IIW6 2018 / Tentative program *At a Glance* as of May 7, 2018.

July 1 Sun

July 2 Mon

Opening Address(10)

Mechanical modeling

Munawar Chaudhri
University of Cambridge/GBR
The Love equation for the normal loading of a rigid cone on an elastic half-space and its recent modification

Fazilay ABBES
University of Reims Champagne Ardenne/FRA
Computational and experimental investigation of nanoindentation patterns
and deformation mechanisms in pure zinc polycrystal

Srinivasan Chandrasekar
Purdue University/USA
Modes of Deformation in Wedge Indentation of Metals

Coffee Break(30)

Dongil Kwon
Seoul National University/KOR
Mechanical Property Characterization Using Instrumented Indentation Test: Strength, Toughness, and Residual Stress

Jun Sang Lee
Seoul National University/KOR
Evaluating Directionality of Residual Stress Using Instrumented Indentation Test with Anisotropic Indenter in Multi Scale

General Discussion (10)

Workshop Photo at the conference hall

Lunch Break (12:15-13:30)

Poster Session

July 3 Tue

8:45

Films and Coatings, Tribology, Surface

František Lofaj
Institute of Materials Research of the Slvak Academy of Sciences/SVK
Finite Element Modeling of Nanoindentation and Scratch Testing in the Hard Coating/Softer Substrate System

Shinya Sasaki
Tokyo University of Science/JPN
Utilization and issues of nanoindentation in the tribology field

Coffee Break(30)

Kenji Matsuda
Kyushu Institute of Technology/JPN
Rebound Hardness Testing by Using Hammer with Pyramidal Indenter

Hyeonjin Eom
Korea Institute of Industrial Technology/KOR
The Impact of Thermal Annealing on the Mechanical and Thermal Characteristics of Electroformed Ni-52wt%Fe Alloy Film

Ryuta Kasada
Tohoku University/JPN
Indentation hardness of ion-irradiated materials revisited

General Discussion (10)

Lunch Break (12:00-13:30)

Poster Session

July 4 Wed

Instrumentation, Standardization

Warren Oliver
Nanomechanics, Inc./USA
High Temperature, High Strain Rate and Two Dimensional Indentation Testing.

Michael Griepentrog
Bundesanstalt für Materialforschung und -prü fung/GER
Towards the standardization of Dynamic Instrumented Indentation Testing

Coffee Break(30)

Sponsor talk 1
Anton Paar

Sponsor talk 2
Bruker

Sponsor talk 3
Frontics

Sponsor talk 4
Nanomechanics

General Discussion (10)

Excursion

July 5 Thu

Crystal Defects

Karsten Durst
Technische Universität Darmstadt/GER
Indentation Size Effect- New insights based on High Resolution EBSD and etch pit analysis

Shigenobu Ogata
Osaka University/JPN
Atomistic prediction of temperature and loading-rate dependent critical indentation load
of the onset of homogeneous dislocation nucleation

Coffee Break(30)

Jorge Alcalá
Universidad Politecnica de Catalunya (BarcelonaTech)/ESP
Understanding nanoscale hardness across crystal structures and temperatures

Maha Mohammed Khayyat **National Nanotechnology Center, Materials science research institute/SAU**
Investigations of structural phase transformations of Si, Ge, GaAs single crystals, and GaN nanomembranes due to nanoindentation for advanced applications

In-suk Choi
Seoul National University / KOR
High fracture strength of flaw containing alumina hollow nanostructures for high-efficiency GaN LEDs

General Discussion (10)

Lunch Break (12:10-13:30)

International organaizing committee meeting

July 6 Fri

New Methodology

Tatsuya Miyajima
National Institute of Advanced Industrial Science and Technology/JPN
Adhesive Indentation Contact of Soft Matter

Alexey Useinov
Technological Institute for Superhard and Novel Carbon Materials/RUS
The Diamond Indenter Working as an Optical Objective

Daniel Omacht
Material and Metallurgical Research Ltd./CZE
Temperature measurement and calibration in SP testing machines and equipment

Coffee Break(30)

Hitoshi Sumiya
Sumitomo Electric Industries, LTD./JPN
Microfracture strength evaluation for diamond related materials using nano-polycrystalline diamond spherical indenter

Takashi Yamamoto **Yamamoto Scientific Tool Lab. Co.,Ltd./JPN**
New Methods of Static and Dynamic Industrial Hardness Testing: Equivalent Indentation Depth and Small Ball Rebound Hardness Tests

Yuji Enomoto
Shinshu University/JPN
Measurements of pressure-impressed electric currents during indentation-rock fracture with gas flow

General Discussion (10)

Closing remarks(10)

Lunch (12:25-14:00)

8:45

12:00

13:30

In-situ straining

Andrew Minor
UC Berkeley and LBNL/USA
Local Strain Analysis using Scanning Nanobeam Electron Diffraction during in situ TEM Nanomechanical Testing

Mathias Göken
Friedrich-Alexander-University Erlangen-Nürnberg / GER
Deformation Mechanisms at the Nanoscale - From superplastic deformation to thin films

Douglas Dean Stauffer
Bruker Nano, Inc./USA
In Situ TEM Fatigue of Copper Thin Films

Eita Tochigi
The University of Tokyo/JPN
Dynamic Behavior and Interface Structure of Rhombohedral Twinning in Sapphire

Coffee Break(30)

Steels, SMA

Jer-Ren Yang
National Taiwan University/TWN
In-situ nanoindentation (coupled with TEM) investigation of deformation behavior of spinodal nanostructured α-ferrite nanopillars in a duplex stainless steel

Ling Zhang
Chognqing University/CHN
Nanoindentation characterization of heterogeneous multilayered interstitial-free steel

Anuja Jaganathan
Indian Institute of Science/IND
Finite Element Simulations on the indentation response of Shape Memory Alloys

General Discussion (10)

(17:45END)

Soft matter

Alfonso H.W. Ngan
University of Hong Kong/HKG
Indentation of ultra-soft materials: pico-indentation of non-adherent cells in the Pa-modulus range

Yoshihisa Fujii
Mie University/JPN
Mechanical Properties of Polymer Thin Films near Interfaces and Free Surfaces

Kenichi Kojima
Yokohama Soei University/JPN
Micro-indentation hardness of Lysozyme crystals

Kiran Mangalampalli
SRM Research Institute/IND
Mechanical behavior of molecular crystals

Coffee Break(30)

Glasses

Morten M Smedskjaer
Aalborg University/DNK
Towards the Design of Indentation Crack Resistant Oxide Glasses

Satoshi Yoshida
The University of Shiga Prefecture/JPN
In-Situ Raman Measurements of Silicate Glasses during Indentation

General Discussion (10)

Poster Session
- Core Time -

Odd Number 17:10-18:10
Even Number 18:10-19:10

(with light meal)

(19:10 END)

Yoichi / Otaru

Bulk metals

Heung Nam Han
Seoul National University/KOR
A study on ductile-brittle transition of tungsten using nano-indentation

Giovanni Maizza
Politecnico di Torino/ITA
Mechanics of Instrumented Indentation Test for Elastoplastic Alloys

Jae-il Jang
Hanyang University/KOR
Nanoindentation study on advanced structural materials: Beyond hardness and modulus

Shijo Nagao
Osaka University/JPN
Size dependent beam bending toughness on porous network structure in sintered Ag targeted for wide bandgap power device packaging

Coffee Break(30)

Indentation Creep

Hidenari Takagi
College of Engineering, Nihon University/JPN
Mechanical Characterization at High Temperature through Instrumented Indentation Testing Techniques

Shunnosuke Kishibe
Shibaura Institute of Technology/JPN
Evaluation of creep compliance in necking part of thermoplastic by multicycle indentation

Hydrogen Effects

Mohammad Zamanzade
Saarland University/GER
Contributions of hydrogen on the mechanical properties of Nickel

Kota Tomatsu **Nippon Steel Sumitomo Metal Corporation/JPN**
Hydrogen Embrittlement Evaluation of Drawn Pearlitic Steel by In-situ Microbending Test during Cathodic Hydrogen Charging

General Discussion (10)

(18:10END)

Banquet
19:00-21:00

Keynote (45)
Invited (35)
Contributed (25)
Sponsor talk (20)

18:00

Welcome Reception
18 : 00-20 : 00

BBQ Dinner