

**Minutes of the  
Joint ASME-AIChE Committee on Thermophysical Properties**

**Friday, June 24, 2005  
9 AM – 3:20 PM**

Present: Jim Ely, Dan Friend, Mickey Haynes, Jim Holste, Richard Jacobsen, John Kincaid, Jan Sengers, Ilja Siepmann, Rajiv Singh, Rakesh Srivastava, Neil Wright

Absent: Peter S. Kezios, Andreas Mandelis, Paul Mathias, Steve Penoncello, Martin Schiller, Zhuomin Zhang

**Review & Approval of Minutes of 22 November 2004 web-meeting**

The minutes of the 22 November 2004 web-meeting were approved as presented.

In response to the note about Jim Olsen's resignation from the committee, it was moved, seconded and carried (unanimously) that the committee send him a note of appreciation for his contributions during his many years of service.

**Report from the AIChE Liaison**

Jan Sengers reported that he has discussed the committee's activities with Joe Cramer and the chair of the AIChE Area 1a program committee (thermodynamics and transport properties). He also presented a report at the annual meeting of the Area 1a program committee. He reports that the AIChE is appreciative of the joint committee's efforts at the Summer Heat Transfer Conference, because Area 1a is not actively involved in this conference.

Jan will not be able to attend the AIChE Annual Meeting in Cincinnati this fall. Ilja Seipmann agreed to report to the Area 1a program committee at that meeting.

**Report on sessions:**

The proposed session for the 2005 Summer Heat Transfer Conference emphasizing hydrogen did not attract any abstracts on heat transfer in the hydrogen economy, but it did attract other thermophysical abstracts. As a result, two sessions will be run by K-7: Properties at the Nano- and Micro-Scales (Marcia Huber and Dan Friend) and Thermophysical Properties and Measurement Techniques (Neil Wright)

Zhuomin Zhang is putting together a group of sessions focused on radiative properties in nanotechnology for the 2005 IMECE. These sessions are :

1. Significant Questions, Trends, and Challenges in Nanoscale Radiation (Zhuomin Zhang, Peifeng Hsu & Pinar Menguc)
2. Surface Electromagnetic Wave and Near-Field Effects (Zhuomin Zhang and Pinar Menguc)
3. Nano/microstructure Effects on Radiative Properties Zhixiong Guo and Pinar Menguc)
4. Photon and Phonon Resonances on Energy Transfer (Xianfan Xu and Pinar Menguc)
5. Radiative Properties of Nanomaterials and Applications (Shaochen Chen and Zhuomin Zhang)

Neil Wright will run a general session on Thermophysical Properties; Dick Jacobsen offered to

help if needed.

Dick Jacobsen discussed the significant reorganization of the ASME. Many officers were eliminated. There now is a vice president in charge of Knowledge & Community Groups. The joint committee is in this group, within "Technical Communities". Karen Moore is the vice president with responsibility for this community.

There recently has been a distinct movement by engineering groups away from the Winter Annual Meeting to specialized topical meetings. Areas related to solids and design remain active at this meeting, but activity related to fluids or biological topics is limited. Sessions organized by the committee at recent meetings have not been well attended. A reasonable policy for the committee would be to support any committee members that wish to organize something for the Winter Annual Meeting, but not to emphasize it in committee activities.

As a method of supporting the Summer Heat Transfer Conference, the committee may wish to meet at the Summer Heat Transfer Conference in years when the triennial symposium is not held. The committee decided to wait until the ASME K-7 committee decides its plan for the future. Because the meetings next year will be held at the beginning and end of the symposium, the decision does not need to be made before scheduling the 2007 committee meeting.

### **Thermo International 2006**

The dates of the joint conference are set for July 30 through August 4, 2006. The URL for the conference website is [www.thermointernational.org](http://www.thermointernational.org)

There will be five joint symposia, with organizers and plenary speakers as shown below.

#### Ionic Liquids

Co-organizers: Ken Marsh (New Zealand), Andreas Heintz (Germany)

Plenary speaker: Ken Seddon (UK)

#### Molecular Modeling Including Simulation:

Co-organizers: Ray Mountain (USA), Susumu Okazaki (Japan)

Plenary speaker: Daan Frenkel (The Netherlands)

#### Databases, Data Systems, Software Applications, and Correlations:

Co-organizers: Marcia Huber (USA), Andy Johns (UK);

Plenary speaker: Marco Satyro (Canada);

This session will be held in memory of Randy Wilhoit

#### Thermodynamics and Properties in the Biological, Medical, Pharmaceutical, Agricultural, and Food Sectors

Co-organizers: Mike Henzl (USA), David Remeta (USA), Neil Wright (USA);

Plenary speaker: Peter Privalov (USA)

#### Properties and Processes for a Hydrogen-Based Economy (Workshop):

Co-organizers: Dick Jacobsen (USA), Dick will look for a co-organizer from outside the USA

Cor Peters is possible plenary speaker for this symposium.

The committee discussed whether manuscripts should be required of plenary speakers. The consensus was that symposia policy should continue to be that manuscripts are strongly encouraged, but not required.

The committee discussed potential keynote speakers and Touloukian Lecturer. Suggested speakers include were discussed.

The committee discussed whether or not it is appropriate to use keynote speakers from previous conferences as the keynote speaker for the combined conference. It was moved and seconded to authorize the organizing committee to select the keynote speaker for the conference as they see fit. The motion carried unanimously.

## Update on 16<sup>th</sup> Symposium

Dan Friend reported that the first announcement has not been sent out, yet. Draft copies of the brochure were distributed to the committee for review. Several editorial suggestions were made. E-mail will be used as the primary distribution mechanism. The brochure will be sent as a pdf file. In addition, committee members should distribute paper copies at meetings they attend. A printable version should be sent to committee members, in addition to the easily read version that the entire mailing list will receive. (Front and back printing requires a different, less readable, page layout for the printable version.) Final version of brochure will be prepared on Monday, June 27.

The paperwork for ASME sponsorship remains to be completed.

There is a complete list of topics on the website. We do not have organizers for every session, so the committee discussed potential organizers for each session:

Fluctuation-Induced Properties of Fluids - Anisomov

\*Fluid Property Measurements - Rakesh Srivastava

Instrumentation and Measurement Techniques – Mike Moldover (he may not be available because of health issues), Tom Bruno, Martin Trussler, Tony Goodwin (possible invited speaker)

Inverse Problems and Non-Destructive Evaluation – Leave this to Andreas Mandelis to find an organizer; also, Neil will look into this topic

Ionic Liquids – Joint Symposium

Molecular Modeling, Including Simulation - Joint Symposium

Optical and Thermal Radiative Properties of Materials – ask Zhuomin Zhang for suggestions

Photothermal and Photoacoustic Techniques – Andreas Mandelis to find organizer

Properties and Processes for a Hydrogen-based Economy - Joint Symposium

Properties at the Nanoscale – Zhuomin Zhang

Properties for Metallurgical Process Design – Egry, Overfelt

Properties for Microelectronics – ask Zhuomin Zhang for suggestions, suggest Bar-Cohen as invited speaker

Properties for Sustainable Development – Robert Breckenridge (INL), Paul Wichlacz (INL), Signe Kjelstrup (invited speaker)

Properties of Aqueous Systems – Ilja Siepmann

Properties of Fuels, including Natural Gas Systems – Holste & Hall

Properties of Mesoscopic and Self-Assembled Systems – Anisomov (?), Srinivasan Raghavan, Sharon Glotzer

Properties of Nuclear Materials – Fred Gunnerson

Properties of Polymers – Jack Douglas, polymer division of NIST

\*Properties of Solids – Samuel Graham (through Zhuomin Zhang), ask Andreas Mandelis for other suggestions

Properties of Working Fluids, Including Refrigerants – Ravi Singh, Mark McLinden

Databases, Data Systems, Software Applications, and Correlations - Joint Symposium

Property Needs in Biothermophotonics – ask Andreas Mandelis to handle  
Subsecond Thermophysics – Francisco Righini, invited speaker from 3 years ago  
\*Theory of Thermophysical Properties, Including Statistical Mechanics – John Kincaid  
Thermodynamics and Properties in the Biological, Medical, Pharmaceutical, Agricultural and  
Food Sectors - Joint Symposium  
Wetting, Interfaces, and Membranes - Indekeu

Dan Friend presented the proposed timetable for symposium:

June 24, 2005: Organizing committee meeting  
July 1, 2005: Distribute first announcement  
July 30, 2005: Complete the outline for the conference week schedule  
August 1, 2005: Finalize keynote speakers  
August 15, 2005: Session organizers in place  
October 5, 2005: Issue call for papers  
December 5, 2005: Abstracts due  
January 31, 2006: Acceptances sent  
January 20, 2006: Look at budgets  
January 31, 2006: Invited speakers in place for all sessions  
February 15, 2006: Contract with University of Colorado completed  
March 1, 2006: Preliminary program available on the website  
March 15, 2006: Registration and housing information available on the website  
April 17, 2006: Manuscripts due (to be included in conference CD-ROM)  
May 10, 2006: Begin work on printed program  
May 15, 2006: Session chairs identified for all sessions  
June 1, 2006: Early registration deadline  
July 1, 2006: Final program completed  
July 10, 2006: CD completed  
July 30, 2006: Organizing committee meeting  
August 4, 2006: Organizing committee meeting

### **Touloukian Award: Status of Nominations**

The joint committee reviewed the rules for the Touloukian award. The Touloukian Award committee currently consists of Dick Jacobsen, Mickey Haynes, and Andreas Mandelis. The joint committee discussed the rotation of committee members. It was suggested that Dick Jacobsen leave the committee after the next symposium. During the discussion, it was noted that the ASME version of the rules of the award were not internally consistent, and that the ASME version to say that one person leaves the committee after each Thermophysical Properties Symposium. Dick will provide a proposed edited version of the rules to the committee for review. It was moved and seconded that self-nominations be banned explicitly. The motion carried by a vote of yes (9), no (1), with 1 abstention.

The committee discussed the relative merit of awarding the Touloukian Medal for a single seminal contribution *versus* sustained contributions. The committee consensus was to leave this decision to the discretion of the Touloukian awards committee.

The committee discussed the flexibility of the deadline for receipt of nominations. It was moved and seconded to implement a hard deadline for the Touloukian nominations as outlined in the rules of the award. The motion carried by a vote of yes (10), no (0), with 1 abstention.

Dick Jacobsen reported that the Touloukian Award account has a principal balance of \$25,000, and a total balance of \$34,583. There are about 10 medals remaining in the custody of the ASME.

### **Membership Nominations and Elections**

Rajut Basu and Tony Overfelt have resigned from the committee.

After a discussion of a committee policy to acknowledge contributions from committee members as they leave the committee, the committee decided by consensus to give a certificate and a letter to each person leaving the committee. Letters will be prepared for Rajat Basu (by Ravi Singh and Jan Sengers), Jim Olsen (by Jim Ely and Mickey Haynes), and Tony Overfelt (by Mickey Haynes), and forwarded to Neil Wright for signature.

It was moved, seconded and carried (unanimously) to elect Marcia Huber to membership on the committee. Other potential committee members were identified and current committee members were identified (Ravi Singh, Neil Wright, and Jim Ely) to contact them to determine their interest in serving on the committee.

### **Scheduling of next meeting**

The next meeting will be at 10 am (Eastern time) on November 14, 2005. It is to be held via the internet.

### **New Business**

There have been a few inquiries about using sites other than Boulder for the symposium. The sentiments expressed by committee members were strongly in favor of keeping the symposium in Boulder.

### **Adjournment**

It was moved, seconded, and carried that the meeting be adjourned. The meeting was adjourned at 3:20 pm.