

**15:10 Opening by Prof. Shinji Deguchi**

**Part 1 (15:15-16:35)**

**Chair: Takumi Saito**

- 15:15-15:55 (40) **Dr. Kenji Nishizawa** 西澤 賢治 (Assistant Prof. @ Tohoku University)  
"Mechanistic Insights into the Differences between Living and Non-living Systems, from Intracellular Dynamics to Tissue Mechanics"
- 15:55-16:35 (40) **Dr. Koichiro Maki** 牧 功一郎 (Associate Prof. @ Kyoto University)  
"Mechanical Investigation on Chromatin Dynamics under High Pressure"

**Part 2 (16:45 - 17:45)**

**Chair: Daiki Matsunaga**

- 16:45-16:57 (12) **Dr. Daiki Matsunaga** 松永 大樹 (University of Osaka)  
"Active Transport of Liposomes Driven by Encapsulated Microorganisms"
- 16:57-17:09 (12) **Dr. Takumi Saito** 齋藤 匠 (University of Osaka)  
"Coiled-coil Intramolecular Sensors OPEN up Mechanisms of Mechanotransduction"
- 17:09-17:21 (12) **Dr. Cristina Bertocchi** (University of Osaka & Pontifical Catholic University of Chile)  
"Decoding Molecular Mechanotransduction of Cell Adhesion Mechanisms"
- 17:21-17:33 (12) **Dr. Ryoko Otomo** 大友 涼子 (Kansai Univ.)  
"Fabrication of Microfluidic Device for Particle Separation using Deterministic Lateral Displacement Method: Experimental Observations of Particles Behavior through Triangular Pillars"
- 17:33-17:45 (12) **Dr. Sho Yokoyama** 横山 奨 (Osaka Institute of Technology)  
"Engineering a 3D Skeletal Muscle Platform to Recapitulate Mechanical Stress and Microgravity"

**Part 3 (17:55 - 18:50), 5 min x 7 speakers from University of Osaka**

**Chair: Cristina Bertocchi**

- **Dr. Ellen Alves** (Wada Lab)  
"Performance Assessment of Compressed Sensing Techniques in Phase Contrast MRI"
- **Yuika Ueda** 上田 唯花 (Deguchi Lab)  
"Revealing Cellular Functional Fluctuations via Nonequilibrium Physics"
- **Zachary Nicolella**, Nozomi M. Watanabe, Yukihiro Okamoto, Hiroshi Umakoshi  
"Resolving the Connection between Viscosity and Hydration in the Lipid Membrane"

58<sup>th</sup> Biomechanical Systems Symposium  
January 19, 2026 @ ΣHall, The University of Osaka

via Time Resolved Laurdan Spectroscopy Laurdan”

10min Q&A for 3 speakers

- **Zhang Colin** (Sakai Lab)  
“Disentangled Generative AI for Closed-Loop Optimization of 3D Bioprinting Deposition Morphology”
- **Rosario Ibáñez** (Deguchi Lab)  
“Interplay Between Stretch and Cell Density in Epithelial Homeostasis”
- **Intan Chairun Nisa** (Deguchi Lab)  
“Stress Fiber–Dependent Trafficking Controls Senescence-Associated Secretion”
- **Eiji Matsumoto** 松元 瑛司 (Deguchi Lab)  
“Chemomechanical Model for Regulation of Anchoring and Dynamic Adhesion Modes in Cell-Matrix Systems”

10min Q&A for 4 speakers (till 18:50)

**18:50 Closing by Prof. Shinji Deguchi**

**18:55 Reception @ Foyer, ΣHall**

**20:00 Closing**