

Symposium Programme

Tuesday, Aug. 30th, 2005

- 02:00 p.m. SURFACE customer Meeting
06:00 p.m. Welcome Reception

Wednesday, Aug. 31st, 2005

- 09:00 a.m. **O P E N I N G**

*****Bio-Applications*****

- 09:10 a.m. **Nanoindentation of hard biological tissues including both bones and teeth**
Chwee Teck Lim / Singapore / invited video conference
- 10:10 a.m. **Nano-Mechanical and Chemical Mapping of Incipient Carious Lesions in Human Dental Enamel Showing Effect of Fluoride Solutions**
Michelle E. Dickinson / Hysitron

*****Visco-elastic Materials*****

- 10:35 a.m. **A study of the indentation size effect of different polymer types**
N. Zaafarani / MPIE Duesseldorf
- 11:00 a.m. *coffee break*
– 11:30 a.m.
- 11:30 a.m. **Quantitative strain-rate testing of polymeric samples using static indentation test**
Simon Hayes / University of Sheffield
- 11:55 a.m. **Nanoindentation Creep and Stress Relaxation Tests of Polycarbonate: Analysis of visco-elastic Properties by different Rheological Models**
K. I. Schiffmann / FHG-IST Braunschweig
- 12:20 p.m. **Polycarbonate as Calibration Standard for Nanoindentation?**
D. Drechsler / Bayer Leverkusen
- 12:45 p.m. **Nanoscale characterisation of Bitumen – Back analysis of viscoelastic properties**
Andreas Jaeger / Vienna University of Technology
- 01:10 p.m. *Lunch*
–02:10 p.m.
- ### *****Lateral Force Testing: Scratch, Tribology*****
- 02:10 p.m. **Lateral Forces in nanoindentation: generation, measurement & application**
V. Linss / ASMEC, Radeberg

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- 02:35 p.m. **Comparing nanotribological and nanomechanical properties of different types of amorphous carbon and boron nitride thin films**
C. Charitidis / NT University of Athens
- 3:00 p.m. **Possibilities of studying phase transformation upon micro- and nanoindentation by synchrotron radiation microdiffraction**
G. Kaupp / University of Oldenburg
- 03:25 p.m.
– 04:30 p.m. *Poster Session & Coffee break*
- 04:30 p.m. **Modelling of viscoelastic materials**
Yang-Tse Cheng / GM / invited video
- 05:30 p.m. **Multiwall Carbon Nanotubes Based Composites – Mechanical Characterisation Using NanoIndentation Technique**
M. Olek / CAESAR Bonn
- 05:55 p.m. **Mechanical Characterisation of Carbon / Metal Core/Shell Structures**
T. Staedler / University of Siegen
- 06:20 p.m. **Nanoindentation investigations on structures from the micro- to the nanometer scale in composites before and after high pressure**
Thomas Schoeberl / Erich-Schmidt-Institute/Leoben
- 07:30 p.m. Shuttle to Conference Dinner

Thursday, Sept. 1st, 2005

MEMS & Semiconductors

- 09:00 a.m. **Mechanical Characterisation of Lead-free Solders in FCIP-devices**
M. Krause / FHG Halle
- 09:25 a.m. **Characterisation of Packaging Materials on Nano, Micro and Macro Scales**
O. Wittler / IZM Berlin
- 09:50 a.m. **The nanoindentation studies of stamp materials for nanoimprint lithography**
D. Denkiewicz / Warsaw University of Technology
- 10:15 a.m.
– 10:45 a.m. *coffee break*

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Indentation Prozess

- 10:45 a.m. **In-situ SEM observation of indentation process**
B. Moser / EMPA Thun
- 11:10 a.m. **Indentation size effect in metallic materials: Correcting for the size of the plastic zone**
B. Backes / University of Erlangen
- 11:45 a.m. **A critical examination of the two-slope method in nanoIndentation**
M. Troyon / University of Reims
- 12:10 p.m. **Indentation Behaviour of (011) thin films of I-V semiconductors, polarity effects and determination of the crystal friction**
L. Largeau / CNRS LPN / Marcoussis
- 12:35 p.m. *Lunch*
– 02:10 p.m.

thin films

- 02:10 p.m. **A new method for deconvoluting the nanoIndentation response of brittle coated systems by analysing the loading curves**
J. Chen / University of Newcastle Upon Tyne
- 02:35 p.m. **Investigation of SiO₂ Thin Films Si-Substrates as Standards for Laseracoustic Measuring Devices**
D. A. Lucca / Oklahoma State University
- 03:00 p.m. **In-situ Electrochemical NanoIndentation of Ni**
A. Barnoush / University Saarbruecken
- 03:25 p.m. Closing and Farewell

Poster Session: Sept. 8th, 2004, 3:05 p.m.

Poster Format; A0 Portrait (841 x 1189 mm)

- 1) Mechanical behaviour of polycrystalline nickel with grain size ranging from micro to nanoscale
B. Yang, H. Vehoff
- 2) Influence of the tip radius on the coefficient of friction in nanoscratch testing
Sebastien Lafaye, Michel Troyon
- 3) Measurement of the nanomechanical properties of DLC thin films deposited by PECVD and FAD Techniques
K. Malyska, A. Benadavid, H. Wrzesinska, Z. Rymuza
- 4) Silicon Polymeric Films for Working Surfaces of Microgrippers
N. Balabanava, Z. Rymuza, M. Zielecka, S. A. Chizhik