

Joint HYDROGENIUS and I2CNER International Workshop on Hydrogen-Materials Interactions 2015

Feb. 4, 2015 (Shiiki hall, Kyushu University)

Opening remarks (9:00 – 9:10)

Hisao Matsunaga (Kyushu University)

Morning session 1: Standardization, regulation review (9:10 – 10:40)

Chair: Hisao Matsunaga (Kyushu University)

9:10 – 9:40 Akihiro Sakakida (JAMA, Nissan Motor Co., Ltd), Tomofumi Yoshinaga (JAMA, Nissan Motor Co., Ltd.), Yoshio Fujimoto (JAMA, Toyota Motor Corporation), Osamu Yamamoto (JAMA, Toyota Motor Corporation), Kazuo Miyagawa (JAMA, Honda R&D Co., Ltd.), Yoshiharu Ueki (JAMA, Honda R&D Co., Ltd.), Toru Eguchi (JAMA, Suzuki Motor Corporation), Hiroaki Tamura (JARI)

Title: Introduction of Hydrogen Fueled Vehicle Global Technical Regulation (HFCV-GTR)

9:40 – 10:10 Kevin Nibur (Hy-Performance Materials Testing)

Title: Development and rationale of CSA's CHMC1 hydrogen compatibility standard

10:10 – 10:40 Laurent Briottet (CEA/LITEN)

Title: Design of pressure vessels including hydrogen enhanced fatigue – the Mathryce project

—Break—

Morning session 2: Strength design and practical application (11:00 – 12:00)

Chair: Brian Somerday (Sandia National Laboratories)

11:00 – 11:30 Junichiro Yamabe (Kyushu University)

Title: Qualification of Cr-Mo steel based on the CHMC1 standard

11:30 – 12:00 Tomohiko Omura, Jun Nakamura (Nippon Steel & Sumitomo Metal Corporation, Japan)

Title: Mechanical Properties of High Nitrogen - High Strength Stainless Steel in High Pressure Gaseous Hydrogen Environment

—Lunch—

Poster session (13:00 – 14:00)

Afternoon session 1: Diffusion, trapping and microstructure (14:00 – 15:30)

Chair: Petros Sofronis (Director of I²CNER, The University of Illinois at Urbana-Champaign)

14:00 – 14:30 Abdelali Oudriss, Arnaud Metsue, Jamaa Bouhattate, Catherine Savall, Juan Creus, Xavier Feaugas (Université de La Rochelle)

Title: Dislocation distributions, length scales, and long-range internal stresses : some consequences on hydrogen diffusion and trapping

14:30 – 15:00 Akinobu Shibata, Takahiro Matsuoka, Tamotsu Murata (Kyoto University), Akira Ueno (Ritsumeikan University), Nobuhiro Tsuji (Kyoto University)

Title: Microstructural and Crystallographic Analysis of Hydrogen-related Fracture in Martensitic Steels

15:00 – 15:30 Setsuo Takaki (Kyushu University)

Title: Effect of grain size on the stability of metastable austenite

—Break—

Afternoon session 2: Fatigue and fracture (15:50 – 17:50)

Chair: Junichiro Yamabe (Kyushu University)

15:50 – 16:20 Ian M. Robertson (University of Wisconsin-Madison)

Title: Hydrogen embrittlement understood

16:20 – 16:50 Vigdis Olden, Antonio Alvaro, Ingvild Thue Jensen (SINTEF), Afroz Barnoush, Nousha Kheradmand (NTNU)

Title: A multiscale approach to interface degradation by hydrogen

16:50 – 17:20 Akihide Nagao (JFE steel corporation), Kelly E. Nygren (University of Wisconsin-Madison), Mohsen Dadfarnia (University of Illinois at Urbana-Champaign), Petros Sofronis (WPI-I2CNER, University of Illinois at Urbana-Champaign), Ian M. Robertson (University of Wisconsin-Madison)

Title: Effect of hydrogen on tensile and fatigue-crack growth behaviors of types 304 and 316L austenitic stainless steels

17:20 – 17:50 Reiner Kirchheim (Georg-August-Universität Göttingen)

Title: On the formation of voids by agglomeration of hydrogen/vacancy-complexes

Closing remarks (17:50 – 18:00)

Brian Somerday (Sandia National Laboratories)