International Workshop on Spectrometric Gas Thermometry

**Session 1:** Welcome (chair: Judith Krakowski)
- Welcome
- Innovation Cluster for Environment and Climate
- Activities at CIPM Sectorial Task Group on Climate Change and Environment
- 22IE03 PriSpecTemp Project
- Introduction to the European Metrology Network for Climate and Ocean Observation

**Session 2:** Contact thermometry for air/gas: State of the art, challenges and opportunities (chair: TBD)
- EURAMET TC project Air Temperature Metrology (ATM)
- EMPIR project 19SIP06 COAT
- Overview of EURAMET TC-T activities

**Session 3:** Recent advances in spectrometric temperature methods (chair: TBD)
- Activities at USTC precision spectroscopy lab
- Redefinition of Kelvin and spectroscopic thermometry
- Ab initio line data of CO₂, CO,NH₃, N₂O, O₃, HCl, HF

**Session 4:** Applications of spectroscopic thermometry (chair: TBD)
- HITRAN & HITEMP molecular database
- NASA’s OCO-2 satellite mission and O₂ A-band spectroscopy
- Technical challenges involving high-fidelity spectroscopic measurements of line shapes and peak areas
- Laser spectroscopy based ultra-fast traceable dynamic quantities (p, T, mole fraction) measurements
- Remote sensing of air temperature using infrared satellite measurements
- Super-Lorentzian effects for selected molecules

**[Coffee Break]**

**[Lunch Break]**

**[Coffee Break]**

**[end of workshop]**

**Evening program:** city tour (guide: Kirill Berezkin) & conference dinner (Judith Krakowski)