
- Plenary -

HYDROGENIUS Symposium 2024

<Date & Time> 10:10–12:10, Thu. 12th September 2024

<Venue & Room> Concert Hall @ Shiiki Hall, Kyushu University Ito Campus

<Language> English / Japanese (Simultaneous translation will be provided)

< Plenary Session >

Time	Presentation Title and Speaker
10:10-10:50	Japan's policies, R&D efforts, and NEDO's international collaboration Eiji Ohira (New Energy and Industrial Technology Development Organization (NEDO), Japan)
10:50-11:30	Technological Options and Systemic Considerations for Achieving a Low Carbon Future Andrew John Chapman (Kyushu University (I2CNER), Japan)
11:30-12:10	The carbon reduction policies and experience in Taiwan Chen-Hsun Du (Industrial Technology Research Institute (ITRI), Taiwan)
12:00-14:00	Lunch Break

-Metallic Materials Division-

HYDROGENIUS Symposium 2024

<Date> Thu. 12th & Fri. 13th September 2024
<Venue & Room> Room 1 @ Shiiki Hall, Kyushu University Ito Campus
<Language> English

< Session 1 & 2 : 12th September, 13:30-16:50 >

Time	Presentation Title and Speaker
13:30-14:00	Industrial challenges for hydrogen transport in Europe Mons Hauge (Equinor, Norway)
14:00-14:30	Aspects of materials evaluation under hydrogen at different scales Peter Gumbsch (Fraunhofer Institute for Mechanics of Materials IWM, Germany)
14:30-15:00	The mechanism of enhanced hydrogen embrittlement of pipeline steel by CO₂ in hydrogen enriched natural gas Jianfeng Shi (Zhejiang University)
15:00-15:20	Coffee Break
15:20-15:50	Materials Integrity of Hydrogen Transport Pipelines Bård Nyhus (SINTEF, Norway)
15:50-16:20	Comparison of fracture toughness of Cr-Mo steels depending on testing method Jaeyeong Park (KRISS, Korea)
16:20-16:50	Mechanical properties and hydrogen compatibility of austenitic stainless steels at cryogenic temperatures Kentaro Wada (NIMS, Japan)

< Session 6 & 7 : 13th September, 14:00-17:20 >

Time	Presentation Title and Speaker
14:00-14:30	On the effect of hydrogen on ratcheting of austenitic steels Pierre Osmond (CETIM, France) REMOTE
14:30-15:00	Recent Atomistic Simulations at Sandia X. W. Zhou (Sandia National Laboratories, US)
15:00-15:30	Hydrogen embrittlement in nickel alloys: some insights Xu Lu (NTNU, Norway)
15:30-15:50	Coffee Break
15:50-16:20	Experimental challenges in fracture toughness testing under H₂ gas environment Mihaela Cristea (Tenaris, Italy)
16:20-16:50	Hydrogen gas embrittlement: elucidating mechanisms and advancing industrial applications Hisao Matsunaga (Kyushu University, Japan)
16:50-17:20	General Discussion & Closing Remarks

- Polymer & Tribology Division - HYDROGENIUS Symposium 2024

<Date & Time> 13:30-17:10, Thu. 12th September 2024
<Venue & Room> Room 2 @ Shiiki Hall, Kyushu University Ito Campus
<Language> English

< Session 3 & 4 >

Time	Presentation Title and Speaker
13:30-14:00	Hydrogen and ammonia related research at VTT Helena Ronkainen (VTT Technical Research Centre of Finland Ltd., Finland)
14:00-14:30	Tribology of polymer composites after exposure to cyclic aging in cryogenic temperature Nazanin Emami (Luleå University of Technology, Sweden)
14:30-15:00	Polymer Tribology in cryogenic hydrogen Géraldine Theiler (Bundesanstalt für Materialforschung und –prüfung (BAM), Germany)
15:00-15:20	Coffee Break
15:20-15:50	Water on the metallic surfaces derived from atmospheric environment and its influences on tribological properties Kanao Fukuda (Malaysia-Japan International Institute of Technology, MJIT, Malaysia)
15:50-16:20	Tribology Components in Hydrogen supply chain Ryutaro Okada (Kawasaki Heavy Industries, Ltd., Japan)
16:20-16:50	Fundamental study on loosening of cone and thread fittings for high pressure hydrogen systems Hiroyoshi Tanaka (Kyushu University, Japan)
16:50-17:10	General Discussion & Closing Remarks

-Polymer & Tribology Division- HYDROGENIUS Symposium 2024

<Date & Time> 9:00-17:20, Fri. 13th September 2024
 <Venue & Room> Room 2 @ Shiiki Hall, Kyushu University Ito Campus
 <Language> English

< Session 8 & 9 & 10 >

Time	Presentation Title and Speaker
09:00-09:30	Database of Hydrogen Compatible Polymeric Materials for Hydrogen Infrastructure Shin Nishimura (Kyushu University, Japan)
09:30-10:30	Overview of H-Mat Activities with High-density Polyethylene, and New Rubber Compounds in High-pressure Hydrogen Kevin Simmons (PNNL, US)
10:30-11:00	In-Situ Tribometer in High Pressure Hydrogen Wenbin Kuang (PNNL, US) REMOTE
11:00-11:30	Recent R&D Trends in Sealing Solutions for Hydrogen Applications Towards a Carbon-Neutral Society Hikaru Hashimoto (NOK corporation, Japan)
11:30-12:00	Sealing products for Hydrogen service: From material characterization to equipment qualification Benoit Omnes (Cetim, France)
12:00-14:00	Lunch Break
14:00-14:30	Advanced Technologies for the H₂ Value Chain Emiel Dobbelaar (Freudenberg Technology Innovation SE&Co. KG, Germany)
14:30-15:30	Polyamide resistance to damage cumulation from fatigue loading and high-pressure hydrogen cycling (Tentative) Sylvie Castagnet (Institute P', ENSMA, France)
15:30-15:50	Coffee Break
15:50-16:20	Hydrogen Dispensing Hose (Tentative) Tobias Schmidl (Spir Star AG, Germany) REMOTE
16:20-16:50	Failure mode of hydrogen dispensing hose Takashi Kuriyama (Kyushu University, Japan)
16:50-17:20	NREL's Hydrogen Component Reliability Program Genevieve Saur (National Renewable Energy Laboratory, US)
17:20	General Discussion & Closing Remarks

- Thermophysical Properties Division - HYDROGENIUS Symposium 2024

<Date & Time > 10:00-12:00, Fri. 13th September 2024
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<Language> English

< Session 5 >

Time	Presentation Title and Speaker
10:00-10:40	Hydrogen Fuel Dispensing for Medium-and Heavy-Duty Vehicles Shaun Onorato (NREL, US)
10:40-11:10	Thermophysical Property Measurement and Modelling for the Hydrogen Liquefaction Process Xiong Xiao (The University of Western Australia (UWA), Australia)
11:10-11:40	Hydrogen Production through the Plasma-assisted Gasification with Carbon Recovery Wei-Cheng Wang (National Cheng Kung University, Taiwan)
11:40-12:00	Thermodynamic Property Measurements of High-Pressure Hydrogen and Modeling of the HDV Refueling Protocol Naoya Sakoda (Kyushu University, Japan)
12:00-14:00	Lunch Break