

Attachment A: TC 10.7 Attendee List for June 28, 2013 Meeting, Denver

Name	Company/Affiliation	Status
Dean Swofford	Hillphoenix	Chair/VM
Brian Fricke	Oak Ridge National Labs	Vice Chair/CM
David Demma	United Refrigeration	Handbook/VM
Cynthia Gage	US EPA	Program/VM
Daryl Erbs	Manitowoc Food Service Group	Research/CM
Van Baxter	Oak Ridge National Lab	Stds/CM
Cesar Luis Lim	San Miguel Corporation	VM
Charles Hon	True Manufacturing	VM
Georgi Kazachki	Cryotherm Consulting	VM
Maryline Rassi	AHRI	VM
Pradeep Bansal	ORNL	VM
Robert Sperl	Wegmans	VM
Carl Roberts	Zero Zone Inc.	CM
Christopher Rogers	PECI	CM
David Cowen	Food Service Technology Center	CM
Eckhard Groll	Purdue University	CM
Jon Murray	Structural Concepts	CM
Kristina Kamensky	Prismitech LLC	CM
Kyle Larson	Vacom Technologies	CM
Mark Spatz	Honeywell	CM
Patti Conlan	Arkema	CM
Ramin Faramarzi	Southern California Edison	CM
Samir Traboulsi	Thermotek	CM
Sarah Widder	PNNL	CM
Scott Mitchell	Southern California Edison	CM
Shitong Zha	Hill Phoenix	CM
Tim Anderson	Hussmann Corporation	CM
Abdul Mohammed	UD-IAC	Guest
Assaad Zoughaib	Mines Paris	Guest
Bingyi Yu	LBNL	Guest
Carlos Haiad		Guest
Caleb Nelson	CTA	Guest
Chad Bowers	Creative Thermal Solutions	Guest
Colin Weber	Navigant Consulting Inc	Guest
Denis Livchak	Food Service Technology Center	Guest

Gustavo Pottker	Honeywell	Guest
Jason Paquette	Structural Concepts	Guest
Jeff Newel	Hillphoenix	Guest
Louis Escobar	ACCA	Guest
Martin Hansen	Heat Transfer Products Group	Guest
Mazyar Amin	Miami University	Guest
Niel Hayes	Hillphoenix	Guest
Randy Haseman	Underwriters Laboratories	Guest
Richard Weekley	HTPG	Guest
Robert Dody	Structural Concepts	Guest
Samuel Yanna	Honeywell	Guest
Stefan Elbel	Creative Thermal Solutions	Guest
Stephen Schaefer	Hoshizaki	Guest
Ankit Sethi	Honeywell	Guest
Tim Roberts	Parker-Sporlan	Guest

Attachment B: Upcoming Workshops and Conferences

- **ECOS 2013**, July 16-19, 2013 - Guilin, China. Endorsed by ASHRAE. Contact ecos2013-china@iet.cn or <http://tinyurl.com/d6s3gnk>.
- **CIAR XX**, July 22-23, 2013 - Cartagena, Colombia. Endorsed by ASHRAE. Contact ciar2013@acaire.org or <http://tinyurl.com/CIAR2013>.
- **IBPSA 2013 (13th International Conference of the International Building Performance Simulation Association)**, Aug. 25-30, 2013 - Chambéry, France. Endorsed by ASHRAE. Contact: <http://www.bs2013.fr/>
- **AHR Expo-Mexico 2013**, Sep. 23-25, 2013 – Mexico City, Mexico. Endorsed by ASHRAE. Contact www.ahexpomex.com/eng
- **5th International Conference – Solar Air Conditioning**, Sep. 25-27, 2013 – Black Forest, Bad Krozingen, Germany. Endorsed by ASHRAE. Contact: <http://solaircon.com/>
- **7th CLIMAMED Mediterranean Congress of Climatization**, Oct. 3-4, 2013 - Istanbul. Endorsed by ASHRAE. Contact 90 3124194571, ttmd@ttmd.org.tr, or www.climamed.org.
- **ICEBO (13th Annual International Conference for Enhanced Building Operations)** Oct. 8-11, 2013 Montreal, QB, Canada. Contact <http://ietc.tamu.edu/home> or <http://icebo.tamu.edu/home>
- **IAQ 2013: Environmental Health in Low Energy Buildings**, Oct. 15-18, 2013 Vancouver, BC, Canada. Contact ASHRAE at 800-527-4723, ext. 1158, IAQ2013@ashrae.org, or www.ashrae.org/IAQ2013.
- **iMechE BIM Seminars: Manufacturing with BIM: Ensuring Cost-Effective Integration**, Oct. 17, 2013 Manchester, UK. Contact: <http://events.imeche.org/>
- **The 12th Asia Pacific Conference on the Built Environment**, Nov. 5-7, 2013 Shangri-la Hotel Makati, Manila, Philippines. Contact: <https://www.ashrae.org/membership--conferences/conferences/ashrae-endorsedevents/2013/12th-asia-pacific-conference-on-the-built-environment>
- **iMechE BIM Seminars: Manufacturing with BIM: Ensuring Cost-Effective Integration**, Nov. 7, 2013 London, UK. Contact: <http://events.imeche.org/>
- **1st International Conference on Energy and Indoor Environment for Hot Climates**, February 24-26, 2014, Doha, Qatar. Contact: www.iea-hpc2014.org or <http://ashraem.confex.com/ashraem/ihc14/cfp.cgi>
- **49th AiCARR International Conference of 2014**, February 26-28, 2014, Rome, Italy. Contact: <https://www.ashrae.org/membership--conferences/conferences/ashraeendorsed-events/2014/49th-edition-of-aicarr-international-conference-of-2014>
- **2014 International Sorption heat Pump Conference (ISHPC2014)**, Mar. 31 – Apr. 3, 2014, College Park, MD, USA. Contact: <http://www.ceee.umd.edu/events/ISHPC2014/>
- **2014 ASHRAE High Performance Buildings Conference – San Francisco, CA USA**
- **2014 ASHRAE/IBPSA-USA Joint Building Simulation Conference – Atlanta, GA USA Sep. 10-12**

• **Efficient, High Performance Buildings for Developing Economies** — April 24 - 25, 2014 - Manila, Philippines Conference Paper Abstracts due July 12, 2013.
<http://ashraem.confex.com/ashraem/dev14/cfp.cgi>

• **11th International Energy Agency (IEA) – Heat Pump Conference**, May 12-16, 2014, Montreal, Canada. Contact: www.iea-hpc2014.org. See attached call for papers pamphlet. Paper Abstracts due date extended to June 30 and if someone needs more time that will be ok too.

Attachment C
Report from TC 10.7 Program Subcommittee Meeting
Denver, CO - Sunday June 23, 2013

Denver has 22 Conference paper sessions presenting 82 papers (105 submitted). 162 conference paper abstracts and 66 Technical papers were submitted for New York. Like Denver, Seattle will have a research focus as will annual meetings in the foreseeable future.

CEC would like TCs to package papers together that make sense and submit a session package. Paper abstracts should be reviewed by TCs for clarity. CEC suggests contacting track chairs when submitting sessions and if the abstract is received early enough they will review and provide feedback.

- Denver Program from TC10.7
 - Conference Paper Session 2: Smart Grid: Demand Response Measures, the Human Element, Building Management Systems and Smart Appliances, Sunday morning (1 paper from TC10.7)
 - Conference Paper Session 7: Reducing the Climate Impacts of Refrigeration Systems Monday 8-9:30. (2 papers from TC10.7)
 - Conference Paper Session 12: Identifying Efficiency Opportunities for Refrigeration Systems; Monday 11:00-12:00 (1 paper from TC 10.7)
 - Seminar 34 – Reducing the GWP Impacts of Commercial Refrigeration (Tues 3:15PM -4:45 – Plaza Ballroom E)
 - Seminar 39 – Demand Response (DR) Opportunities with Commercial Ice Machines (Wed 9:45AM -10:45 – Governors Square 14)
 - Seminar 46 (co-sponsor) - Practical Experiences with Low-GWP and Natural Refrigerants in Supermarkets (Wed 11:00AM -12:30 – Governors Square 15)
- 2014 Winter Meeting – New York, NY – January 18-22
 - Final conference papers due July 3
 - Technical paper reviews due Aug 12
 - Seminar and Forum proposals due Aug 12
- 2014 Annual Meeting – Seattle, WA – June 28-July 2 (Research Focus again)
 - Conference Paper abstracts due Sept 23, approval Oct 7, due Jan 9
 - Technical papers due Sept 23
 - Seminar and Forum due Feb 13

Suggestions for New York:

Forum (Moderator-Carl): Supermarket hot gas defrost piping guidelines

Panel Discussion (Chair – Caleb Nelson): “System Design Procedures with Zeotropes” regarding design approach for high-glide refrigerants, viz., condenser sizing, compressor maps, dew point vs. bubble point vs. mid-po int temperatures, etc. Members: Carl Roberts (how manufacturers use that info), Caleb (general issues), Dave Demma (heat exchangers), Emerson compressors (Otto Nickelson?)

Seminar (Chair -Cynthia):” Natural Refrigerants in Supermarket Refrigeration”: Presenters: Shitong Zha (CO2 booster system case study by Hill-Phoenix; Caleb Nelson (DeCA – ammonia store at Lackland AFB or international speaker on ammonia store). Charlie Hon (Propane as an option for supermarkets)

Options for Seattle+

Heat reclaim - response to CA regs coming on in 2014 and Seattle regs in place.

It was thought SCE might have information on laboratory and field studies of CO₂ vending machines. No longer an option. Instead they may have some test results on demand defrost testing including coatings for HXs. This could be part of a seminar for Seattle.

Forum topic - something on floating head and interactions with other efficiency strategies? Are models available? How do you know if it's optimized?

Attachment D
TC 10.7 Research Subcommittee Meeting
2013 Annual Meeting – Denver
June 23, 2013
Meeting Minutes

1. Active Research Projects:

Research Project #1467 - Balancing Latent Heat Load between Display Cases & Store Comfort Cooling

- Contractor: Michael Brandemuehl and Penny Cole - University of Colorado
- Project Monitoring Subcommittee: Daryl Erbs, Rob Uhl, Xudong Wang

Draft final report received and reviewed by PMS. Minor changes were provided by PMS, incorporated into updated draft, and draft report submitted by PMS to TC 10.7 chair for review and vote by full Committee.

Refrigeration Committee Research Project #1634 – Guide for Sustainable Refrigerated Facilities and Refrigeration Systems

Contract negotiations are continuing.

2. Pending and Potential Research Projects:

Draft RTAR: Minimum Refrigerant Charge Attainment for Commercial Refrigeration Systems

- RTAR Draft prepared by Daryl Erbs

RTAR was submitted to RAC for review at the annual meeting. The RTAR was returned by RAC with comments. The reviewers concerns include too broad of a scope for both the list of working fluids and components, and whether the research would be pre-competitive. RTAR can be converted to a work statement as the next step to address the concerns stated.

TC7.5 Work Statement 1615-WS (previously TC10.7 RTAR #1429) - Fault Detection and Diagnostic Methods for Supermarkets (co-sponsored by TC10.7)

RTAR Author: Zheng O'Neill – JCI, TC7.5

TC 10.7 approved submission of the work statement as a co-sponsor, and it was reviewed by RAC. The work statement was returned by RAC with comments.

MTG Low GWP

- Current Status:
 - MTG approved by TAC in Chicago

Meeting held on Wednesday, June 26th in Denver.

3. New Research Project Ideas

Carl Roberts will take the lead in developing a RTAR on use of air curtains for reducing refrigeration loads in glass door cases. Benefits include reducing infiltration when doors are opened, reducing convective heat transfer to inner glass surface, and reduction of anti-sweat heating required for condensation on glass. Kristina Kamensky volunteered to help author RTAR.

Tim Anderson has started working on RTAR for Method of Test for secondary fluids with two phase flow entering or leaving a case. Background research has not turned up much prior work in this area. The primary

need is for CO2 overfeed systems. It was recommended he talk to Bruce Coburn based on work done at SCE RTTC on use of mass flow meters for two phase flow measurement.

Kristina Kamensky submitted a research proposal to RAC as an unsolicited project. It was rejected. She has agreed to work with TC 10.7 to create an RTAR and submit through the TC once it has been reviewed and approved by 10.7.

A new research topic introduced is the use of geothermal heat exchange for condensing CO2 in supermarket refrigeration. This may extend the range of climate/geography where CO2 is able to be used for both the medium and low temp stages.

It was decided to drop the topics of: 1) heat reclaim optimization for supermarket rack systems, and 2) real world return gas temperature vs. manufacturer ratings for condensing units. The general consensus is the industry is capable of analyzing and completing designs based on information and design tools currently available.

Attendees to Program/Research/Handbook Subcommittee meetings

Name	Affiliation	Email
Daryl Erbs	Manitowoc Ice	
Scott Mitchell	SCE	
David Cowen	PG&E FSTC	
Kristina Kamensky	Prismitech LLC	
Christopher Rogers	PECI	
Shitong Zha	Hill Phoenix	
Barbara Minor	DuPont	
Cynthia Gage	US EPA (retired)	
Denis Livchak	PG&E FSTC	
Carl Roberts	Zero Zone	
Caleb Nelson	CTA	
Kyle Larson	VaCom	
Patti Conlan	Arkema	
Dave Demma	United Refrigeration	