

# Time Schedule

## Thursday, 12 April

14:00-18:00	Registration
18:00-20:00	Welcome Reception

## Friday, 13 April

	08:30-	Registration		
			Presenter	Chair
I	09:00-09:10	Opening Ceremony	Takashi NAKAMURA	Yoshinori SAWAE
			Jianbin LUO	
	09:10-09:45	Keynote talk	Jianbin LUO	Yasuhisa ANDO
	09:45-10:20	Keynote talk	Koshi ADACHI	
	10:20-10:40	Tea break		
II	10:40-11:05	Invited talk	Haitao DUAN	Dongfeng DIAO
	11:05-11:30	Invited talk	Takehisa SATO	
III	11:30-11:55	Invited talk	Xiangjun ZHANG	Takahisa KATO
	11:55-12:20	Invited talk	Hirota MIZUTA	
	12:20-13:40	Group photo + Lunch meeting		
IV	13:40-14:05	Invited talk	Linmao QIAN	Jianmin CHEN
	14:05-14:30	Invited talk	Motoichi MURAKAMI	
V	14:30-14:55	Invited talk	Xinglin LI	Koshi ADACHI
	14:55-15:20	Invited talk	Joichi SUGIMURA	
	15:20-16:20	Poster Session		
VI	16:20-16:45	Invited talk	Jianmin CHEN	Kun LIU
	16:45-17:10	Invited talk	Hatsuhiko USAMI	
VII	17:10-17:35	Invited talk	Kun LIU	Hatsuhiko USAMI
	17:35-18:00	Invited talk	Takayuki TOKOROYAMA	
	19:00-21:00	Banquet		

## Saturday, 14 April

	08:30-	Registration		
			Presenter	Chair
VIII	09:00-09:35	Keynote talk	Akihiko YANO	Joichi SUGIMURA
	09:35-10:00	Invited talk	Fengyuan YAN	
	10:00-10:20	Tea break		
IX	10:20-10:45	Invited talk	Saiko AOKI	Haitao DUAN
	10:45-11:10	Invited talk	Dongfeng DIAO	
X	11:10-11:35	Invited talk	Tsuguyori OHANA	Masabumi MASUKO
	11:35-12:00	Invited talk	Xuefeng XU	
	12:00-12:10	Closing Remarks	Yasuhisa ANDO	Bo ZHANG
			Linmao QIAN	
	13:00-17:30	Kitakyushu Technical Tour		

## The 9th Advanced Forum on Tribology 2018, Kitakyushu

### **April 12, 2018**

14:00-18:00 Registration At Rihga Royal Hotel Kokura  
18:00-20:00 Welcome Reception At Rihga Royal Hotel Kokura

### **April 13, 2018**

08:30- Registration  
09:00-09:10 Opening Ceremony (Chair: **Yoshinori SAWAE**, *Kyushu University, Japan*)  
Welcome address: **Takashi NAKAMURA** (*Nagoya Institute of Technology, Japan*)  
Opening remarks: **Jianbin LUO** (*Tsinghua University, China*)

09:10-10:20 Session I (Chair: **Yasuhisa ANDO**, *Tokyo University of Agriculture and Technology, Japan*)

09:10-09:45 Molecular behaviour in thin film lubrication\*\*  
**Jianbin LUO**  
*Tsinghua University, China*

09:45-10:20 Creation of nanointerface for super-low friction\*\*  
**Koshi ADACHI**  
*Tohoku University, Japan*

10:20-10:40 < Tea break >

10:40-11:30 Session II (Chair: **Dongfeng DIAO**, *Shenzhen University, China*)

10:40-11:05 Understanding oxidation behaviors and friction mechanisms in synthetic ester oil\*  
**Haitao DUAN**<sup>1,2</sup>, **Jian LI**<sup>1,2</sup>, **Xuzheng QIAN**<sup>1,2</sup>, **Yongliang JIN**<sup>1,2</sup>  
<sup>1</sup> *State Key Laboratory of Special Surface Protection Materials and Application Technology, China*  
<sup>2</sup> *Wuhan Research Institute of Materials Protection, China*

11:05-11:30 Recent engine oil technology, achieves both fuel economy and LSPI prevention\*  
**Takehisa SATO**<sup>1</sup>, **Hiroyuki SUZUKI**<sup>1</sup>, **Ko ONODERA**<sup>1</sup>,  
**Toyoharu KANEKO**<sup>2</sup>, **Kazuo YAMAMORI**<sup>2</sup>  
<sup>1</sup> *EMG Lubricants GodoKaisha, Japan*  
<sup>2</sup> *Toyota Motor Corporation, Japan*

11:30-12:20 Session III (Chair: **Takahisa KATO**, *The University of Tokyo, Japan*)

11:30-11:55 Non-equilibrium thermodynamics model and experiments on thin-film lubrication: the role of interfacial interaction\*  
**Xiangjun ZHANG, Haoda JING, Yu TIAN, Yonggang MENG**  
*Tsinghua University, China*

11:55-12:20 Case studies of latest research of rotary shaft seals for automobile\*  
**Hirota MIZUTA**  
*NOK Corporation, Japan*

12:20-13:40 < Lunch >  
< Lunch meeting > At lunch meeting room (2F)  
(Chair: **Yasuhisa ANDO**, *Tokyo University of Agriculture and Technology, Japan*)

13:40-14:30 Session IV (Chair: **Jianmin CHEN**, *Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, China*)

13:40-14:05 Material removal at nanoscale: progress and challenges\*  
**Linmao QIAN**  
*Southwest Jiaotong University, China*

14:05-14:30 Tribology for the future powertrains\*  
**Motoichi MURAKAMI**  
*Toyota Motor Corporation, Japan*

14:30-15:20 Session V (Chair: **Koshi ADACHI**, *Tohoku University, Japan*)

14:30-14:55 The generalized life and reliability of rolling bearings: theory and practice\*  
**Xinglin LI**<sup>1,2</sup>, **Liya ZHAO**<sup>1,2</sup>, **Shuigen LU**<sup>1,2</sup>, **Bin LI**<sup>1,2</sup>  
<sup>1</sup> *Hangzhou Bearing Test & Research Center Co.Ltd. With Assistance of UNDP/UNIDO, China*  
<sup>2</sup> *Machinery Industry Bearing Quality Inspection Center (Hangzhou), China*

14:55-15:20 Recent studies on hydrogen issues in tribology\*  
**Joichi SUGIMURA, Hiroyoshi TANAKA, Takehiro MORITA, Yoshinori SAWAE**  
*Kyushu University, Japan*

15:20-16:20 **Poster Session**

16:20-17:10 Session VI (Chair: **Kun LIU**, *Hefei University of Technology, China*)

16:20-16:45 Research on high technology application of solid lubricating coatings\*  
**Jianmin CHEN, Huidi ZHOU, Lei CHEN**  
*Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, China*

16:45-17:10 Surface modification technology based on machining process for internal combustion engine\*  
**Hatsuhiko USAMI**<sup>1</sup>, **Tomomi HONDA**<sup>2</sup>, **Yuji MIHARA**<sup>3</sup>  
<sup>1</sup> *Meijo University, Japan*  
<sup>2</sup> *University of Fukui, Japan*  
<sup>3</sup> *Tokyo City University, Japan*

17:10-18:00 Session VII (Chair: **Hatsuhiko USAMI**, *Meijo University, Japan*)

17:10-17:35 Granular matter tribology\*  
**Kun LIU**  
*Hefei University of Technology, China*

17:35-18:00 The wear acceleration of DLC coating by imitation wear particles under boundary lubrication condition and in-situ observation of particles' penetration\*  
**Takayuki TOKOROYAMA**<sup>1</sup>, **Takahiro NISHINO**<sup>2</sup>, **Makoto YAMAGUCHI**<sup>2</sup>, **K.A.M. KASSIM**<sup>1</sup>, **Noritsugu UMEHARA**<sup>1</sup>  
<sup>1</sup> *Nagoya University, Japan*  
<sup>2</sup> *Akita University, Japan*

19:00-21:00 < Banquet > At Hotel New Tagawa Kokura

### **April 14, 2018**

08:30- Registration

09:00-10:00 Session VIII (Chair: **Joichi SUGIMURA**, *Kyushu University, Japan*)

09:00-09:35 Two topics of friction and wear evaluation method. (1)fretting protection property of grease, (2)friction simulation by smoothed particle hydrodynamics\*\*  
**Akihiko YANO**  
*Mitsubishi Heavy Industries, Ltd., Japan*

09:35-10:00 Study of fretting wear behavior of stainless steel in sea water\*  
**Fengyuan YAN, Yunxia WANG, Na FAN**

*Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences,  
China*

10:00-10:20 < Tea break >

10:20-11:10 Session IX (Chair: **Haitao DUAN**, *Wuhan Research Institute of Materials  
Protection, China*)

10:20-10:45 Friction-increasing effect of phosphorous tribofilm formed in the  
coexistence of sulfur and calcium additives\*

**Saiko AOKI**<sup>1</sup>, **Hironari TANO**<sup>1</sup>, **Daisuke TAKEKAWA**<sup>2</sup>

<sup>1</sup> *Tokyo Institute of Technology, Japan*

<sup>2</sup> *Idemitsu Kosan Co., Ltd., Japan*

10:45-11:10 Friction-induced graphene cap layer at sliding surfaces: For shorting  
run-in period\*

**Dongfeng DIAO**

*Shenzhen University, China*

11:10-12:00 Session X (Chair: **Masabumi MASUKO**, *Tokyo Institute of Technology,  
Japan*)

11:10-11:35 Evaluation for adhesion of DLC films using high-frequency,  
linear-oscillation test\*

**Tsuguyori OHANA**, **Hiroki MANO**

*National Institute of Advanced Industrial Science and Technology,  
Japan*

11:35-12:00 Tribocharging-induced triboluminescence: effects of the sliding speed  
and the position of the friction pairs\*

**Xuefeng XU**<sup>1</sup>, **Liran MA**<sup>2</sup>

<sup>1</sup> *Beijing Forestry University, China*

<sup>2</sup> *Tsinghua University, China*

12:00-12:10 Closing Remarks (Chair: **Bo ZHANG**, *Saga University, Japan*)

**Yasuhisa ANDO** (*Tokyo University of Agriculture and Technology,  
Japan*)

**Linmao QIAN** (*Southwest Jiaotong University, China*)

13:00-17:30 Kitakyushu Technical Tour

\*\* Keynote speech

\* Invited talk

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**Poster Session**

15:20-16:20 April 13, 2018

P01 Using ZDDP additives to prevent hydrogen permeation in steel

**Vlad Bogdan NISTE , Hiroyoshi TANAKA , Joichi SUGIMURA**  
*Kyushu University, Japan*

P02 Tribological characteristics of polymer composite overlays containing graphite

**Kazuki ENOMOTO , Takuma NAKAOKI , Hatsuhiko USAMI**  
*Meijo University, Japan*

P03 Development of Pb coating replacement technology

**Fangqi GONG, Tsutomu SATO, Hideyuki UYAMA**  
*NSK Ltd., Japan*

P04 Several hundreds of billion degrees of freedom simulation for elastohydrodynamic lubrication in journal Bearings with many-core architectures

**Hiroki FUKAGAWA , Kazuyuki YAGI**  
*Kyushu University, Japan*

P05 A consideration of grease lubrication mechanism in machine tool bearings

**Takayuki KAWAMURA**  
*NTN Corporation, Japan*

P06 Nanoscale origins of super-low friction of polyethylenimine /molybdenum disulphide (PEI/MoS<sub>2</sub>)<sub>15</sub> films in dry atmospheres

**Prabakaran SARAVANAN , Roman SELYANCHYN ,  
Hiroyoshi TANAKA , Joichi SUGIMURA**  
*Kyushu University, Japan*

P07 Pitch of washboard/fluting pattern due to electrical pitting

**Kenji SUNAHARA<sup>1</sup>, Satoshi KITAZAKI<sup>1</sup>, Yutaka YAMAGUTI<sup>1</sup>,  
Masaharu YAMAMOTO<sup>2</sup>, Yuji ISHIDA<sup>3</sup>, Iwao SASAKI<sup>4</sup>,  
Hiroshi NISHIKAWA<sup>4</sup>, Kenji MATSUDA<sup>4</sup>**

<sup>1</sup> *Fukuoka Institute of Technology, Japan*

<sup>2</sup> *Yamamoto Consulting Engineer Office, Japan*

<sup>3</sup> *Yaskawa Electric Corporation, Japan*

<sup>4</sup> *Kyushu Institute of Technology, Japan*

P08 The multi-objective optimization focused on the pumping action for zero-leakage and low-friction texturing mechanical seals

**Hiroshi SUZUKI , Tadatsugu IMURA , Yuichiro TOKUNAGA**  
*EAGLE INDUSTRY CO., LTD., Japan*

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