

講演会のご案内

OKINAWA Colloids 2019 Pre-workshop – 5th International Mini-symposium on Surface Forces –

沖縄コロイド 2019 プレワークショップ – 第5回 表面力国際ミニシンポジウム –

主催: トライボロジー融合研究会
共催: 東北大学多元物質科学研究所

2019年11月1日(金)～2日(土)に、沖縄コロイド2019 プレワークショップ (第5回表面力ミニシンポジウム国際シンポジウム) を東北大学片平キャンパスにて開催致します。

本会は、「沖縄コロイド2019」(11月3日～11月8日に沖縄にて開催)のプレワークショップとして開催します。国内外より界面科学分野で活躍する研究者を招待し、表面力測定を用いたソフトな材料の摩擦や物性評価、機能性界面・多孔材料の開発、界面選択的分光手法や高速原子間力顕微鏡による界面評価、などの最先端の成果について講演頂きます。特にJacob Klein教授は2012年のTribology Gold Medalの受賞者であり、Hans-Jürgen Butt教授は当分野の教科書の執筆者としても著名です。1日目の講演終了後に、夕食会兼ミーティングを開催いたします。

多くの皆様のご参加と活発な議論をお待ちしております。

また、1日、2日ともにポスター発表の時間を設けますので、発表申込も歓迎いたします。

海外招待講演者

Prof. Jacob Klein

ヤコブ クライン 教授
Weizmann Institute of Science, Israel
ワイツマン科学研究所, イスラエル



Prof. Hans-Jürgen Butt

ハンス ユルゲン ブット 教授
Max Planck Institute for Polymer
Research, Germany
マックスプランク高分子研究所



Prof. Minghua Liu

ミンファ リュウ 教授
CAS Key Laboratory of Colloid, Interface
and Thermodynamics, ICCAS, China
中国科学院化学研究所
界面化学・熱力学研究グループ



国内招待講演者

Prof. Yoshinobu Tsujii

辻井 敬巨 教授
Kyoto University, Japan
京都大学化学研究所



Prof. Takeshi Kawai

河合 武司 教授
Tokyo University of Science, Japan
東京理科大学工学部工業化学科



Prof. Izumi Ichinose

一ノ瀬 泉 副拠点長
Research Center for Functional
Materials, NIMS, Japan
物質・材料研究機構機能性材料研究拠点



(C) NIMS

OKINAWA Colloids 2019 Pre-workshop
– 5th International Mini-symposium on Surface Forces –

Date : November 1–2, 2019
Venue : Meeting Room (1F), South Multidisciplinary Research Laboratory 2,
Katahira Campus, Tohoku University
Host : Tribology Fusion Research Consortium (Tri-F)
Co-host : IMRAM, Tohoku University

– **Program** –

November 1st (Fri.)

- 13:00-13:10 Opening remarks
- 13:10-13:50 **Jacob Klein** (Weizmann Institute of Science, Israel)
“Bio-inspired boundary-lubricated hydrogels”
- 13:50-14:30 **Yoshinobu Tsujii** (Institute for Chemical Research, Kyoto University, Japan)
“Soft & resilient tribology with concentrated polymer brushes”
- 14:30-14:50 **Takuya Yanagimachi** (NICHe, Tohoku University, Japan)
“SFA study on polymer brushes for regulating orientation of nematic liquid crystal”
- 14:50-15:20 Coffee Break / Poster Session
- 15:20-16:00 **Hans-Jürgen Butt** (Max Planck Institute for Polymer Research, Germany)
“Contact angle hysteresis”
- 16:00-16:30 **Shinji Yamada** (Kao Corporation, Japan)
“Low friction polymer additives for oil-based and water-based lubrication”
- 16:30-17:00 **Masashi Mizukami** (IMRAM, Tohoku University, Japan)
“Dynamics of concentrated PMMA brush layers studied by resonance shear measurement”
- 18:00-20:00 Dinner meeting at “Forest Kitchen with Outdoor Living” in Hotel Metropolitan Sendai East 3F

November 2nd (Sat.)

- 9:00-9:40 **Minghua Liu** (CAS Key Laboratory of Colloid, Interface and Thermodynamics, ICCAS, China)
“Chiral self-assembly of gelator molecules and the circularly polarized luminescence”
- 9:40-10:10 **Shen Ye** (Department of Chemistry, Faculty of Science, Tohoku University, Japan)
“Structure and Stability of Unsaturated Lipid Monolayers on the Water Surface Exposed to Ambient Environment”
- 10:10-10:20 **Ryota Saino** (Faculty of Science and Technology, Tokyo University of Science, Japan)
“Morphology of surfactant mixtures at solid/liquid interfaces: High-speed AFM observation”
- 10:20-10:50 Coffee Break / Poster Session
- 10:50-11:30 **Takeshi Kawai** (Department of Industrial Chemistry, Tokyo University of Science, Japan)
“Stimuli-response and soft-template functions of a long-chain amidoamine amphiphile”
- 11:30-12:10 **Izumi Ichinose** (Research Center for Functional Materials, NIMS, Japan)
“Nanoporous hard carbon membranes: Their properties, scale-up, and applications”
- 12:10-12:30 **Takako Imamura** (NICHe, Tohoku University, Japan)
“SFG analysis of triblock copolymer lubricant additive adsorbing to solid surfaces”

Contact: Kazue Kurihara (New Industry Creation Hatchery Center (NICHe), Tohoku University)
E-mail: surface@grp.tohoku.ac.jp, tel: +81-22-217-6153, fax: +81-22-217-6154

Poster presentation

P1 High-speed AFM visualization of toxin protein assembly on lipid membrane, Neval Yilmaz, Toshihide Kobayashi (RIKEN, Japan)

P2 Tribological property of bottlebrush/ cellulose nanofiber composite gels, Keita Sakakibara, Yoshihiko Shimizu, and Yoshinobu Tsujii (Institute for Chemical Research, Kyoto University, Japan)

P3 Disproportionation of $\text{LiClO}_4/\text{PC-DME}$ solution at the solid-liquid interface and induced ionic conduction by heterophase effect, Yoshimasa Suzuki, Minoru Mizuhata (Graduate School of Engineering, Kobe University, Japan)

P4 Resonance shear measurement of diacrylate monomers confined between silica surfaces for UV nanoimprinting, Shunya Ito¹, Motohiro Kasuya¹, Kazue Kurihara², and Masaru Nakagawa¹ (¹IMRAM, Tohoku University, Japan, ²NICHE, Tohoku University, Japan)

P5 Reversible shape transformation of water droplet flattened by interfacial polydopamine ultrathin film, Hiroya Abe (Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Japan)

P6 Neutron reflectometry of surfactant aggregates on solid surface under shear flow, Fumi Takabatake¹, Fumiya Nemoto², Norifumi L. Yamada¹, Hideki Seto¹ (¹KEK, Japan, ²National Defense Academy of Japan)

P7 Effect of flow on forces between charged surfaces, Cathy McNamee (Faculty of Textile Science and Technology, Shinshu University, Japan)

P8 Shear Velocity Dependence of Properties of Nano-Confined OMCTS, Yuuta Shibuya¹, Masashi Mizukami², Kazue Kurihara¹ (¹NICHE, Tohoku University, Japan, ²IMRAM, Tohoku University, Japan)

P9 Tribological Properties of Poly(Methyl Methacrylate) Brushes by Surface Forces Measurement, Yutaka Takahashi¹, Masashi Mizukami², Yoshinobu Tsujii³, Kazue Kurihara¹ (¹NICHE, Tohoku University, Japan, ²IMRAM, Tohoku University, Japan, ³ICR, Kyoto University, Japan)

P10 Mechanism of tribo-chemical formation of MoS_2 on Fe film from MoDTC, Quynh Thi Nhu Phan and Kazue Kurihara (NICHe, Tohoku University, Japan)

P11 Synthesis of dimer particles applicable to self-propelled particles, Akira Nagasawa, Nozomi Shigeta, Kanako Watanabe, Daisuke Nagao (School of Engineering, Tohoku University, Japan)

P12 Plasmon resonance wavelength of gold nanotriangles surrounded by silica shells, Kosuke Nakamura, Kanako Watanabe, Daisuke Nagao (School of Engineering, Tohoku University, Japan)

P13 Highly dispersible titania particles for photocatalytic water treatment, Hikaru Namigata, Kanako Watanabe, Saya Okubo, Daisuke Nagao (School of Engineering, Tohoku University, Japan)

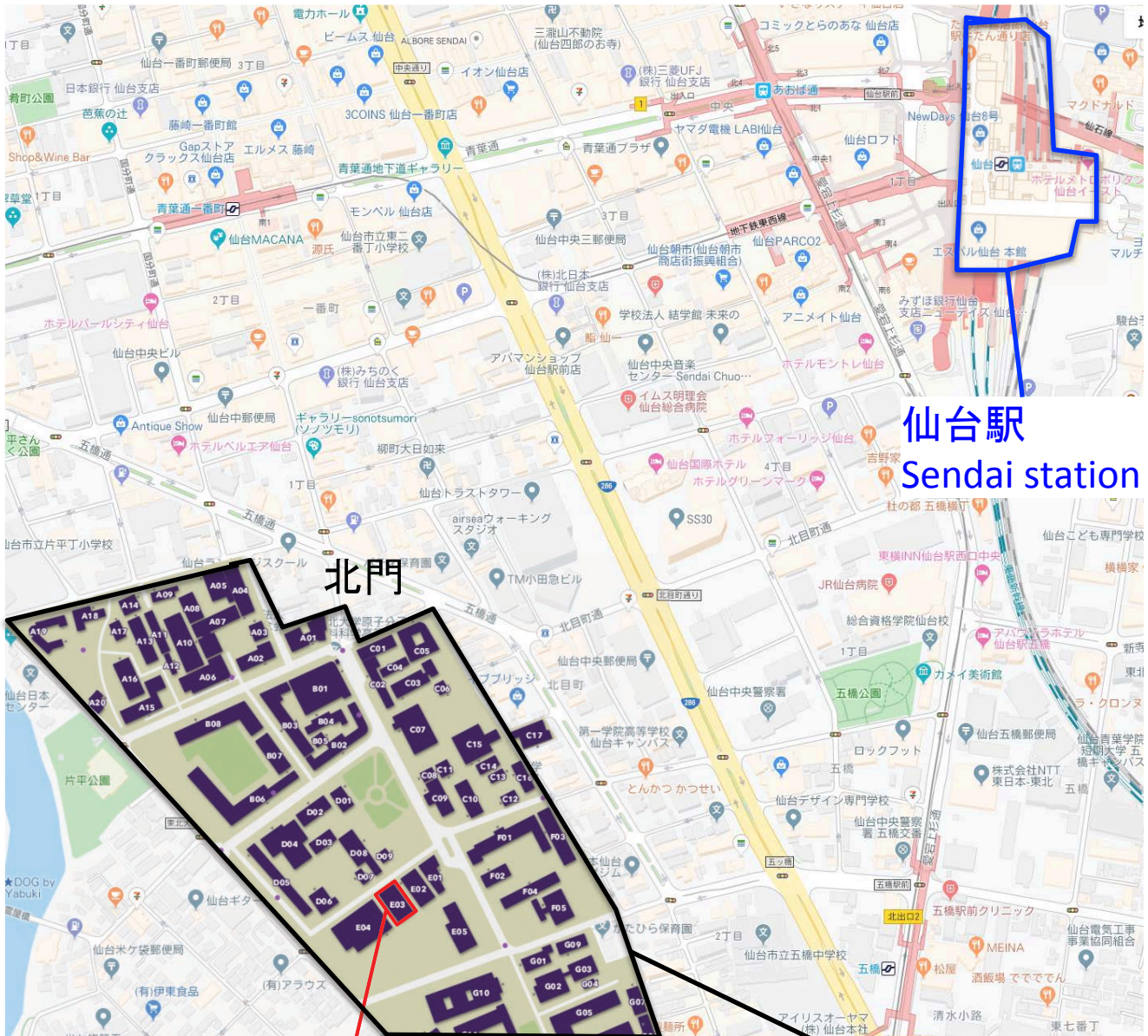
P14 Size control of mesoporous silica particles with enlarged pores by swelling agents, Kota Fujimoto, Shunho Ishikawa, Haruyuki Ishii, Kanako Watanabe, Daisuke Nagao (School of Engineering, Tohoku University, Japan)

P15 Mesoporous shell thickness on silica cores increased by addition of electrolytes, Shunho Ishikawa, Kota Fujimoto, Haruyuki Ishii, Kanako Watanabe, Daisuke Nagao (School of Engineering, Tohoku University, Japan)

P16 3D printing of cell models, Kazunari Yoshida, Kanako Adachi, Masato Makino, Masaru Kawakami, and Hidemitsu Furukawa (Graduate School of Science and Engineering, Yamagata University)

P17 Tribology Fusion Research Consortium (Tri-F)

沖縄コロイド2019 プレワークショップ
- 第5回 表面力国際ミニシンポジウム -
会場: 東北大学片平キャンパス南総合研究棟2号館1階会議室



仙台駅
Sendai station

北門

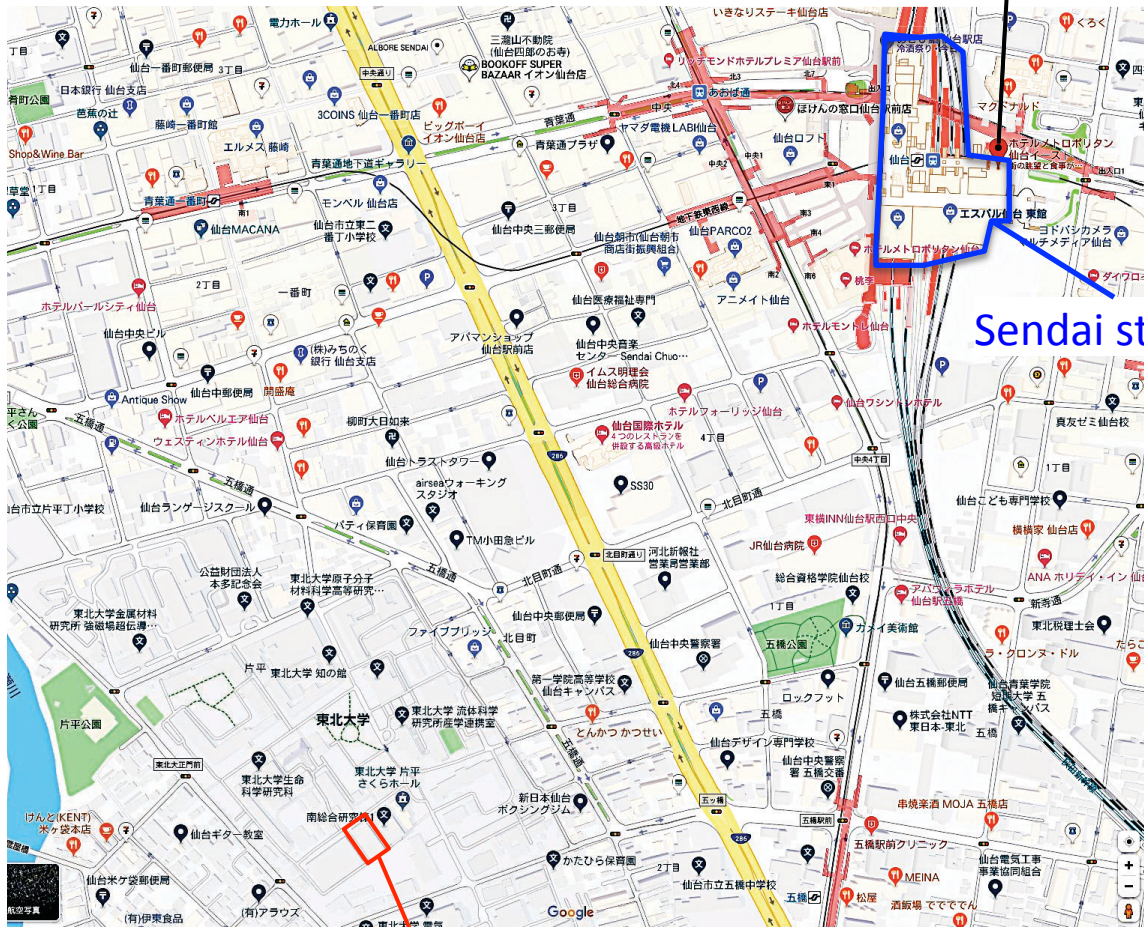
片平キャンパス



建物番号 E03
ワークショップ会場
workshop venue

Location of dinner meeting place

Hotel Metropolitan Sendai East 3F
Forest Kitchen with Outdoor Living
(East exit of Sendai station)



Sendai station

workshop venue