
-HYDROGEN IN TRIBOLOGICAL PROCESSES-
2019 HYDROGENIUS & I²CNER TRIBOLOGY SYMPOSIUM
 HYDROGENIUS TRIBOLOGY DIVISION
 & I²CNER HYDROGEN MATERIALS COMPATIBILITY DIVISION

DATE: WEDNESDAY, JANUARY 30, 2019

TIME: 13:00-18:00

VENUE: LECTURE THEATER 303, SHIKI HALL

Time	Program and Speaker
13:00-14:30	Session 1 Chairperson: Yoshinori Sawae, Kyushu University
13:00-13:40	Keynote Lecture 1 Influence of cryogenic hydrogen environment on the tribological properties of materials Thomas Gradt, Bundesanstalt für Materialforschung und -prüfung (BAM), Germany
13:40-14:05	Invited Talk Friction and wear of DLC and stainless steel in various environmental gas Yuya Hayashi ¹ , Keiji Sasaki ¹ , Taichi Araki ² , Hiroyoshi Tanaka ² , Joichi Sugimura ² ¹ DENSO Corporation, ² Kyushu University, Japan
14:05-14:30	Invited Talk Approaching for low friction with high permittivity material under oil lubrication Motoyuki Murashima, Nagoya University, Japan
14:30-14:40	Break
14:40-15:55	Session 2 Chairperson: Joichi Sugimura, Kyushu University
14:40-15:05	Invited Talk Molecular simulations for boundary lubrication under specific conditions Hitoshi Washizu, University of Hyogo, Japan
15:05-15:30	Invited Talk Effect of molecular structures of oils on amounts of hydrogen evolution through decomposition of oils by action of discharge plasma Satoshi Nouyama ¹ , Keiji Nakayama ² ¹ Kyodoyushi Co., Ltd., ² Institute of Mesotechnology, Japan
15:30-15:55	Invited Talk Generation and permeation of hydrogen at metal surfaces Hiroyoshi Tanaka, Kyushu University, Japan
15:55-16:00	Break
16:00-16:40	Joint Session with Hydrogen Polymers Team Invited Talk TBD
16:40-16:45	Break

16:45-18:00	<p>Poster Session</p>
	<p>PT01. Performance of bearings and shaft-seals for reusable rocket engine turbopump Hiromitsu Kakudo, Takashi Yokoyama, Satoshi Takada, Makoto Yoshida Japan Aerospace Exploration Agency (JAXA), Japan</p>
	<p>PT02. Correlation of PV value with wear of DLC in hydrogen Hirofumi Hashiba¹, Takehiro Morita², Yoshinori Sawae², Joichi Sugimura² ¹Aisan Industry Co., Ltd., ²Kyushu University, Japan</p>
	<p>PT03. Effect of doped metals on low friction of DLC coatings Kohei Shirahama, Hiroyoshi Tanaka, Joichi Sugimura, Kyushu University, Japan</p>
	<p>PT04. The effect of oxygen on the tribology of (PEI/GO)₁₅ multilayer solid lubricant coatings on steel substrates Prabakaran Saravanan, Hiroyoshi Tanaka, Joichi Sugimura Kyushu University, Japan</p>
	<p>PT05. Low friction of carbon fiber filled PTFE in high-purity hydrogen Rui Taninokuchi, Keito Sakaki, Takehiro Morita, Yoshinori Sawae, Joichi Sugimura Kyushu University, Japan</p>
	<p>PT06. Effect of environmental gas on friction and wear of rubbers in reciprocal and uni-directional sliding Joichi Sugimura, Kazumi Okada, Hiroyoshi Tanaka, Kyushu University, Japan</p>
	<p>PT07. Fatigue cracking of rubbers in reciprocating sliding contact in hydrogen Joichi Sugimura, Kazumi Okada, Hiroyoshi Tanaka, Kyushu University, Japan</p>
	<p>PT08. Controlling hydrogen permeation: Effect of base oil polarity on ZDDP film growth Vlad Bogdan Niste¹, Hiroyoshi Tanaka¹, Monica Ratoi², Joichi Sugimura¹ ¹Kyushu University, Japan, ²University of Southampton, UK</p>
	<p>PT09. Effects of molecular structures on decomposition of lubricating oils at nascent metal surface Shun Honda¹, Hiroyoshi Tanaka¹, Yoji Sunagawa², Joichi Sugimura¹ ¹Kyushu University, ²Idemitsu Kosan Co., Ltd., Japan</p>
<p>PT10. Study on hydrogen generation and permeation under rolling contact of steel with phenyl ether lubricants Shotaro Koizumi, Hiroyoshi Tanaka, Joichi Sugimura, Kyushu University, Japan</p>	