



Dear Colleagues,

***EMRP calls.***

welcome to this second appointment with the TC12 newsletter in 2011. Having received positive comments both from some of the TC12 members and from the thermal community on the enlarged distribution list, we will keep on sending it to the wider group of temperature, thermal measurements and humidity scientists.

At present, in the frame of the European Metrology Research Programme (EMRP) of Euramet, the thermal metrology activities are mainly involved in the 2010 calls on the Targeted Programs “Environment” and “Industry” and in the preparation of the 2011 call on “SI-Broader Scope”.

This issue brings you news on recent events interesting metrologists working in the fields of temperature and humidity metrology, including thermodynamics measurements, primary thermometry, hygrometry, etc.

The 2010 “Environment” and “Industry” joint research projects are ready to start, with significant progress in the negotiation phase with (and with the help of) the EMRP management. Some JRP’s kick off meetings have already been planned and will be held in autumn this year.

As a short summary, we are reporting on the advances of the **EMRP** 2010 and 2011 calls; updating on the publication of the **2010 TEMPMEKO-ISHM** Proceedings in the International Journal of Thermophysics; informing on the **New Kelvin Dissemination Workshop**; presenting the **International Surface Temperature Initiative**; and providing news about the next **TEMPMEKO**.

The JRPs for the “SI broader scope call” are in the full process of preparation. After the collection of the proposed research topics, EMRP defined 13 Selected Research Topics (SRTs) on several SI quantities. Two of the SRTs are focused on temperature metrology activities: the SRT-s12 “Novel techniques for traceable temperature dissemination” and SRT-s13 “Implementing the new Kelvin”. On June 21<sup>st</sup> two partnering meetings have been held at NPL for those two SRTs, that are known by their acronyms “NOTED” and “InK”. The JRP coordinators have been identified and received 100% agreements (votes) from the representatives of the JRP consortia who took part

As already indicated, we are open and ready to receive and publish news from all readers on topics of interest for the entire community.

*Andrea Merlone*

in the meetings. The submission deadline is on the 3<sup>rd</sup> of October 2011 and the JRPs coordinators are now working hard to define tasks, deliverables, work-packages, budgets etc. A *good luck!* to Dolores del Campo (CEM-Spain) and Graham Machin (NPL-UK) for the preparation of the JRPs, to be reviewed by independent referees in November 2011.

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### *New Kelvin Dissemination Workshop*

An important meeting for the temperature metrology community was held at NPL on 27th – 28th Oct 2010. Forty leading thermometry experts from around the world gathered to review the progress and discuss the implications of the redefinition of the kelvin and to review the requirements (if any) for a new temperature scale to replace the one currently in place (the International Temperature Scale of 1990). The findings of the workshop will help set the agenda regarding the research priorities for primary thermometry in the main national measurement institutes over the next 5 to 10 years.



More details about the workshop can be found at:

<http://www.npl.co.uk/measurement-network/engineering-optical/engineering-and-optical-events/newkelvin>

A summary of the workshop was published in *Metrologia*: Machin, G., del Campo, D., Fellmuth, B., Fischer, J., Gavioso, R., Lusher, C., Merlone, A., Mills, I., Pitre, L., de Podesta, M., “**Report of the new Kelvin dissemination workshop: 27th – 28th Oct 2010**”, *Metrologia*, **48** 68-69, 2011

*Graham Machin*

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*Joint International Symposium on  
Temperature, Humidity, Moisture and Thermal  
Measurements in Industry and Science*

May 31<sup>st</sup> - June 4<sup>th</sup> 2010  
Portorož, Slovenia  
[www.tempmeko-ishm.org](http://www.tempmeko-ishm.org)

Following the conference, in the area of temperature and thermal measurements 211 manuscripts have been submitted for review. The first and second special issues of the International Journal of Thermophysics devoted to papers from this event have been published in September 2010 and February 2011 containing 46 peer-reviewed contributions each. In the meantime another 44 submissions have been accepted and will appear in the third issue. In total 4 special issues are envisaged for the field temperature and thermal measurements and one for the field humidity and moisture. The review process in the field temperature and thermal measurements is closed now and no further manuscripts will be accepted. The guest editors wish to express their sincere

thanks to all the involved referees for the huge amount of careful and constructive reviews made.

**T: Temperature and Thermal Measurements**

**H: Humidity and Moisture**

	<b>T</b>	<b>H</b>
Total number of submitted papers:	211	56
Papers published in issues 1 and 2	92	*
Revised and accepted papers	44	10
Revised papers in final editorial process	19	0
Reviewed papers under revision by authors	43	17
Rejected or withdrawn papers	13	19

\* Humidity and moisture papers to be published in a separate special issue

*Joachim Fisher  
Jeremy Lovell-Smith*

***The International Surface Temperature Initiative***

While a handful of global and regional land surface temperature datasets exist, taking considerable efforts over decades, none are truly comprehensive or provide full traceability to known data source origin. Many of these datasets were initially developed in the late 1980s and early 1990s when technology and expectations were vastly different than today. To meet 21st century needs, a submission was made by the UK delegation to the World Meteorological Organization Commission for Climatology calling for an initiative to produce a suite of new open, transparent and verified

estimates that meet evolving user requirements. . Following this, the International Surface Temperature Initiative was promoted in 2010 in a meeting in Exeter, UK.

The initiative is envisaged to cover:

Creation of a comprehensive databank of raw observations with provenance and version tracking, where possible back to the original hardcopy observation.

Concerted efforts, working with existing programs, of historical data-rescue and near-real time data-sharing.

Creation of a suite of independently produced datasets using independent methodologies and considering different time and space scales.

A common benchmarking of homogenization methods against a consistent set of analogs to the real-world databank to facilitate comparability of data-products

Serving of data products and support to end users.

Further details can be found in a meeting report, at the time of writing in early view at Bulletin of the American Meteorological Society [DOI 10.1175/2011BAMS3124.1]. This is very ambitious project, particularly so as it is currently supported entirely through volunteer efforts.

In the short lifetime of the initiative substantial progress has been made. A steering committee and various working groups and task teams have been set up and an implementation plan published. Furthermore, the databank is starting to be populated with data, some of which has never been

publicly available before. Further details on progress can be found at

[www.surfacetemperatures.org](http://www.surfacetemperatures.org)

and three initiative related blogs.

You can contribute to the success of the initiative in several ways. First and foremost success depends upon actively engaging multiple communities, not just climate scientists. The insights that metrologists, statisticians, software engineers and others can bring are fundamental to its success. Specifically, the more help you can bring to: accessing data; insights on data characteristics and limitations; efforts to create new data products using novel techniques; and designing and active participation in benchmarking (software testing) efforts, the more likely the initiative is to be a success.

*Peter Thorne*

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### ***TEMPMEKO 2013***

As announced during the closing dinner of the 2010 TEMPMEKO-ISHM Symposium, the next TEMPMEKO event will be held in the Madeira Island from 14th to 18th October 2013, organized by the Portuguese Metrology Society – SPMET and the Portuguese Network of Accredited Laboratories – RELACRE.



The event has the support of the Madeira Autonomic Regional Government and of IPQ, the Portuguese Institute for Quality. The first call for papers of this Conference is expected to be issued in October 2012.

Madeira, known as the Atlantic “pearl” is about one hour flight from Lisbon. It is a well known tourist destination with friendly people and a good infrastructure for events. The organizing committee intends to offer you a pleasant and memorable event.

*Eduarda Filipe*

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### ***News submission invitation***

We invite all readers to submit relevant news in the fields of Temperature, Humidity, Moisture and Thermal Measurements. Welcome topics are:

practical and thermodynamic thermometry; temperature scales and fixed points; temperature and humidity measurements, calibration and control devices, methods and data analysis; Boltzmann constant and new definition of the kelvin, medical and biological thermometry; temperature and humidity measurements for meteorology and climate studies; earth surface and atmosphere thermometry and hygrometry, temperature and humidity metrology applications.

*Andrea Merlone*