

# Shigeyuki Komura

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## Personal

- Born on July 15, 1964
- Japanese Citizen
- Married, 2 children

## Higher Education

- Ph.D. in Physics (1993), Dissertation: *“Statistical Mechanics of Membranes”*
- Department of Physics, Faculty of Science, The University of Tokyo (1989–1991)  
Ph.D. student. Supervisor: Prof. T. Izuyama
- Department of Physics, Faculty of Science, The University of Tokyo (1987–1989)  
Master’s student. Supervisor: Prof. T. Izuyama  
M.Sc. in Physics (1989) Thesis: *“Sound Attenuation in Emulsions”*
- Department of Physics, Faculty of Science, The University of Tokyo (1983–1987)  
Undergraduate student.  
B.Sc. in Physics (1987)

## Employment

- PI, Wenzhou Institute, University of Chinese Academy of Sciences, (2021–)
- Visiting Professor, Department of Chemistry, Graduate School of Science, Tokyo Metropolitan University (2021–)
- Associate Professor, Department of Chemistry, Graduate School of Science, Tokyo Metropolitan University (2000–2021)
- Associate Professor, Department of Mechanical System Engineering, Faculty of Computer Science and Systems Engineering, Kyushu Institute of Technology (1995–2000)
- Research Associate, Department of Physics, Faculty of Science, Kyoto University (1992–1995)
- Research Associate, Department of Applied Physics, Faculty of Science, Tokyo Institute of Technology (1991–1992)

## Visiting & Short-Term Positions

- Visiting Member - The Kavli Institute for Theoretical Physics China (KITPC), China (8/2015)
- Visiting Member - The Kavli Institute for Theoretical Physics China (KITPC), China (5/2012)
- Visiting Member - The Kavli Institute for Theoretical Physics China (KITPC), China (7/2011)
- Visiting Member - The Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK (1/2004)
- Visiting Professor - Department of Physics & Astronomy, University of Leeds, UK (8/2002)
- Visiting Professor - Department of Materials and Interfaces, Weizmann Institute of Science, Israel (5/1999–3/2000)
- Visiting Professor - School of Physics and Astronomy, Tel Aviv University, Israel (4/1999)
- Visiting Student Researcher - Institut für Festkörperforschung (IFF), Forschungszentrum Jülich, Germany (4/1990–3/1991)

## Fellowships & Awards

- Bilateral Researcher Exchange Program, Japan Society for the Promotion of Science (JSPS), Japan - The Royal Society, UK. Visited the Department of Physics & Astronomy, University of Leeds, UK (8/2002)
- Monbusyo Fellowship Program for Japanese Scholars and Researchers to Study Abroad, The Ministry of Education, Science and Culture, Japan. Visited the Department of Materials and Interfaces, Weizmann Institute of Science, Israel (5/1999–3/2000)
- Bilateral Researcher Exchange Program, Japan Society for the Promotion of Science (JSPS), Japan - Israel Science Foundation, Israel. Visited the School of Physics and Astronomy, Tel Aviv University, Israel (4/1999)

## Grants

- National Natural Science Fund of China, Research Fund for International Scientists, “*Non-reciprocity and symmetry breaking in non-equilibrium micromachines*”, National Natural Science Foundation of China (NSFC), China 1.6 million yuan (2023–2024)
- National Natural Science Fund of China, MianShang Project, “*Non-equilibrium statistical mechanics of biological nanomachines elucidated by coarse grained models*”, National Natural Science Foundation of China (NSFC), China 0.56 million yuan (2023–2026)
- Grant-in-Aid for Scientific Research, “*Autonomous Motion of Biological Nanomachines Elucidated by Coarse-grained Model*”, The Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan. 3.0 million yen (2020–2021)
- Grant-in-Aid for Scientific Research, “*Non-Equilibrium Dynamics of Micromachines in Soft Matter*”, Japan Society for the Promotion of Science (JSPS), Japan. 3.3 million yen (2018–2020)
- Grant-in-Aid for Scientific Research, “*Theoretical Study on Cell Rheology*”, Japan Society for the Promotion of Science (JSPS), Japan. 3.4 million yen (2015–2017)

- Grant-in-Aid for Scientific Research on Innovative Areas, “*Synergy of Fluctuation and Structure: Quest for Universal Laws in Non-Equilibrium Systems*” headed by M. Sano (Tokyo University), “*Non-Equilibrium Dynamics of Meso-Structures in Biomembranes*”, The Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan. 6.9 million yen (2013–2017)
- Grant-in-Aid for Scientific Research, “*Dynamics of Heterogeneity in Biomembranes*”, Japan Society for the Promotion of Science (JSPS), Japan. 3.7 million yen (2012–2014)
- Grant-in-Aid for Scientific Research, “*Formation Condition and Transition Mechanism of Onion Phase under Shear Flow*”, The Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan. Headed by T. Kato (Tokyo Metropolitan Univ.) 16.38 million yen (2011–2013)
- Grant-in-Aid for Scientific Research, “*Non-Linear Rheology of Lamellar Phase and Smectic Phase*”, Japan Society for the Promotion of Science (JSPS), Japan. 3.64 million yen (2009–2011)
- Grant-in-Aid for Scientific Research on Priority Areas, “*Creation of Non-Equilibrium Soft Matter Physics: Structure and Dynamics of Mesoscopic Systems*” headed by T. Ohta (Kyoto University), “*Dynamics of Shear-Induced Structural Transition in Ordered Lyotropic Systems*” headed by T. Kato (Tokyo Metropolitan Univ.), The Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan. 68.6 million yen (2006–2010)
- Grant-in-Aid for Scientific Research, “*Theory for Controlling Pickering Emulsions*”, Japan Society for the Promotion of Science (JSPS), Japan. 2.26 million yen (2006–2008)
- Grant-in-Aid for Scientific Research, “*Effects of Shear Flow on the Structures of Lamellar Liquid Crystals and Slow Dynamics*”, Japan Society for the Promotion of Science (JSPS), Japan. Headed by T. Kato (Tokyo Metropolitan Univ.) 15 million yen (2003–2005)
- Grant-in-Aid for Scientific Research, “*Theoretical Study on Microdomains in Biomembranes*”, Japan Society for the Promotion of Science (JSPS), Japan. 2.7 million yen (2003–2005)
- Grant-in-Aid for Scientific Research, “*Simulation of Large Deformation and Tribology of Elastic Shells*”, Japan Society for the Promotion of Science (JSPS), Japan. 1.5 million yen (2001–2002)
- Grant-in-Aid for Scientific Research, “*Rheology of Micro-Phase Separated Systems*”, Japan Society for the Promotion of Science (JSPS), Japan. 2.3 million yen (1997–1998)
- Grant-in-Aid for Scientific Research on Priority Areas, “*Cooperative Phenomena in Complex Liquids*” headed by F. Yonezawa (Keio University), The Ministry of Education, Science and Culture of Japan. “*Rheology of Sponge Phases*”, 1.2 million yen (1996)
- Grant-in-Aid for Scientific Research, “*Rheology of Sponge Phases*”, The Ministry of Education, Science and Culture of Japan. 1 million yen (1996)
- Grant-in-Aid for Scientific Research on Priority Areas, “*Cooperative Phenomena in Complex Liquids*” headed by F. Yonezawa (Keio University), The Ministry of Education, Science and Culture of Japan. “*Rheology of Block Copolymers*”, 0.9 million yen (1995)
- Grant-in-Aid for Scientific Research, “*Computer Simulations of Block Copolymers*”, The Ministry of Education, Science and Culture of Japan. 0.9 million yen (1994)
- Grant-in-Aid for Scientific Research, “*Computer Simulations of Membranes*”, The Ministry of Education, Science and Culture of Japan. 0.9 million yen (1993)
- Grant-in-Aid for Scientific Research, “*Phase Separations of Systems Having Complex Internal Degree of Freedoms*”, The Ministry of Education, Science and Culture of Japan. Headed by A. Onuki (Kyoto Univ.) 1.7 million yen (1993)

## Supervision of M.Sc. Students

- Haruka Ito, 2021–2023.
- Akira Kobayashi, 2021–2023.
- Midori Ito, 2020–2022.
- Tomoki Sasada, 2020–2022.
- Yoshimi Ryu, 2020–2022.
- Katsutomo Era, 2019–2021. M.Sc. Thesis on: *“Autonomous Elastic Microswimmer”*
- Tomohiro Furuya, 2019–2021. M.Sc. Thesis on: *“Theory of Crack Propagation in a Cell Sheet”*
- Mizuki Kuroda, 2018–2020. M.Sc. Thesis on: *“Hydrodynamic Interaction between Two Elastic Microswimmers”*
- Akifumi Yamashita, 2018–2020. M.Sc. Thesis on: *“Simulation of Self-propelled Particles Having Birth and Death Processes”*
- Yuto Hosaka, 2017–2019. M.Sc. Thesis on: *“Non-Equilibrium Properties of Enzymes as Active Force Dipoles”*
- Yuki Umemura, 2017–2019. M.Sc. Thesis on: *“Morphogenesis of Small Intestinal Villi”*
- Kento Yasuda, 2016–2018. M.Sc. Thesis on: *“Micromachines Swimming in Viscoelastic Fluids”*
- Isamu Sou, 2015–2017. M.Sc. Thesis on: *“Coexistences of Lamellar Phases in Ternary Surfactant Solutions”*
- Takuma Hoshino, 2014–2016. M.Sc. Thesis on: *“Correlated Lateral Phase Separations in Stacks of Lipid Membranes”*
- Yuichi Kanemori, 2013–2015. M.Sc. Thesis on: *“Relaxation Dynamics of Binary Fluid Membranes”*
- Yoshinori Akamatsu, 2012–2014. M.Sc. Thesis on: *“Budding of Domains in Mixed Bilayer Membranes”*
- Yuichi Hirose, 2006–2008. M.Sc. Thesis on: *“Adsorption Dynamics in Pickering Emulsions”*
- Naofumi Shimokawa, 2006–2008. M.Sc. Thesis on: *“Phase Behavior of Mixed Lipid Membranes”*
- Yoko Ishii, 2005–2007. M.Sc. Thesis on: *“Non-Linear Rheology of Lamellar Phase”*
- Shunsuke Mochizuki, 2004–2006. M.Sc. Thesis on: *“Effects of Added Electrolytes on the Structure of Charged Polymeric Micelles”*
- Koichi Hirata, 2003–2005. M.Sc. Thesis on: *“Stability of Pickering Emulsions”*
- Sumie Kinouchi, 2002–2005. M.Sc. Thesis on: *“A Lattice Model of Protein Diffusion in Membranes”*
- Hisahi Shirotori, 2002–2004. M.Sc. Thesis on: *“Phenomenological Models of Phase Behavior in Lipid Systems”*
- Keizo Tamura, 1998–1999. M.Sc. Thesis on: *“Mean-Field Approach to Polymeric Microemulsions”*
- Norio Nishida, 1997–1998. M.Sc. Thesis on: *“Monte Carlo Simulation of Microemulsions”*

## Supervision of Ph.D. Students

- Li-Shing Lin, 2021–2024.
- Yuto Hosaka, 2019–2022. Ph.D. Thesis on: *“Theoretical Study on Nonequilibrium Transport Phenomena Induced by Biological Nanomachines”*
- Kento Yasuda, 2018–2021. Ph.D. Thesis on: *“Theoretical Study on Self-Propulsion and State Transition of Micromachines”*
- Isamu Sou, 2017–2021. Ph.D. Thesis on: *“Non-Equilibrium Statistical Mechanics of a Thermally Driven Micromachine”*
- Takuma Hoshino, 2016–2019. Ph.D. Thesis on: *“Dynamics of Skin Tissues: Correlation Between Structures, Functions, and Lesions”*
- Yuichi Hirose, 2008–2011. Ph.D. Thesis on: *“Concentration Fluctuation and Phase Separations in Lipid Bilayers”*
- Keizo Tamura, 2002–2005. Ph.D. Thesis on: *“Deformation of Elastic Shells”*

## Post-Doctoral Fellows

- Ryuichi Okamoto, 2014–2017. Postdoctoral research on: *“Dynamics of Biomembranes”*
- Sanoop Ramachandran, 2009–2011. Postdoctoral research on: *“Hydrodynamics of Biomembranes”*
- Kotaro Yamada, 2007–2009. Postdoctoral research on: *“Dynamics of Order-Order Phase Separation”*

## Teaching Experiences

- The University of Tokyo: *“Thermodynamics”* (2010–2011), *“Electromagnetism”* (2011–2015)
- Tokyo Metropolitan University: *“Basic Seminar”*, *“General Chemistry A”*, *“General Chemistry B”*, *“Physical Chemistry Recitation I”*, *“Physical Chemistry Recitation II”*, *“Material Science”*, *“Chemical Thermodynamics I”*, *“Chemical Thermodynamics II”*, *“Chemical Thermodynamics III”*, *“Physical Chemistry of Soft Condensed Matter”*, *“Advanced Physical Chemistry”*
- Kyushu Institute of Technology: *“Modern Physics I”*, *“Modern Physics II”*, *“Statistical Fluid Mechanics”*, *“Advanced Material Science”*
- Kyoto University: *“Electromagnetism Recitation”*, *“Polymer Physics Recitation”*
- Tokyo Institute of Technology: *“Functional Equations Recitation”*, *“Physical Mathematics Recitation II”*

## Intensive Courses in Other Universities

- Chiba University: “*Microrheology of Bio-Soft Matter Systems*” (2/2018)
- Kyushu University: “*Microrheology of Bio-Soft Matter Systems*” (1/2018)
- Okayama University: “*Interface Science in Soft Matter*” (12/2015)
- Chiba University: “*Soft Matter where Physics, Chemistry and Biology Meet*” (12/2009)
- Kyushu University: “*Interface Science in Soft Matter*” (7/2004)
- Kyoto University: “*Physics of Membranes*” (12/2003)
- Gunma University: “*Advanced Condensed Matter Physics*” (11/2003)
- Yokohama City University: “*Advanced Polymer Physics*” (12/2002, 8/2003, 1/2005)
- Tohoku University: “*Physics of Soft Materials*” (6/2002)
- Nagoya University: “*Physics of Amphiphiles*” (12/2001)
- Ochanomizu University: “*Physics of Soft Materials*” (7/2001, 5/2003, 11/2003)

## Principal Organizer of Scientific Conferences

- “*International Workshop on Hydrodynamic Flows in/of Cells*”, Tokyo (11/2016)
- “*International Symposium on Fluctuation and Structure out of Equilibrium 2015*”, Kyoto (8/2015)
- “*International Symposium on Non-Equilibrium Soft Matter 2010*”, Nara (8/2010)
- “*ISSP International Workshop on Soft Matter Physics*”, Institute of Solid State Physics (8/2010)
- “*International Symposium on Non-Equilibrium Soft Matter*”, Kyoto (6/2008)
- “*International Workshop on Physical Phenomena in Multi-Component Membranes*”, Tokyo Metropolitan University (3/2008)
- “*Physics of Soft Matter Complexes*”, Tokyo Metropolitan University (11/2004)
- “*Dynamics of Complex Fluids*”, Kyoto University (3/2004)
- “*Soft Matter Physics*”, Yukawa Institute for Theoretical Physics (2/2002)
- “*Physical Aspects of Amphiphilic Colloids*”, Saga Medical University (12/2009)
- “*International Workshop on Amphiphilic Systems*”, Yukawa Institute for Theoretical Physics (7–8/1997)
- “*Physics of Membranes*”, Yukawa Institute for Theoretical Physics (7/1996)

## Membership on Journal Editorial Boards

- Head Editor, *Journal of the Physical Society of Japan*, (2019–)
- Series Editor, *Soft and Biological Matter*, Springer (2014–)
- Editorial Board, *Soft Materials*, Taylor & Francis (2004–)
- Editorial Board, *Japanese Journal of Applied Physics* (2001–2003)

## Membership & Organizer of Academic Societies

- The Physical Society of Japan
- The Chemical Society of Japan
- Japanese Liquid Crystal Society
- The American Physical Society
- Organizer of Soft Matter Forum of Japanese Liquid Crystal Society (10/2004–)
- Organizer of Chemical Physics Division of The Physical Society of Japan (11/2002–10/2003)
- Organizer of Polymer Division of The Physical Society of Japan (11/1993–10/1994)

## Coordinator

- Grant-in-Aid for Scientific Research on Priority Areas, “*Creation of Non-Equilibrium Soft Matter Physics: Structure and Dynamics of Mesoscopic Systems*”, Project Leader: Prof. T. Ohta (Kyoto University), The Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan (2006–2011). Total budget: 16 hundred million yen.

## Invited Talks (in English) at Scientific Meetings

- “*Odd Elasticity in Stochastic Micromachines*”, 8th Beijing Soft Matter Workshop, Beijing (12/2022)
- “*A Three-Sphere Microswimmer in a Structured Fluid*”, The 12th National Conference on Soft Matter and Biophysics, Wenzhou Institute, Wenzhou Beijing (10/2022)
- “*Odd Elasticity in Stochastic Micromachines*”, The 12th National Conference on Soft Matter and Biophysics, Wenzhou Institute, Wenzhou Kyoto (10/2022)
- “*Odd Elasticity in Stochastic Micromachines*”, 2022 Internal Workshop of Centre for Theoretical Interdisciplinary Sciences, Wenzhou (7/2022)
- “*A Three-Sphere Microswimmer in a Structured Fluid*”, Xiamen Soft Matter Forum 2021, Xiamen (12/2021)
- “*Thermally Driven Elastic Micromachines*”, Soft Matter Out of Equilibrium: from Driven to Active Systems, Beijing (5/2019)
- “*Thermal and Active Fluctuations of a Compressible Bilayer Vesicle*”, Mechanics of Membranes: From Differential Geometry to Cell, Warwick (11/2018)
- “*Thermal and Active Fluctuations of a Compressible Bilayer Vesicle*”, 27th International Liquid Crystal Conference, Kyoto (7/2018)
- “*Swimmer-Microrheology*”, Association in Solution IV, Memorial University, St. John’s (7/2017)
- “*Anomalous Diffusion in Active Cells*”, International Workshop on Hydrodynamic Flows in/of Cells, Tokyo Metropolitan University, Tokyo (11/2016)
- “*Anomalous Diffusion in Active Cells*”, Interdisciplinary Applications of Nonlinear Science, Kagoshima University, Kagoshima (11/2016)

- “Dynamics of Multi-Component Membranes”, 4th International Kyushu Colloid Colloquium, Kyushu University, Fukuoka (9/2016)
- “Anomalous Diffusion in Active Cells”, BioSoft Frontiers: Physics of Soft and Biological Matter, Weizmann Institute of Science, Rehovot (9/2016)
- “Structural Rheology of the Smectic Phase”, 6th International Mini-Workshop, Chiba Institute of Science, Chiba (4/2016)
- “Relaxation Dynamics of Binary Lipid Bilayers”, International Symposium on Fluctuation and Structure out of Equilibrium 2015, Kyoto University, Kyoto (8/2015)
- “Dynamics of Multi-Component Membranes”, Controlled Structural Formation of Soft Matter, The Kavli Institute for Theoretical Physics China (KITPC), Beijing (8/2015)
- “Anomalous Lateral Diffusion in a Viscous Membrane Surrounded by Viscoelastic Media”, Association in Solution III, Bifröst University, Iceland (7/2012)
- “Anomalous Lateral Diffusion in a Viscous Membrane Surrounded by Viscoelastic Media”, 14th International Conference on Organized Molecular Films (ICOMF14), Paris Descartes University, Paris (7/2012)
- “Anomalous Lateral Diffusion in a Viscous Membrane Surrounded by Viscoelastic Media”, Membrane Biophysics | Theory and Experiment, The Kavli Institute for Theoretical Physics China (KITPC), Beijing (5/2012)
- “Are Lipid Domains above or below  $T_c$ ?”, Growth of Hierarchical Functional Materials in Complex Fluids, The Kavli Institute for Theoretical Physics China (KITPC), Beijing (7/2011)
- “Dynamics of a Polymer Chain Confined in a Membrane”, Growth of Hierarchical Functional Materials in Complex Fluids, The Kavli Institute for Theoretical Physics China (KITPC), Beijing (7/2011)
- “Are Lipid Domains above or below  $T_c$ ?”, Biophysics of Membrane Transformations, 467th Wilhelm and Else Heraeus Seminar, Physikzentrum Bad Honnef, Bad Honnef (10/2010)
- “Effects of Bulk Fluid on Phase Separation Dynamics in Membranes”, ISSP International Workshop on Soft Matter Physics, Institute for Solid State Physics of the University of Tokyo, Kashiwa (8/2010)
- “Smectic Rheology Close to the Smectic-Nematic Transition”, ISSP International Workshop on Soft Matter Physics, Institute for Solid State Physics of the University of Tokyo, Kashiwa (8/2010)
- “Are Lipid Domains above or below  $T_c$ ?”, International Student Workshop on Lipid Domains, Weizmann Institute of Science, Rehovot (2/2010)
- “Adsorption Dynamics in Pickering Emulsions”, International Symposium on Non-Equilibrium Soft Matter, Kyoto University, Kyoto (6/2008)
- “Hydrodynamics in Multicomponent Biomembranes”, International Workshop on Physical Phenomena in Multi-Component Membranes, Tokyo Metropolitan University, Tokyo (3/2008)
- “Hydrodynamics in Multicomponent Biomembranes”, Workshop on Structure Formation and Evolution in Soft Matter/Complex Fluid Systems, Beijing University, Beijing (12/2007)
- “Non-Linear Rheology of Lyotropic Lamellar Phases”, YITP Workshop on Structures and Dynamics in Soft Matter, Yukawa Institute of Theoretical Physics, Kyoto (7/2006)



- *“Buckling of Shells: From Fullerene to Ping-Pong Ball”*, Regional Bio-Soft Matter Days 2005, National Taiwan University, Taipei (12/2005)
- *“Spontaneous Curvature of Pickering Emulsions”*, Asian Conference on Recent Trends in Colloid and Surface Science, Nagoya University, Nagoya (12/2005)
- *“Phase Transition and Phase Separation in Biomembranes”*, International Workshop on Physics of Soft Matter Complexes, Tokyo Metropolitan University, Tokyo (11/2004)

## Publications

### Edited Book

1. S. Komura and T. Ohta, Series in Soft Condensed Matter Vol.4, “*Non-Equilibrium Soft Matter Physics*” (World Scientific, 2012).

### Book Chapters

1. S. Komura, S. Ramachandran, K. Seki, and M. Imai, “*Dynamics of heterogeneity in fluid membranes*”, in “*Advances in Planar Lipid Bilayers and Liposomes 16*” edited by A. Iglic (Elsevier), 129-164 (2012).
2. S. Komura, S. Ramachandran, and M. Imai, “*Hydrodynamic effects in multicomponent fluid membranes*”, in “*Non-Equilibrium Soft Matter Physics*” edited by S. Komura and T. Ohta (World Scientific), 197-274 (2012).
3. S. Komura and H. Kodama, “*Dynamics of ternary microemulsions*”, in “*The Physics of Complex Liquids*” edited by F. Yonezawa, K. Tsuji, K. Kaji, M. Doi, and T. Fujiwara (World Scientific), 184-198 (1998).
4. S. Komura, “*Shape fluctuations of vesicles*”, in “*Vesicles*” edited by M. Rosoff (Marcel Dekker), 198-236 (1996).
5. S. Komura and A. Baumgärtner, “*Monte Carlo study of vesicles*”, “*Dynamics of Surfaces, Interfaces and Membranes*” edited by D. Beysens, N. Boccara, and G. Forgacs (Nova Science Publishers), 305-314 (1993).

### Journal Articles

1. Y. Tateyama, H. Ito, S. Komura, and H. Kitahata, “*Pattern dynamics of the non-reciprocal Swift-Hohenberg model*”, submitted.
2. J. Li, Z. Zhang, Z. Hou, K. Yasuda, and S. Komura, “*Time-correlation functions of stochastic three-sphere micromachines*”, to be published in PRE.
3. K. Yasuda, K. Ishimoto, and S. Komura, “*Statistical formulation of Onsager-Machlup variational principle*”, Phys. Rev. E 110, 044104 (9pp) (2024).
4. Z. Zhang, S. Yuan, and S. Komura, “*Field theory of active Brownian particles with dry friction*”, New J. Phys. 26, 093036 (16pp) (2024).
5. L.-S. Lin, K. Yasuda, K. Ishimoto, and S. Komura, “*Emergence of odd elasticity in a microswimmer using deep reinforcement learning*”, Phys. Rev. Res. 6, 033016 (11pp) (2024).
6. Y. Ding, B. Wang, Q. Yang, Z. Zhao, S. Komura, R. Seto, M. Yang, and F. Ye, “*Odd response-induced phase separation of active spinners*”, Research 7, 0356 (8pp) (2024).
7. S. Jiang, J. Wang, Y. Zeng, Z. Zhao, X. Huang, S. Komura, F. Ye, L. He, K. Zhao, and Z. Hou, “*Five scenarios revealed by hard truncated rhombs for an expanded picture of two-dimensional melting*”, Cell Rep. Phys. Sci. 4, 101627 (17pp) (2023).
8. K. Yasuda, Y. Hosaka, and S. Komura, “*Generalized three-sphere microswimmers*”, J. Phys. Soc. Jpn. 92, 121008 (11pp) (2023).

9. M. Liu, Z. Hou, H. Kitahata, L. He, and S. Komura, "Non-reciprocal phase separations with non-conserved order parameters", J. Phys. Soc. Jpn. 92, 093001 (5pp) (2023).
10. A. Kobayashi, K. Yasuda, K. Ishimoto, L.-S. Lin, I. Sou, Y. Hosaka, and S. Komura, "Odd elasticity of a catalytic micromachine", J. Phys. Soc. Jpn. 92, 074801 (8pp) (2023).
11. Y. Hosaka, D. Andelman, and S. Komura, "Pair dynamics of active force dipoles in an odd-viscous fluid", Eur. Phys. J. E 46, 18 (13pp) (2023).
12. A. Kobayashi, K. Yasuda, L.-S. Lin, I. Sou, Y. Hosaka, and S. Komura, "Simulations of odd microswimmers", J. Phys. Soc. Jpn. 92, 034803 (4pp) (2023).
13. L.-S. Lin, K. Yasuda, K. Ishimoto, Y. Hosaka, and S. Komura, "Onsager's variational principle for nonreciprocal systems with odd elasticity", J. Phys. Soc. Jpn. 92, 033001 (4pp) (2023).
14. B. Zheng, F. Ye, S. Komura, and M. Doi, "Universality in the dynamics of vesicle translocation through a hole", Langmuir 39, 563-569 (2023).
15. T. Sasada, K. Yasuda, Y. Hosaka, and S. Komura, "Mechanical response of a layered material with interlayer friction", Soft Materials 20, (9pp) (2022).
16. Z. Zhao, M. Yang, S. Komura, and R. Seto, "Odd viscosity in chiral passive suspensions", Front. Phys. 10, 951465 (9pp) (2022).
17. K. Yasuda, K. Ishimoto, A. Kobayashi, L.-S. Lin, I. Sou, Y. Hosaka, and S. Komura, "Time-correlation functions for odd Langevin systems", J. Chem. Phys. 157, 095101 (11pp) (2022).
18. Y. Hosaka and S. Komura, "Nonequilibrium transport induced by biological nanomachines", Biophys. Rev. Lett. 17, 51-74 (2022).
19. K. Yasuda, A. Kobayashi, L.-S. Lin, Y. Hosaka, I. Sou, and S. Komura, "The Onsager-Machlup integral for non-reciprocal systems with odd elasticity", J. Phys. Soc. Jpn. 91, 015001 (2pp) (2022).
20. Z. Zhao, B. Wang, S. Komura, M. Yang, F. Ye, and R. Seto, "Emergent stripes of active rotors in shear flows", Phys. Rev. Res. 3, 043229 (13pp) (2021).
21. Y. Hosaka, S. Komura, and D. Andelman, "Hydrodynamic lift of a two-dimensional liquid domain with odd viscosity", Phys. Rev. E 104, 064613 (10pp) (2021).
22. K. Yasuda and S. Komura, "Nonreciprocity of a micromachine driven by a catalytic chemical", Phys. Rev. E 103, 062113 (11pp) (2021).
23. K. Yasuda, Y. Hosaka, I. Sou, and S. Komura, "Odd microswimmer", J. Phys. Soc. Jpn. 90, 075001 (2pp) (2021).
24. Y. Hosaka, S. Komura, and D. Andelman, "Nonreciprocal response of a two-dimensional fluid with odd viscosity", Phys. Rev. E 103, 042610 (11pp) (2021).
25. Y. Avni, S. Komura, and D. Andelman, "Brownian motion of a charged colloid in restricted confinement", Phys. Rev. E 103, 042607 (9pp) (2021).
26. K. Era, Y. Koyano, Y. Hosaka, K. Yasuda, H. Kitahata, and S. Komura, "Autonomous three-sphere microswimmers driven by coupled internal oscillations", EPL 133, 34001 (7pp) (2021).
27. I. Sou, Y. Hosaka, K. Yasuda, and S. Komura, "Irreversibility and entropy production of a thermally driven micromachine", Physica A 562, 125277 (14pp) (2021).

28. T. Ohta and S. Komura, “Lateral diffusion on a frozen random surface”, EPL 132, 50007 (7pp) (2020).
29. Y. Hosaka, S. Komura, and A. S. Mikhailov, “Mechanochemical enzymes and protein machines as hydrodynamic force dipoles: The active dimer model”, Soft Matter 16, 10734-10749 (2020).
30. S. C. Al-Izzi, P. Sens, M. S. Turner, and S. Komura, “Dynamics of passive and active membrane tubes”, Soft Matter 16, 9319-9330 (2020).
31. K. Yasuda, M. Kuroda, and S. Komura, “Reciprocal microswimmers in a viscoelastic fluid”, Phys. Fluids 32, 093102 (7pp) (2020).
32. S. Komura, “Brownian motion confined in a Brownian surface”, JPSJ News and Comments 17, 08 (2020).
33. C.-C. Liang, K. Yasuda, S. Komura, K.-A. Wu, and H.-Y. Chen, “Dynamics of a membrane coupled to an active fluid”, Phys. Rev. E 101, 042601 (10pp) (2020).
34. Y. Hosaka, S. Komura, and D. Andelman, “Shear viscosity of two-state enzyme solutions”, Phys. Rev. E 101, 012610 (11pp) (2020).
35. I. Sou, Y. Hosaka, K. Yasuda, and S. Komura, “Non-equilibrium probability flux of a thermally driven micromachine”, Phys. Rev. E 100, 022607 (10pp) (2019).
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### Scientific Publications in Japanese

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