

Programme of the 3rd Czech-Japan Tribology Workshop

October 27 – 30, 2019

Vinice Hnanice, Czech Republic

Plenary talk: 50 min (40 presentation + 10 discussion)

Invited talk: 30 min (25 presentation + 5 discussion)

General talk: 20 min (15 presentation + 5 discussion)

Sunday, 27 October

14:00 – 14:30 Group bus from Vienna airport

16:00 – 18:00 Registration, accommodation

16:00 – 18:00 Refreshment

18:00 – 21:00 Welcome dinner

20:00 – 20:30 Scientific committee meeting

Monday, 28 October

07:00 – 08:50 Breakfast

09:00 – 09:30 Opening remarks

Prof. Martin Hartl

Head of the Institute of Machine and Industrial Design

Prof. Ivan Křupka

Vice-dean for scientific and research activities, PhD study programme

Head of Tribology research group

Mrs. Sachiko Hoshino

Second secretary, Economic section

Embassy of Japan in the Czech Republic

09:30 – 10:20 Session I: Plenary speaker

Chairperson: Prof. Martin Hartl

Prof. Toshiaki Wakabayashi

President of Japanese Society of Tribologists

Brief Introduction of JAST and Tribological Aspects of Environmentally Friendly

Near-dry Machining

10:20 – 10:40 Coffee break

10:40 – 11:40 Session II: Elastohydrodynamics I

Chairperson: Prof. Kazuyuki Yagi

10:40 – 11:10 /Invited speaker/

Ochiai, M.; Muraoka, N. *Influence of Oil Film Behavior on Traction Roller Cooling*

11:10 – 11:40 /Invited speaker/

Šperka, P.; Křupka, I.; Hartl, M. *Towards Understanding of EHL Friction*

11:50 – 12:00 Group photo

12:00 – 13:00 Lunch

13:30 – 14:40 Session III: Elastohydrodynamics II

Chairperson: Dr. Petr Šperka

13:30 – 14:00 /Invited speaker/

Washizu, H. *Molecular Origin of Limiting Shear Stress of Elastohydrodynamic Lubrication Oil Film*

14:00 – 14:20

Nishikawa, H. *Grease Behaviour in Very Low Speed Rolling, Sliding or Vertical Motion*

14:20 – 14:40

Košťál, D.; Šperka, P.; Křupka, I. *Bearing Lubrication under Short Reciprocation for Space Applications*

14:40 – 15:00 Coffee break

15:00 – 16:40 Session IV: Biotribology

Chairperson: Prof. Yoshinori Sawae

15:00 – 15:30 /Invited speaker/

Yarimitsu, S.; Ito, K.; Takahashi, T.; Ichinosawa, S.; Fujie, H. *Effect of Collagen Fiber Orientation on Friction Property of Articular Cartilage*

15:30 – 16:00 /Invited speaker/

Nečas, D.; Vrbka, M.; Křupka, I.; Hartl, M. *Lubrication of Artificial Joints: From Ball-on-disc to Real Contact Observation of Film Formation*

16:00 – 16:20

Nakashima, K.; Sawae, Y.; Murakami, T. *Why Contact Pressure Changes Frictional Property of Joint Prosthesis Material under Boundary Lubrication?*

16:20 – 16:40

Ranuša, M.; Wimmer, M.A.; Fullam, S.; Křupka, I. *Analysis of Friction in Knee Prosthesis during a Full Gait Cycle*

18:00 – 19:00 Dinner

19:00 – 22:00 Wine tasting

Tuesday, 29 October

07:00 – 09:00 Breakfast

09:10 – 10:40 Session V: Surface modification I
Chairperson: prof. Martin Vrbka

09:10 – 09:40 /Invited speaker/

Usami, H. *Applicability of Interrupted Micro Cutting Process as Surface Texturing*

09:40 – 10:10 /Invited speaker/

Tsuboi, R. *EHL Simulation on Textured Surface with Using Finite Element Method for Elastic Deformation*

10:10 – 10:40 /Invited speaker/

Lofaj, F.; Kabátová, M.; Kvetková, L.; Dobrovodský, J.; Kovalčíková, A. *The Role of Hydrogen in Friction Behavior of Hybrid PVD-PECVD W-C:H Coatings*

10:40 – 11:00 Coffee break

11:00 – 12:00 Session VI: Surface modification II
Chairperson: prof. Hatsuhiko Usami

11:00 – 11:30 /Invited speaker/

Tokoroyama, T. *The Measurement of DLC Topmost Surface by SERS*

11:30 – 12:00 /Invited speaker/

Kameyama, Y.; Yamanishi, Y.; Ito, M.; Sato, H.; Shimpo, R. *Tribological Characteristics of Peened Surface by Using Aged Zinc Fine Particle*

12:00 – 13:00 Lunch

13:00 – 17:00 Social programme

17:00 – 19:00 Refreshment

19:30 – 23:00 Farewell dinner

Wednesday, 30 October

07:00 – 09:00 Breakfast

09:10 – 10:00 Session VII: Surface modification III

Chairperson: prof. František Lofaj

09:10 – 09:40 /Invited speaker/

Honda, T. *Condition Monitoring System for the Sliding Surface using Machine Learning*

09:40 – 10:00

Sato, T.; Kubota, A.; Saitoh, K.; Fuji, M.; Takai, C.; Razavi-Khosroshahi, H.; Takuma, M.; Takahashi, Y. *Non-firing Process of Surface Active Particle Surface – Molecular Dynamics Simulation of Silica*

10:00 – 10:10 Coffee break

10:10 – 11:00 Session VIII: Industrial tribology

Chairperson: prof. Tomomi Honda

10:10 – 10:40 /Invited speaker/

Omasta, M.; Křupka, I.; Hartl, M. *Challenges and potential in in-situ optical observation of contact interface in journal bearings*

10:40 – 11:00

Galas, R.; Omasta, M.; Klapka, M.; Křupka, I.; Hartl, M. *Research and Development of Wayside Lubrication System for Railway Noise Mitigation*

11:00 – 11:10 Closing remarks

Prof. Martin Hartl

Head of the Institute of Machine and Industrial Design

11:15 – 12:15 Lunch

12:30 – 13:00 Group bus to Vienna city