

# 'Microparts' Interest Group Workshop

**28 to 29 October 2009,**  
National Physical Laboratory, UK

Recent advances in modern manufacturing techniques has made it possible to manufacture small and complex components to extremely high accuracies. In direct response to the extreme demands of quality assurance for the measurement of size, form and position of microsystem parts, extensive research is being carried out in the area of geometrical measurement on the micro-scale.

'Microparts' is a joint EURAMET research project in the area of micro co-ordinate metrology for miniature components. VSL, NPL, PTB and METAS are collaborating on the project in all aspects of micro CMM technology including the development of novel contact, optical and XCT probing techniques, machine calibration, stability, traceability and calibration artefacts. The workshop aims to disseminate the work of the project to the wider audience and discuss related research and development topics.

**Topics include:**

- **Updates on the development of novel micro-CMM probes**
- **Development of micro-CMM platforms**
- **Calibration and traceability of micro-CMM platforms**
- **Integrated micro metrology and micro manufacturing techniques**

**A workshop dinner will be held on the evening of the 28th October**



# Three-dimensional metrology for micro-scale parts

## Wednesday 28<sup>th</sup> October

<b>11:00 - 11:10</b>	Introduction to NPL – Prof. Richard Leach
<b>11:10 - 11:30</b>	Introduction to Microparts – Dr. Rob Bergmans
<b>11:30 - 12:00</b>	Dr. Jack Stone, NIST, USA – Fiber probe measurements in 2 and 3 dimensions
<b>12:00 - 12:30</b>	Dr. Alain K��ng, Federal Office of Metrology METAS, Switzerland – Development and application of the METAS micro-CMM
<b>12:30 - 13:00</b>	Dr. Ulrich Neuschaefer-Rube, PTB, Germany – Dimensional measurements with micro-CT - Test procedures and applications
<b>13:00 - 14:00</b>	Lunch
<b>14:00 - 14:30</b>	Prof. Richard Leach, NPL, United Kingdom – Development of a 3D vibrating micro-CMM probe using an active triskelion flexure
<b>14:30 - 15:00</b>	Dr. Rob Bergmans, VSL, The Netherlands – Traceability of the F25 micro-CMM
<b>15:00 - 15:30</b>	Coffee
<b>15:30 - close</b>	Laboratory tours of NPL

## Thursday 29<sup>th</sup> October

<b>09:00 - 09:30</b>	Ernst Treffers, Director Business Development, Xpress Precision Engineering, The Netherlands – Gannen series: 3D tactile probes for microparts
<b>09:30 - 10:00</b>	Dr. Walter Schott, Managing Director, SIOS Messtechnik – Precise measurements with nanomeasuring machine NMM 1
<b>10:00 - 10:30</b>	Dr. Ralf Christoph, President, Werth Messtechnik – Measuring microfeatures with dense pointclouds: Scanning with tomography, microprobes and laser
<b>10:30 - 11:00</b>	Coffee
<b>11:00 - 11:30</b>	Carl Zeiss – TBC
<b>11:00 - 11:30</b>	Dr. Marcin Bauza, InsituTec, USA – Single platform gauge head applied to microscale 3D surface profilometry and roundness
<b>11:30 - 12:00</b>	Dr. Henny Spaan, Director, IBS PE, The Netherlands – Isara 400: Large volume ultra-precision CMM
<b>12:00 - 13:00</b>	Lunch
<b>13:00 - 13:30</b>	Dr. Pawel Drabarek, Robert Bosch, Germany – Interferometrical stylus system with a miniature non contact fiber probe
<b>13:30 - 14:00</b>	Dr. Joel Segal, CECA Nottingham, United Kingdom – Integration aspects of micro metrology in micro manufacturing applications

To register please follow the website link:

[www.npl.co.uk/events/microparts-interest-group-workshop](http://www.npl.co.uk/events/microparts-interest-group-workshop)

**For more information please contact:**

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