

Metrology for multi-modality imaging of impaired tissue perfusion

Stakeholder Workshop: 23-24th May 2017

Globe Room, Bushy House, National Physical Laboratory, Teddington TW11 0LW, UK

Cardiovascular disease is the leading cause of death in Europe and costs European economies nearly €200 billion each year. Consequently, there is an urgent need for reliable diagnostic tests that identify patients at intermediate risk of cardiovascular disease, so they can be given the appropriate treatment at an earlier stage, increasing their chance of survival. Several landmark studies have shown that the accurate measurement of blood flow (perfusion) to the heart, which can indicate parts of the heart with inadequate blood supply, could be well-suited to this task. However, accurate quantification of perfusion is currently only possible through invasive measurements with catheters - a costly procedure with undesirable side-effects. Alternative medical imaging techniques have been developed to measure perfusion non-invasively but the results can vary significantly depending on which imaging technique is used. This project is developing physical standards and data analysis tools to assess the reliability of the different imaging techniques, thereby validating their potential use in the early diagnosis of cardiovascular disease.

Project partners:

- **PTB:** Physikalisch-Technische Bundesanstalt, Germany
- **LNE:** Laboratoire national de métrologie et d'essais, France
- **NPL:** National Physical Laboratory, United Kingdom
- **STUK:** Sateilyturvakeskus, Finland
- **VSL:** VSL B.V., Netherlands
- **HUS:** Helsingin Yliopisto, Finland
- **KCL:** King's College London, United Kingdom
- **TU Delft:** Technische Universiteit Delft, Netherlands
- **TUCH:** Turku University Central Hospital, Finland
- **ZMT:** Zurich MedTech AG, Switzerland

Timings *(a more detailed agenda will be circulated at least 2-weeks prior to the workshop)*

23rd May

Registration: 12 noon (lunch included),

Session ends: 6 pm (followed by an optional social event:- 6.30 pm to 9 pm)

24th May

Start: 9 am,

Workshop ends: 1.30 pm (lunch included)

Planned sessions

- **Clinical background to perfusion imaging of myocardium**
- **Test objects for perfusion imaging**
- **Data analysis and uncertainties**
- **Round-table discussion**

Confirmed speakers *(additional speakers will be confirmed in the final agenda)*

- **Juhani Knuuti**, Turku PET Centre, Finland
- **Tobias Schaeffter**, PTB, Germany
- **Amedeo Chiribiri**, King's College London
- **Xavier Golay**, University College, London
- **Trevor Esward and Nadia Smith**, NPL UK,
- **Loïc Coquelin and Géraldine Ebrard**, LNE, France

To register for this free event, please email trevor.esward@npl.co.uk and include name, organisation and contact details.

For more project information visit the EURAMET EMPIR 15HLT05: [Project Website](#)

For directions to NPL, travel information and details of local hotels, see: <http://www.npl.co.uk/contact-us/directions-to-npl/>