e-mail and if no reply will be deleted.

Webmaster/Journal/Insights Reports (Lindsey King)

Lindsey has taken over. Critical information on website. Membership list is there but only Amir has e-mail listed. Minutes need to be added. Joe to communicate with Lindsey on research items.

Research Subcommittee (Joe Huber)

1556-TRP: Characterization of Liquid Refrigerant Flow Emerging From a Flooded Evaporator Tube Bundle (PI: Steve Eckels, Kansas State University - PMS: Jon Hartfield, Zahid Ayub, Satheesh Kulankara, Satyam Bendapudi)

Status: PMS change: Satheesh will now be chair. Report was made by William Asher at Research meeting Sunday. Should finish 2/15. Update: Testing on first bundle with R134a. Will wrap that in July. Same bundle R123 next. 3/4" tube. Two issues: uncertainty on velocity. (10% nominal or max?) and magnification levels on camera? Need to provide number. PMS to meet to discuss.

1683-RTAR: Experimental Evaluation of Two-Phase Pressure Drop and Flow Pattern in U-Bends with Ammonia (Lead Author Sankar Padhmanbhan)

Status: Issue with prior published research (Kotter) addressed with two expert opinions. Kotter contacted but no reply. Art Geisler thought this would get approved now. RAC member has a concern on spending money on facilities. Wants this called out in submittal that this will not happen.

Motion: Re-submit with reviews and comment to the effect that the proposed budget shall be consistent with the policies of ASHRAE (Huber/Jacobi) 7-0-0

1737-RTAR: Study the Effects of Modifying the Wetting Surfaces of Evaporative Condensers in Refrigeration Systems for Performance Improvement (Lead Author: Amir Joker)

Status: Rejected at this meeting. Issue from RAC was that durability of these types of coatings was questioned. Will wait for specific comments and then address. TC 8.4 will be asked to co-sponsor. TC 8.6 and TC 5.7 will also be asked.

Co-sponsored Projects:

1327-TRP Flow Regime and DP determination for 2-phase ammonia upward flow in various risers." (Gary Price TC 1.3 liaison) – No report

Pending research topics and future research plans

2-phase dp across orifices (Eckels) conversation will be initiated, modified surface energy (Nelson), in-tube ht/dp, electronics cooling, cooling of hermetic motors (Schultz)

Joe Huber reported on the Research Chair's meeting. Slides attached here.

- There are currently 63 active projects worth \$10.8M





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- 16 completed 20 approved
- Good balance
- 9 RTAR evaluated/4 accepted
- PES needs to keep confidentiality when reporting out to TCs. Only voting members are privy to details
- Bid dollars will now be concealed during initial evaluation. After PES does discussion, then \$ brought up. Chair will probably manage this.
- New ASHRAE Strategic plan (Overall). Committee to be struck in 7/15 to use this to make research plan.

New Business (Amir Jokar)

Steve Eckels received distinguished service award. Chair offered Steve congratulations on well-deserved award.

2014-15 ASHRAE Graduate Student Grant-In-Aid Awards (\$10k) in TC 1.3 Scope:

- Dustin Ray Univ. of Alaska Fairbanks – “Thermal and fluid dynamic performance evaluation of nanofluids through experimental and numerical approaches”
- Brent Lindeman Univ. of Wisconsin Madison – “An investigation into the onset of heterogeneous boiling of pure fluids near solid-solid interfaces”

Both have been invited to make a presentation at the research meeting.

Schedule Next Meeting (Amir Jokar)

Tuesday, 27 January in Chicago at 1-3:30PM.

Adjournment (Amir Jokar)

Motion to adjourn at 3:30 (Huber/Jacobi)

Submitted by R. Rite as draft on 7/4/14.

Submitted by R. Rite as revised draft on 1/18/15.