

Joint HYDROGENIUS and I²CNER International Workshop on Hydrogen-Materials Interactions

Time & Date: 12:50~17:50, January 31 (Fri.), 2014

Venue: Inamori hall, Inamori Center 1F, Kyushu University Ito Campus

Program

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- 12:50-13:00 Opening Remarks: Hisao Matsunaga (HYDROGENIUS and I²CNER, Kyushu Univ. Japan)
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- 13:00-13:40 Chairman: Petros Sofronis (Univ. of Illinois at Urbana-Champaign I²CNER, Kyushu Univ. Japan n)
Keynote Lecture 1:
Defect generation in the presence of hydrogen and defect characterization by thermal desorption spectroscopy
Reiner Kirchheim (Univ. of Göttingen, Germany)
- 13:40-14:10 **Invited Talk:**
On the hydrogen trapping capacity of Ti- and Nb-based precipitates
Kim Verbeken (Ghent University, Belgium)
- 14:10-14:40 **Invited Talk:**
Hydrogen-enhanced lattice defect formation and hydrogen embrittlement of tempered martensitic steel
Kenichi Takai (Sophia University, Japan)
- 14:40-15:10 **Invited Talk:**
Atomistic simulations of microstructural defects and their role in H trapping and diffusion
Matous Mrovec (Fraunhofer IWM, Germany) Davide, Di Stefano (Fraunhofer IWM, Germany), Christian Elsaesser (Fraunhofer IWM, Germany)
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- 15:10-15:30 **Break**
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- 15:30-16:10 Chairman: Junichiro Yamabe (HYDROGENIUS and I²CNER, Kyushu Univ. Japan)
Keynote Lecture 2:
Reduced Ductility in 316 type austenitic single crystals under H charging
Kaneaki Tsuzaki (HYDROGENIUS, Kyushu University, Japan)
- 16:10-16:40 **Invited Talk:**
Fatigue Crack Propagation under Gaseous Hydrogen: experiments and modelling
Gilbert Hénaff (ISAE-ENSMA, France), Damien Halm (ISAE-ENSMA, France), Mandana Arzaghi (ISAE-ENSMA, France), G. Biloota (ISAE-ENSMA, France), Clara Moriconi (ISAE-ENSMA, France), Guillaume Benoit (ISAE-ENSMA, France)
- 16:40-17:10 **Invited Talk:**
The effect of nano-sized (Ti,Mo)C precipitates on hydrogen embrittlement of tempered lath martensitic steel
Akihide Nagao (JFE Steel Corporation and I²CNER, Kyushu Univ., Japan), Benjamin P. Eftink (Univ. of Illinois, USA), Mohsen Dadfarnia (Univ. of Illinois, USA), Brian P. Somerday (Sandia National Laboratories, USA and I²CNER, Kyushu Univ., Japan), Petros Sofronis (Univ. of Illinois, USA and I²CNER, Kyushu Univ., Japan)
- 17:10-17:40 **Invited Talk:**
Fretting fatigue properties under the effect of hydrogen and the mechanisms that cause the reduction in fretting fatigue strength
Masanobu Kubota (HYDROGENIUS and I²CNER, Kyushu Univ. Japan), Jader Furtado (Air Liquide R&D, France), Ryosuke Komoda (Kyushu Univ., Japan), Naoto

Yoshigai (Kyushu Univ., Japan)

17:40-17:50

Closing Remarks: Brian Somerday (Sandia National Laboratories, USA and I²CNER,
Kyushu Univ., Japan)
