

CREST International Symposium on Optimization of Running-in for Low Friction Nano-interface

Hall A, Nishitetsu Inn Fukuoka, February 18, 2019

9:00- 9:20 Opening address (Koshi Adachi, Tohoku University, Japan)
(Katsunori Hanamura, Tokyo Institute of Technology, Japan)

Session I (Chairperson: Joichi Sugimura, Kyushu University, Japan)

9:20- 10:00 Invited Lecture
Frontiers of New Materials and Coatings for Superlubricity: A Historical Perspective
(Ali Erdemir, Argonne National Laboratory, USA)

10:00-10:40 Running-in Control for Continuous Formation of Low Friction Nano-interface
(Koshi Adachi, Tohoku University, Japan)

10:40- 11:00 < Tea Break >

Session II (Chairperson: Yoshinori Sawae, Kyushu University, Japan)

11:00-11:40 Invited Lecture
Contact-Focusing Electron Flow (CFEF) Induced Near-Zero Running-in for Low Friction of
Carbon-Steel Contact Interface (Dongfeng Diao, Shenzhen University, China)

11:40-12:20 Invited Lecture
Neutron and AFM Studies at Solid-Liquid Interface for Boundary Lubrication
(Tomoko Hirayama, Doshisha University, Japan)

12:20-13:30 < Lunch >

Session III (Chairperson: Momoji Kubo, Tohoku University, Japan)

13:30-14:10 Invited Lecture
Multiscale Surfaces and Their Characterization
(Gwidon W. Stachowiak, Curtin University, Australia)

14:10-14:50 Effect of Humidity on the Friction Properties of a-C:H and a-C:H:Si Films Deposited by PECVD
Employing Microwave Sheath-Voltage Combination Plasma
(Hiroyuki Kousaka, Gifu University, Japan)

14:50-15:30 Invited Lecture
Contact Consideration in Tribofilm Design (Mitjan Kalin, University of Ljubljana, Slovenia)

15:30-15:50 < Tea Break >

Session IV (Chairperson: Hiroyuki Kousaka, Gifu University, Japan)

15:50-16:30 Invited Lecture
Boundary Film Formation and Surface Smoothing During Normal Running-in of Lubricated
Point Contacts
(Yazhao Zhang, Alexander Kovalev, Yonggang Meng*, Tsinghua University, China)

16:30-17:10 Formation of Low Friction Carbon Films in High Purity Gas Environments (Hiroyoshi Tanaka,
Yoshinori Sawae, Takehiro Morita, Joichi Sugimura*, Kyushu University, Japan)

17:10-17:50 Development of Quantum Chemical and Reactive Molecular Dynamics Simulators for
Super-Low Friction and Super-Low Wear (Momoji Kubo, Tohoku University, Japan)

17:50-18:00 Closure (Joichi Sugimura, Kyushu University, Japan)

19:00-21:00 < Banquet >