INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

-HYDROGEN IN TRIBOLOGICAL PROCESSES-

2019 HYDROGENIUS & I²CNER TRIBOLOGY SYMPOSIUM

I²CNER HYDROGEN MATERIALS COMPATIBILITY DIVISION & HYDROGENIUS TRIBOLOGY DIVISION

DATE: WEDNESDAY, JANUARY 30, 2019
TIME: 13:00-18:00
VENUE: LECTURE THEATER 303, SHIIKI HALL

Time	Speaker	Affiliation	Title
13:00-14:30 **Session 1** Chair: Yoshinori Sawae, Kyushu University			
13:00-13:40	Thomas Gradt	Bundesanstalt für Materialforschung und -prüfung (BAM), Germany	**Keynote Lecture 1** Influence of cryogenic hydrogen environment on the tribological properties of materials
13:40-14:05	Yuya Hayashi[1], Keiji Sasaki[1], Taichi Araki[2], Hiroyoshi Tanaka[2], Joichi Sugimura[2]	[1]DENSO Corporation, [2]Kyushu University, Japan	**Invited Talk** Friction and wear of DLC and stainless steel in various environmental gas
14:05-14:30	Motoyuki Murashima	Nagoya University, Japan	**Invited Talk** Approaching for low friction with high permittivity material under oil lubrication
14:30-14:40	Break		
14:40-15:55 **Session 2** Chair: Joichi Sugimura, Kyushu University			
14:40-15:05	Hitoshi Washizu	University of Hyogo, Japan	**Invited Talk** Molecular simulations for boundary lubrication under specific conditions
15:05-15:30	Satoshi Nouyama[1], Keiji Nakayama[2]	[1]Kyodoyushi Co., Ltd., [2]Institute of Mesotechnology, Japan	**Invited Talk** Effect of molecular structures of oils on amounts of hydrogen evolution through decomposition of oils by action of discharge plasma
15:30-15:55	Hiroyoshi Tanaka	Kyushu University, Japan	**Invited Talk** Generation and permeation of hydrogen at metal surfaces

15:55-16:00	Break		
16:00-16:40	TBD	TBD	**Joint Session with Hydrogen Polymers Team Invited Talk**
16:40-16:45	Break		
16:45-18:00 **Poster Session**			
PT 01	Hiromitsu Kakudo, Takashi Yokoyama, Satoshi Takada, Makoto Yoshida	Japan Aerospace Exploration Agency (JAXA), Japan	Performance of bearings and shaft-seals for reusable rocket engine turbopump
PT 02	Hirofumi Hashiba[1], Takehiro Morita[2], Yoshinori Sawae[2], Joichi Sugimura[2]	[1]Aisan Industry Co., Ltd., [2]Kyushu University, Japan	Correlation of PV value with wear of DLC in hydrogen
PT 03	Kohei Shirahama, Hiroyoshi Tanaka, Joichi Sugimura	Kyushu University, Japan	Effect of doped metals on low friction of DLC coatings
PT 04	Prabakaran Saravanan, Hiroyoshi Tanaka, Joichi Sugimura	Kyushu University, Japan	The effect of oxygen on the tribology of (PEI/GO)15 multilayer solid lubricant coatings on steel substrates
PT 05	Rui Taninokuchi, Keito Sakaki, Takehiro Morita, Yoshinori Sawae, Joichi Sugimura	Kyushu University, Japan	Low friction of carbon fiber filled PTFE in high-purity hydrogen
PT 06	Joichi Sugimura, Kazumi Okada, Hiroyoshi Tanaka	Kyushu University, Japan	Effect of environmental gas on friction and wear of rubbers in reciprocal and uni-directional sliding
PT 07	Joichi Sugimura, Kazumi Okada, Hiroyoshi Tanaka	Kyushu University, Japan	Fatigue cracking of rubbers in reciprocating sliding contact in hydrogen
PT 08	Vlad Bogdan Niste[1], Hiroyoshi Tanaka[1], Monica Ratoi[2], Joichi Sugimura[1]	[1]Kyushu University, Japan, [2]University of Southampton, UK	Controlling hydrogen permeation: Effect of base oil polarity on ZDDP film growth
PT 09	Shun Honda[1], Hiroyoshi Tanaka[1], Yoji Sunagawa[2], Joichi Sugimura[1]	[1]Kyushu University, [2]Idemitsu Kosan Co., Ltd., Japan	Effects of molecular structures on decomposition of lubricating oils at nascent metal surface
PT 10	Shotaro Koizumi, Hiroyoshi Tanaka, Joichi Sugimura	Kyushu University, Japan	Study on hydrogen generation and permeation under rolling contact of steel with phenyl ether lubricants