

The kelvin redefinition opens exciting opportunities for realizing and disseminating thermodynamic temperature. The mise-en-pratique for the definition of the kelvin (MeP-K) allows dissemination either by thermodynamic methods or defined scales, but challenges remain in linking these approaches and demonstrating equivalence.

This unique 3-day symposium designed as an interactive summer school, aims to equip temperature metrologists with up-to-date knowledge on primary thermometry and temperature dissemination. The programme covers theory and practice of gas-based (i.e. acoustic, refractive-index, dielectric) and other (e.g. Johnson noise, Doppler broadening, quantum techniques) primary thermometry methods. Introductory lectures address temperature metrology fundamentals, establishing the ITS-90 from cryogenic to high temperatures. The lectures will be given by world leading experts in the field.

Who should attend?

Metrologists from NMIs, calibration laboratories, and researchers who need precision thermodynamic temperature measurements.

Registration fee: 200 €

Accommodation fee including lodging at the UIMP Residence for 3 nights, and full board meals for two days :160 €

Limited seats: only 35 participants!

No online option, experience it in person!

Register by April 17, 2026:

[https://forma.administracionelectronica.gob.es/
form/open/corp/dca14da8-43a5-4bb3-b6eb-
f87eb7a93b30/ejDW](https://forma.administracionelectronica.gob.es/form/open/corp/dca14da8-43a5-4bb3-b6eb-f87eb7a93b30/ejDW)

**EUROPEAN
PARTNERSHIP**



Co-funded by
the European Union

**METROLOGY
PARTNERSHIP**



Organisation

**Euramet EMP Research Project Dissemination
of the redefined kelvin (DireK-T)**

**under the auspices of Universidad
Internacional Menéndez Pelayo (UIMP)**

Dr. R. Gavioso (INRiM),
Dr. G. Machin (NPL)
Dr. M. Dobre (SMD)
Dr. M. J. Martín (CEM)
Dr. P. Castro (Univ. Cantabria)



Contemporary Issues in Primary Thermometry



**Symposium
13 - 15 May 2026
Santander, Spain**



Symposium Contemporary Issues in Primary Thermometry

Programme

Wednesday 13 May 2026

9:30 School opening

D. del Campo (CEM), President of the Consultative Committee for Thermometry (CCT) and

R. Gavioso (INRIM), Coordinator of the DireK-T Project

10:00 Introduction to metrology focusing down on temperature metrology

M. Dobre (SMD)

11:00 Coffee break

11:30 Historical introduction to thermometry Discussing scales (especially ITS-90), kelvin redefinition and the role of the *mise-en-pratique* for the definition of the kelvin (*MeP-K*)

G. Machin (NPL)

12:30 How to set up ITS-90 Contact thermometry

A. Peruzzi (NRC)

13:30 Lunch

15:00 How to set up ITS-90 Non-contact thermometry

M. Sadli (LNE-CNAM)

16:00 Common realisations to ITS-90

J. Pearce (NPL)

Thursday 14 May 2026

9:00 Acoustic Gas Thermometry: Theory

R. Gavioso (INRIM) & R. Underwood (NPL)

10:00 Acoustic Gas Thermometry: Practice

R. Gavioso (INRIM) & R. Underwood (NPL)

11:00 Coffee break

11:30 Refractive-Index Gas Thermometry:

Theory & Practice

P. Rourke (NRC)

12:30 Dielectric-constant Gas Thermometry:

Historical development, Theory & Practice

C. Gaiser (PTB)

13:30 Lunch

15:00 Primary radiometric thermometry: Theory

H. Yoon (NIST)

16:00 Primary radiometric thermometry: Practice

D. Taubert (PTB)



Friday 15 May

9:00 Johnson Noise Thermometry

P. Bramley (Metrosol)

10:00 Photonic thermometry: Doppler Broadening Thermometry, quantum methods...

O. Kozlova (LNE-CNAM)

11:00 Coffee break

11:30 Evolving traceability, self-validation, practical primary thermometry.

J. Pearce (NPL)

12:30 Closing, feedback

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Campus de Las Llamas

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