

## Active Matter Workshop 2019

2019/1/11 Fri.

- 10:00 - 10:20 Registration  
10:20 - 10:30 Opening  
10:30 - 11:10 **FL** Masahiro Takinoue (Tokyo Institute of Technology)  
“Phase-separated DNA microdroplets controlled by base sequence information”  
11:10 - 11:50 **FL** Yasuhiro Ikezoe (Nippon Institute of Technology)  
“Study of motion of the object caused by various energy conversion processes in materials”  
11:50 - 13:10 Lunch  
13:10 - 14:55 **ST1**  
14:55 - 15:20 Break  
15:20 - 16:00 **PL** Ryoichi Yamamoto (Kyoto Univ.)  
“Active matter modeling: swimming microorganisms / crawling and proliferating cells on substrate”  
16:00 - 16:40 **FL** Akihisa Shioi (Doshisha Univ.)  
“Design of chemical systems with semblance of life”  
19:00 - Banquet

\* Special lecture entitled "How do we describe the dynamic performance of materials - A case study for cracking problems -" is given by Prof. Yasumasa Nishiura (Tohoku Univ.) from 17:10 to 18:50, after the first day of the workshop.

2019/1/12 Sat.

- 9:30 - 10:10 **FL** Ben Nanzai (Shizuoka Institute of Science and Technology)  
“*Physicochemical approach for reaction in spontaneous running droplet on glass substrate*”  
10:10 - 10:30 Break  
10:30 - 11:30 **ST3**  
11:30 - 13:00 Lunch  
13:00 - 14:30 **ST4**  
14:30 - 14:50 Break  
14:50 - 15:30 **FL** Yoshiyuki Kageyama (Hokkaido Univ.)  
“Light-driven limit-cycle self-oscillation and autonomous swimming of azobenzene-assembly under photostationary state”  
15:30 - 16:10 **FL** Yusuke Hara (AIST)  
“Development of self-oscillating gel actuators for application to microfluidic devices and soft robots”  
16:10 - 16:20 Closing

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Presentation time

**PL:** Plenary lectures [40 min each, including discussions]

**FL:** Focused lectures [40 min each, including discussions]

**ST:** Short talks [10 min presentation + 5 min discussions for each]

## Groups of Short talks

### ST1

1. Mitsusuke Tarama (Kyoto U)  
“Mechanochemical modeling of crawling cells”
2. Simon K. Schnyder (Kyoto U)  
“Control of cell colony growth by contact inhibition”
3. John Jairo Molina (Kyoto U)  
“Modeling the mechanosensitivity of fast-crawling cells”
4. Estelle Gauquelin (U Paris Diderot)  
“Emergence of large scale propagative signals during epithelial cell migration”
5. Hiroyuki Ebata (Kyushu U)  
“Cell-type dependent durotaxis on micro-elastically heterogeneous gels”
6. Alexandre Baccouche (LIMMS CNRS/IIS / U Tokyo)  
“Seeing the shape of a molecular program”
7. Anthony Genot (CNRS/ U Tokyo)  
“Molecular programming with DNA”

### ST3

1. Hiroyuki Kitahata (Chiba U)  
“Spontaneous motion of a camphor particle depending on its shape”
2. Makoto Yoneya (AIST)  
“Azo liquid-crystals as a molecular active matter: Molecular dynamics simulation study”
3. Yoshino Hasegawa (Doshisha U)  
“Traveling wave of graphite particles induced by photo-irradiation”
4. Nicolas Lobato-Dauzier (LIMMS CNRS/IIS / U Tokyo)  
“MEGABOTS: DNA nano-robots swarms for multiscale dynamic construction”

### ST4

1. Kei Kikuchi (Akita Prefectural U)  
“Characteristics of the collective motion of barnacle larvae”
2. Shiho Sato (Doshisha U)  
“Self-running droplets: Mode bifurcation and synchronization”
3. Saori Suda (Kyoto U)  
“Coupling between the internal convection and the self-propelled motion in a water-in-oil droplet system”
4. Masahide Okada (Chiba U)  
“Self-split of oil droplets on surfactant aqueous solution”
5. Masahiro Makuta (Kyoto U)  
“Anomalous diffusion of a microparticle encapsulated in a cell-sized active gel droplet composed of actomyosin”
6. Ryota Takenaka (Kyoto U)  
“experiment of development of reconstruction system to find out the mechanism of cytokinesis”