



Advanced nano-mechanical techniques for academic and industrial research

A forum for the UK and European materials science research community and material developers in industry

Wednesday, December 13th and Thursday December 14th 2017

Organised by Micro Materials Ltd, kindly hosted by WMG, The University of Warwick

Programme – Day 1 - WORKSHOP

- DAY 1** *Venue: Auditorium, IDL Building (International Digital Laboratory Building)
University of Warwick, Coventry, CV4 7AL [click here for location details](#)*
- 14.00** *Registration & Coffee*
- 14.15** **Introduction and welcome – Dr Krish Narain, Micro Materials**
- New additions to the NanoTest range – Andrew Bird, Micro Materials**
- New capabilities of the NanoTest range – Adrian Harris, Micro Materials**
- Coffee*
- Practical application of ISO 14577 calibration – Adrian Harris, Micro Materials**
- Fundamental nano-mechanical test design considerations – Ben Beake, Micro Materials**
- 16:15** *Optional: Tour of WMG laboratory facilities, including NanoTest Instrument ,
accompanied by WMG and MML staff*
- Delegates return to their accommodation (no arranged transport)**
- 19.15** **Pre-dinner drink to be served in bar area of Radcliffe Building, Warwick University campus
adjacent to Radcliffe Private Dining Room**
- 19.45** **Conference dinner in Radcliffe Private Dining Room**
- 21.30** **Post-dinner drinks in bar of Radcliffe Building**

Thursday, December 14th 2017

Programme – Day 2 - CONFERENCE

- DAY 2** Venue: Auditorium, IDL Building, (International Digital Laboratory Building)
The University of Warwick campus
- 09:00** Registration
09:15 Opening of conference by Professor Barbara Shollock, WMG, The University of Warwick
- Keynote:**
09.20 Nano mechanical testing for engineering applications
Professor Barbara Shollock, WMG, The University of Warwick
- Session 1
- 09.50** Instrumented Indentation Testing (IIT) – a critical journey from the very first steps to the modern state of the art
Dr Michael Griepentrog, Bundesanstalt für Materialforschung und –prüfung BAM
- Correlation between friction, wear and hardness of tribologically induced near-surface microstructural transformations
Dr Jens Hardell, Luleå University of Technology
- Acoustic emission method in nanoindentation and scratch testing
Mgr. Jan Tomáščík, Palacky University and Institute of Physics
- 11.10** COFFEE BREAK (15 MINUTES)
- Session 2
- 11.25** Length scale effects in nano-indentation
Professor Nigel Jennett, Coventry University
- Challenges in wear testing of cutting tools
Dr-Ing Joern Kohlscheen, Kennametal Shared Services GmbH
- Impact nanoindentation: single and multiple impacts
Dr Jeff Wheeler, ETZ Zurich
- Stable high temperature micro fracture tests of tungsten cantilevers up to 700 °C
Bo Shuan Li, University of Oxford

Mechanical behaviour of oxidation-strengthened Zr/Nb nanoscale multilayers
Dr Miguel Monclús, IMDEA

13.30 LUNCH (45 MINUTES) – on Mezzanine of IDL Building

Session 3

14.15 High temperature micro-impact testing a new test technique for hard coating optimisation
Professor Ben Beake, Micro Materials Ltd

Influence of the grain orientation on the scratch-corrosion behaviour of CoCrMo alloys at the nano-scale
Dr Richard Cook, Southampton University

Electro-plastic deformation studies using a Micro Materials NanoTest Platform 3
Doreen Andre, RWTH Aachen

Stable crack growth in brittle materials at the micron scale
Dr Finn Giuliani, Imperial College, London

15.50 COFFEE BREAK (15 MINUTES)

Session 4

16.05 Nano-mechanical characteristics of pulsed laser deposited diamond-like carbon molybdenum alloy systems
Marios Constantinou, University of Cyprus

Improved predictive wear models: integration of dynamic changes of mechanical properties induced by friction in fretting
Yanfei Liu, University of Leeds

A simple algorithm for the extraction of stress strain curves from a single indentation test with a spherical indenter
Dr James Dean, University of Cambridge

17.20 Concluding Remarks
Dr Krish Narain, Micro Materials Ltd

17.30 CLOSE