



TO THE MEMBERS OF IMEKO TC12

Dear Colleagues

Welcome to the semi-annual Newsletter with information on TC12 activities.

The main event in our scientific community during the last semester was the IMEKO World Congress. It was a very successful event, and details are reported in the following article.

The highlight of the next semester will be our main Symposium TEMPMEKO 2007, to be held in Canada next May. The Organizers have prepared an article reporting details about the ongoing preparations and about the received abstracts. All indications point to a very successful TEMPMEKO and the Organizers are to be complimented for their great efforts in favor of our temperature and thermal measurements community.

In absence of significant TC12 News during the last semester, that section has been omitted. In the last part of the Newsletter you will find a summary table that presents the significant highlights of TEMPMEKOs in the last decade and some preliminary information on what is being planned for the future.

I am taking the occasion to send to you and your families the best wishes for the forthcoming Holiday Season.

Francesco Righini

PAST EVENTS

IMEKO World Congress in Brazil, September 2006.

The XVIII IMEKO World Congress (WC) was held in Rio de Janeiro, Brazil on September 17-22, 2006. Details and pictures are available at <http://www.metrologia2006.org.br/>

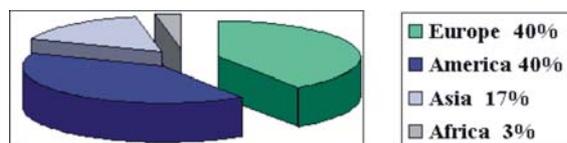
The event was very successful and was the largest WC ever held, with over 800 participants. There was significant attention to TC12 topics, with the presentation of two invited plenary lectures discussing the new definition of the Kelvin and reviewing activities in subsecond thermophysics.

During the WC, five oral sessions and one poster session related to TC12 activities were held, for a total of 30 contributions. The five oral sessions were arranged by topic to cover fundamental aspects, high temperatures, applications and thermal measurements (two sessions). Each oral session started with an "invited TC12 contribution" that was assigned a double time slot. These invited contributions highlighted the following topics: the triple point of xenon, significant changes in high temperature metrology, the development of gold-platinum thermocouples, highly sensitive fluorescent thermometry and humidity measurement applications.

All the TC12 sessions were well attended and there was a world-wide distribution of contributors. The

two invited plenary lectures were delivered by scientists from Germany and Italy. The “invited TC12 contributions” were provided by scientists from Canada, United Kingdom, Japan (2) and the United States. The scientific presentations were from Brazil (10), Poland (4), Croatia (3), Czech Republic (2), Japan (2), Egypt (1), Italy (1), South Korea (1), and USA (1).

The overall geographic distribution of contributors is presented in the following figure:



During the entire WC, a poster with the 27-year history of TC12 activities was displayed, with particular emphasis toward the TEMPMEKO Symposia and their peer reviewed Proceedings.

An informal open meeting was also held during the event, with the participation of anybody interested in our work. It included a detailed presentation of past and future TC12 activities, with emphasis on TEMPMEKO 2007.

FUTURE EVENTS



**10th International Symposium on
Temperature and Thermal
Measurements in Industry and
Science
21-25 May 2007
Lake Louise, Alberta, Canada
www.tempmeko2007.org**

Preparations are well under way for TEMPMEKO 2007. The organizing committee (Duane Brown, Ken Hill, Alan Steele) met with the Chateau Lake Louise’s conference liaison on November 4, 2006 to view and finalize the space requirements of the conference and to further logistical arrangements for meals, audio-visual, poster boards, etc. **Conference registration begins January 2, 2007. Attendees are urged to make their hotel reservations as soon as possible, and no later than the hotel’s deadline of April 19, 2007,** after which unsold rooms from the reserved conference block will be released to the hotel.

The technical program looks to be on a par with recent TEMPMEKO events. We have received 274 abstracts and are pleased to report that the overall quality is very high.

Western Europe (110)			
Austria	3	Italy	20
Cyprus	1	Netherlands	6
Denmark	2	Portugal	3
Finland	6	Spain	4
France	17	Sweden	2
Germany	24	UK	22
Central and Eastern Europe (33)			
Croatia	2	Slovakia	1
Estonia	2	Slovenia	13
Russia	15		
Asia-Pacific (74)			
Australia	7	New Zealand	9
China	16	Singapore	1
Japan	30	Taiwan	4
Korea	7		
America (47)			
Brazil	3	Mexico	8
Canada	7	USA	29
Africa (10)			
Egypt	5	South Africa	5

When compared to TEMPMEKO 2004, the most significant geographic differences in contributions are a decline of order 40% from Central and

Eastern Europe and a corresponding increase from the Asia-Pacific region. The table below shows the abstract breakdown by topic.

1. Fundamental Aspects and Standards (95)	2
1.1 Thermodynamic Temp Determinations	16
1.2 Temperature Scales	8
1.3 Fixed Points	69
2. Methods and Sensors (71)	
2.1 Thermoelectric Thermometry	11
2.2 Resistance Thermometry	12
2.3 Noise Thermometry	3
2.4 Acoustic Thermometry	0
2.5 Radiation Thermometry	40
2.6 Instrumentation	5
3. Traceability, Dissemination (55)	
3.1 Interlaboratory Comparisons	15
3.2 Calibration Procedures and Facilities	26
3.3 Uncertainty Estimation	14
4. Applications (26)	
4.1 Temperature Control and Automation	2
4.2 Dynamic and Transient Thermometry	1
4.3 Industrial Process Thermometry	5
4.4 Medical and Biological Thermometry	3
4.5 Environmental Thermometry	1
4.6 Thermophysical Properties	14
5. Humidity and Moisture (27)	
5.1 Humidity Fundamentals	2
5.2 Humidity Standards	10
5.3 Humidity Traceability	5
5.4 Humidity Interlaboratory Comparisons	4
5.5 Humidity Sensors	4
5.6 Humidity Applications	1
5.7 Moisture in Solids and Liquids	1

With such a large number of presentations, three parallel sessions are anticipated complemented by one or two poster sessions. The abstracts have been reviewed and comments were sent to the corresponding authors on December 14, 2006.

Final manuscripts are due no later than February 28, 2007 and refereeing will begin shortly thereafter. Final decisions regarding the distinction between oral and poster presentations will be based on the recommendations of the referees and the editorial team (Ken Hill, Stephanie Bell, Juergen Hartmann, Greg Strouse, Rod White), following the review of the manuscripts. The current estimate of 157 oral and 117 poster presentations is based on the stated preferences of the authors and the editorial team's opinions of the submitted abstracts.

The proceedings of TEMPMEKO 2007 will be published as several special issues of the International Journal of Thermophysics. This represents a departure from previous TEMPMEKO conferences, and carries with it some challenges. We anticipate that 4 or 5 special issues will be required to accommodate the submitted papers. Springer, the publisher of IJT, has indicated a per issue price of \$69US so the cost for the full proceedings will be of order \$276-345US. We have chosen not to include the proceedings within the registration fee in order to maintain it at \$1000CDN. Now that many (most?) institutions have online access to scientific journals, we expect that there will be considerably less demand for paper copies of the proceedings than was formerly the case. If there is sufficient interest, the organizers may coordinate the purchase of paper copies from the publisher.

The conference will begin with an opening reception/buffet on Sunday evening that we hope that all participants will attend. It is meant to be a fun and informal mixer for friends and colleagues to renew acquaintances. The conference program will comprise full days from Monday morning to Thursday evening, beginning with breakfast and

ending with dinner. All meals and coffee breaks are included in the registration fee, so attendees will be spending a great deal of time together. Remember our theme – “*Captive Audience, Captivating Location*”. On Friday, working groups will meet in conjunction with the conference.

An exhibition of temperature and humidity measuring equipment will take place adjacent to the lecture rooms, and conference participants are encouraged to take the opportunity to view the exhibits and speak with the representatives in attendance. We anticipate the participation of approximately fifteen manufacturers.

The web site (www.tempmeko2007.org) is the principal means used to disseminate information to attendees, authors, and exhibitors, so please check the site from time to time for updated information.

We are looking forward to seeing all of you at Chateau Lake Louise, a true jewel in the midst of Canada’s Rocky Mountains. I hope that we will all find time to enjoy the scenery and the surroundings at least as much as the scientific work of the conference.

Ken Hill

TEMPMEKO STATISTICS

Starting with TEMPMEKO 1996, the Symposium has produced peer reviewed Proceedings of the contributions presented at the event. A summary of the relevant data in the last decade is reported in the table below, extracted from the TC12 poster presented at the recent IMEKO World Congress.

<i>Symposium</i>	<i>Attendance</i>	<i>Refereed Proceedings</i>	<i>Peer-reviewed papers</i>
<i>TEMPMEKO 1996</i>	171 (34 countries)	1 volume (607 pages)	100
<i>TEMPMEKO 1999</i>	213 (39 countries)	2 volumes (742 pages)	120
<i>TEMPMEKO 2001</i>	325 (44 countries)	2 volumes (1208 pages)	193
<i>TEMPMEKO 2004</i>	241 (41 countries)	2 volumes (1404 pages)	209

PLANS FOR 2010

Early discussions are in progress towards a 2010 Symposium, possibly with some differences from the event traditionally convened by TC12. A preliminary proposal was distributed recently and can be obtained by emailing f.righini@inrim.it. The proposal is open for comment until 15 January 2007.