

## Kyojiro Morikawa

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### EDUCATION

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**The University of Tokyo**, Tokyo, Japan

April 2010- September 2013: Ph. D. (Eng.) in Department of Applied Chemistry, Graduate School of Engineering

**The University of Tokyo**, Tokyo, Japan

April 2008- March 2010: M.S. in Department of Applied Chemistry, Graduate School of Engineering

**The University of Tokyo**, Tokyo, Japan

April 2004- March 2008: B.S. in Department of Applied Chemistry, School of Engineering

### TITLED ACADEMIC EXPERIENCE

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**Assistant Professor**, National Tsing Hua University, Hsinchu, Taiwan (2021-present)

**Project Lecturer**, The University of Tokyo, Tokyo, Japan (2021-present)

**Project Assistant Professor**, The University of Tokyo, Tokyo, Japan (2020-2021)

**Assistant Professor**, The University of Tokyo, Tokyo, Japan (2019-2020)

**Project Assistant Professor**, The University of Tokyo, Tokyo, Japan (2016-2018)

**Project researcher (Chief)**, The University of Tokyo, Tokyo, Japan (2016-2016)

**Part-time Lecturer**, Toyo University, Tokyo, Japan (2015-2021)

**Research fellow**, (Japan Society for the Promotion of Science PD), Tokyo Institute of Technology, Tokyo, Japan (2014-2016)

**Project researcher**, The University of Tokyo, Tokyo, Japan (2013-2014)

**Research fellow**, (Japan Society for the Promotion of Science DC2), The University of Tokyo, Tokyo, Japan (2011-2013)

### OTHER RESEARCH AND PROFESSIONAL EXPERIENCE

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**Junior Editorial Board member**, *Journal of Micromechanics and Microengineering*, (2023-present)

**Technical Consultant**, IMT Taiwan (2021-present)

**Workshop committee member, Session chair**, 2023 International Workshop on Microfluidic Chemical Plant (2023)

**Steering committee member**, Four Universities micro-nano fabrication consortium (2020-present)

**Poster judge**, RSC Tokyo International Conference 2020 (2020)

**Session chair**, The 100th Chemical Society Japan Annual Meeting (2020)

**Poster judge**, The 40th conference The Society for Chemistry and Micro-Nano Systems (2019)

**Poster judge**, RSC Tokyo International Conference 2019 (2019)

**Conference committee member**, International Conference on Single Cell Research 2016 (2016)

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**MAJOR RESEARCH INTERESTS**

Microfluidics and Nanofluidics  
 Micro-Nanofluidic device fabrication  
 Analytical Chemistry

**HONORS, AWARDS AND RECOGNITIONS**

**IOP Trusted Reviewer**, IOP Publishing (2024)  
**Analytical Sciences Hot Articles 2023 (2nd)**, *Analytical Sciences* (2023)  
**Excellent Research Award**, The 47th conference The Society for Chemistry and Micro-Nano Systems (2023)  
**Excellent Poster Presentation Award**, 2023 International Workshop on Microfluidic Chemical Plant (2023)  
**Analytical Sciences Hot Articles 2023**, *Analytical Sciences* (2023)  
**JMM Emerging Leaders 2022**, *Journal of Micromechanics and Microengineering* (2022)  
**Micromachines 2022 Best Paper Awards**, *Micromachines* (2022)  
**Analytical Sciences Hot Articles 2022**, *Analytical Sciences* (2022)  
**Lab on a Chip HOT Articles 2022**, *Lab on a Chip* (2022)  
**Visual Movie Award**, The 44th conference The Society for Chemistry and Micro-Nano Systems (2021)

**Journal Reviewer** *Analyst, Sensors and Actuators: B. Chemical, Lab on a Chip, Micromachines, Analytical Sciences, Molecules, Biosensors, Discover Nano, Journal of Micromechanics and Microengineering, Membranes, Nature Communications, Nanoscale Horizons, Scientific Reports, Small Methods*

**Prior to NTHU**

**Excellent Research Award**, The 43rd conference The Society for Chemistry and Micro-Nano Systems (2021)  
**President's Award for Excellence in Online Teaching**, The University of Tokyo (2021)  
**Excellent Research Award**, The 38th conference The Society for Chemistry and Micro-Nano Systems (2018)  
**Poster Award**, RSC Tokyo International Conference 2018 (2018)  
**CBMS Student/Young Researcher Grant**, The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2014)

**GRADUATE STUDENTS & RESEARCH ASSISTANT**

8 Master students are currently being mentored in my Lab at National Tsing Hua University. In addition, 15 Master students and 3 PhD students from the collaborated professors' groups are currently being mentored. Prior to NTHU, 7 Bachelor students, 8 Master students, and 2 PhD students were mentored at The University of Tokyo and Tokyo Institute of Technology.

**FUNDING**

Project	Job title	Duration	Funding source	Budget
Super Performance Microfluidic Device by Nanochannel Parallelization - Hybrid of Microfluidics and Nanofluidics -	PI	2023/08/01-2024/07/31	National Science and Technology Council (Taiwan)	1.2M NTD
Large-numbers Microfluidic-Device Systems for Desktop Chemical Plants	co-PI	2022/11/01-2024/10/31	National Science and Technology Council (Taiwan)	14.7M NTD

Variable Volume Production System for chemicals	PI	2022/10/01-2024/09/31	Daicel Micro Optics Corp.	1.15M NTD
Large-numbers Microfluidic-Device Systems for Desktop Chemical Plants	co-PI	2022/04/01-2026/08/31	Daicel Corp.	50M NTD
Variable volume production system	co-PI	2021/09/01-2026/08/31	Daicel Corp.	62.5M NTD
Development of aL-fL/sec Flow Monitor in Nanospace	PI	2019/04/01-2023/3/31	Japan Society for the Promotion of Science	4.29M JPY
Detection method for 10-100nm nanofluidic engineering and application to single cell proteomics	co-PI	2019/04/01-2022/3/31	Japan Society for the Promotion of Science	44.85M JPY
Creation of Extended-Nano Thermo-Optical Fluidic Device and Realization of Nonlabeled Single Molecule Detection	co-PI	2017/04/01-2020/3/31	Japan Society for the Promotion of Science	43.94M JPY
Study for ion separation using nanofluidic properties in nanospaces	PI	2014/04/01-2016/3/31	Japan Society for the Promotion of Science	2.99M JPY
Evaluation of water properties in nanospaces using streaming potential method	PI	2011/04/01-2013/3/31	Japan Society for the Promotion of Science	1.3M JPY

## TEACHING

- [1] **Thermo-fluidics in Bio-MEMS**, Department of Power Mechanical Engineering, National Tsing Hua University (2024-present)
- [2] **Micro-Nano Technology Drive The World**, Institute of NanoEngineering and MicroSystems, National Tsing Hua University (2023-present)
- [3] **Micro & Nano Technology**, Institute of NanoEngineering and MicroSystems, National Tsing Hua University (2023-present)
- [4] **Fuel cell and hydrogen energy**, Department of Power Mechanical Engineering, National Tsing Hua University (2022-present)
- [5] **Molecular Separation and Recognition for Detection and Analysis**, Institute of NanoEngineering and MicroSystems, National Tsing Hua University (2021-present)
- [6] **Practicum for Applied Chemistry**, School of Engineering, The University of Tokyo (2016-2020)
- [7] **Chemistry I**, Faculty of Science and Engineering, Toyo University (2015-2021)

## SOCIETIES

THE CHEMICAL SOCIETY OF JAPAN, THE JAPAN SOCIETY FOR ANALYTICAL CHEMISTRY, THE SOCIETY FOR CHEMISTRY AND MICRO-NANO SYSTEMS

## LECTURES, SEMINARS, and PRESENTATIONS

12/19/2023	seminar speaker	KAIST/ME – NTHU/PME DUAL WORKSHOP, Hsinchu, Taiwan
11/14/2023	invited speaker	MicroTAS2023 report workshop, Online

09/13/2023	invited speaker	The Society of Chemical Engineers, Japan 54th Autumn Meeting, Fukuoka, Japan
06/30/2023	seminar speaker	Mini-workshop of IFS TU and PME NTHU, Miyagi, Japan
03/21/2023	invited speaker	Pittcon2023, Philadelphia, Pennsylvania, USA
03/13/2023	keynote speaker	2023 International Workshop on Microfluidic Chemical Plant, Hsinchu, Taiwan
03/01/2023	lecturer	Forum on Nano-/Microsystem Technology, Hsinchu, Taiwan
02/22/2023	lecturer	Forum on Nano-/Microsystem Technology, Hsinchu, Taiwan
12/06/2022	seminar speaker	NAMIS Marathon Workshop, Hsinchu, Taiwan
10/23/2022	invited speaker	International Conference on Smart Sensors 2022 (ICSS 2022), Taichung, Taiwan
04/14/2022	invited speaker	The 17th International Conference on Nano/Micro Engineered and Molecular Systems (NEMS), Online
03/16/2022	lecturer	Forum on Nano-/Microsystem Technology, Hsinchu, Taiwan
03/09/2022	lecturer	Forum on Nano-/Microsystem Technology, Hsinchu, Taiwan
02/24/2022	invited speaker	Four Universities micro-nano fabrication consortium symposium, Kanagawa, Japan
12/21/2021	lecturer	College of Engineering English Seminar, Hsinchu, Taiwan
11/18/2021	lecturer	Department of Power Mechanical Engineering Seminar, Hsinchu, Taiwan

Other contributed presentations:

20 presentations at international conferences and 6 presentations at Japanese domestic conferences

#### ***Prior to NTHU***

11/15/2019	invited speaker	MicroTAS2023 report workshop, Tokyo, Japan
03/18/2019	invited speaker	Pittcon2019, Philadelphia, Pennsylvania, USA
09/01/2012	seminar speaker	JSPS Core-to-Core Program Joint Seminar on Micro/Nano Chemistry, London, UK
03/16/2012	seminar speaker	JSPS Core-to-Core Program Joint Seminar on Micro/Nano Chemistry, Singapore
02/03/2012	seminar speaker	JSPS Core-to-Core Program Joint Seminar on Micro/Nano Chemistry, Yorktown, New York, USA
08/02/2010	seminar speaker	JSPS Core-to-Core Program Joint Seminar on Micro/Nano Chemistry, Adelaide, Australia
12/14/2009	seminar speaker	JSPS Core-to-Core Program Joint Seminar on Micro/Nano Chemistry, Adelaide, Australia
11/21/2008	seminar speaker	JSPS Core-to-Core Program Joint Seminar on Micro/Nano Chemistry, Adelaide, Australia

Other contributed presentations:

80 presentations at international conferences and 67 presentations at Japanese domestic conferences

**BRIEF BIOGRAPHY**

Kyojiro Morikawa received his Ph.D. degree from the University of Tokyo in 2013. He worked in the University of Tokyo from 2013 to 2014. From 2014 to 2016, he worked in Tokyo Institute of Technology. Since 2016, he has been working in the University of Tokyo. In 2021, he was appointed as a Project Lecturer in the University of Tokyo, and an Assistant Professor in National Tsing Hua University (Taiwan). His research interests cover microfluidics and nanofluidics, especially for nanochannel fabrication, nanoscale liquid chemistry, nanofluidic devices such as nanofluidic reactors, separation devices, and so on. Based on his research topics, he actively disseminated the results with 104 publications (47 original papers, 5 reviews, 50 conference proceedings, 2 books) and 173 presentations (22 invited lectures, 149 contributed presentations), and received many awards from journal publishers and conferences.

**PUBLICATIONS****Original Articles (\*Corresponding author)**

- [1] R. Ohta, **K. Morikawa\***, Y. Tsuyama, T. Kitamori\*, (2024) "Relationship between bonding strength and surface roughness in low-temperature bonding of glass for micro / nanofluidic device", *J. Micromechanics Microengineering*, 34, 017002. DOI: 10.1088/1361-6439/ad104c.
- [2] H. Sano, Y. Kazoe\*, R. Ohta, H. Shimizu, **K. Morikawa**, T. Kitamori\*, (2023) "Nanofluidic analytical system integrated with nanochannel open/close valves for enzyme-linked immunosorbent assay", *Lab Chip*, 23, 727–736. DOI: 10.1039/d2lc00881e.
- [3] A. Smirnova, R. Ohta, E. Mori, H. Shimizu, **K. Morikawa**, T. Kitamori\*, (2023) "Enzyme-linked immunosorbent assay using thin-layered microfluidics with perfect capture of the target protein", *Anal. Methods*, 15, 675–684. DOI: 10.1039/d2ay01686a.
- [4] S. Sasaki, T. Suzuki, **K. Morikawa**, M. Matsusaki, K. Sato\*, (2023) "Fabrication of a Gelatin-Based Microdevice for Vascular Cell Culture", *Micromachines*, 14, 107. DOI: 10.3390/mi14010107.
- [5] **K. Morikawa\***, P. Chen, H.L. Tran, Y. Kazoe, C. Chen, T. Kitamori, (2023) "Fused silica microchannel fabrication with smooth surface and high etching selectivity", *J. Micromechanics Microengineering*, 33, 047001. DOI: 10.1088/1361-6439/acbe4a.
- [6] K. Yamamoto, **K. Morikawa\***, C. Chen, T. Kitamori, (2023) "Stability of enzyme immobilized on the nanofluidic channel surface", *Anal. Sci.*, 39, 251–255. DOI: 10.1007/s44211-023-00272-1.
- [7] H. Sano, Y. Kazoe\*, **K. Morikawa**, T. Kitamori\*, (2023) "Nanofluidic gas / liquid switching utilizing a nanochannel open / close valve based on glass deformation", *J. Micromechanics Microengineering*, 33, 085007. DOI: 10.1088/1361-6439/ace05f.
- [8] Y. Kazoe\*, K. Ikeda, K. Mino, **K. Morikawa**, K. Mawatari, T. Kitamori, (2023) "Quantitative characterization of liquids flowing in geometrically controlled sub-100 nm nanofluidic channels", *Anal. Sci.*, 39, 779–784. DOI: 10.1007/s44211-023-00311-x.
- [9] H. Sano, Y. Kazoe\*, **K. Morikawa**, T. Kitamori\*, (2022) "Picoliter liquid operations in nanofluidic channel utilizing an open/close valve with nanoscale curved structure mimicking glass deflection", *J. Micromechanics Microengineering*, 32, 055009. DOI: 10.1088/1361-6439/ac6204.
- [10] **K. Morikawa\***, T. Tsukahara\*, (2022) "Shift of charge inversion point of a trivalent ion solution in a nanofluidic channel", *Colloid Interface Sci. Commun.*, 50, 100646. DOI: 10.1016/j.colcom.2022.100646.
- [11] K. Yamamoto, **K. Morikawa\***, H. Imanaka, K. Imamura, T. Kitamori\*, (2022) "Kinetics of Enzymatic Reactions at the Solid/Liquid Interface in Nanofluidic Channels", *Anal. Chem.*, 94, 15686–15694. DOI: 10.1021/acs.analchem.2c02878.
- [12] Y. Takagi, Y. Kazoe\*, **K. Morikawa**, T. Kitamori\*, (2022) "Femtoliter-Droplet Mass Spectrometry

Interface Utilizing Nanofluidics for Ultrasmall and High-Sensitivity Analysis", *Anal. Chem.*, 94, 10074–10081. DOI: 10.1021/acs.analchem.2c01069.

**Prior to NTHU**

- [13] Y. Kazoe, S. Kubori, **K. Morikawa**, K. Mawatari, T. Kitamori\*, (2022) "Characterization of pressure-driven water flows in nanofluidic channels by mass flowmetry", *Anal. Sci.*, 38, 281–287. DOI: 10.2116/analsci.21p198.
- [14] K. Yamamoto, **K. Morikawa**\*, H. Shimizu, H. Sano, Y. Kazoe, T. Kitamori\*, (2022) "Accelerated protein digestion and separation with picoliter volume utilizing nanofluidics", *Lab Chip*, 22, 1162–1170. DOI: 10.1039/d1lc00923k.
- [15] **K. Morikawa**\*, S. Murata, Y. Kazoe, K. Mawatari, T. Kitamori\*, (2022) "Picoliter liquid handling at gas/liquid interface by surface and geometry control in a micro-nanofluidic device", *J. Micromechanics Microengineering*, 32, 024001. DOI: 10.1088/1361-6439/ac4006.
- [16] T. Saruko, **K. Morikawa**, T. Kitamori, K. Mawatari\*, (2022) "Proton diffusion and hydrolysis enzymatic reaction in 100 nm scale biomimetic nanochannels Proton diffusion and hydrolysis enzymatic reaction in 100 nm scale biomimetic nanochannels", *Biomicrofluidics*, 044109. DOI: 10.1063/5.0105297.
- [17] A. Kuzumi, A. Yoshizaki\*, K.M. Matsuda, H. Kotani, Y. Norimatsu, M. Fukayama, S. Ebata, T. Fukasawa, A. Yoshizaki-ogawa, Y. Asano, **K. Morikawa**, Y. Kazoe, K. Mawatari, T. Kitamori, S. Sato\*, (2021) "Interleukin-31 promotes fibrosis and T helper 2 polarization in systemic sclerosis", *Nat. Commun.*, 12, 5947. DOI: 10.1038/s41467-021-26099-w.
- [18] **K. Morikawa**\*, R. Ohta, K. Mawatari\*, T. Kitamori, (2021) "Metal-Free Fabrication of Fused Silica Extended Nanofluidic Channel to Remove Artifacts in Chemical Analysis", *Micromachines*, 12, 917. DOI: 10.3390/mi12080917.
- [19] Y. Tsuyama, **K. Morikawa**, K. Mawatari\*, (2021) "Integration of sequential analytical processes into sub-100 nm channels: volumetric sampling, chromatographic separation, and label-free molecule detection", *Nanoscale*, 13, 8855–8863. DOI: 10.1039/d0nr08385b.
- [20] Y. Tsuyama, **K. Morikawa**, K. Mawatari\*, (2021) "Diffraction-based label-free photothermal detector for separation analyses in a nanocapillary", *J. Chromatogr. A*, 1648, 462214. DOI: 10.1016/j.chroma.2021.462214.
- [21] K. Mawatari\*, K. Isogai, **K. Morikawa**, H. Ushiyama, T. Kitamori, (2021) "Isotope Effect in the Liquid Properties of Water Confined in 100 nm Nanofluidic Channels", *J. Phys. Chem. B*, 125, 3178–3183. DOI: 10.1021/acs.jpcc.1c00780.
- [22] S. Furukawa, K. Mawatari\*, Y. Tsuyama, **K. Morikawa**, T. Kitamori, (2021) "Nano-bubble Valve", *Microfluid. Nanofluidics*, 25, 24. DOI: 10.1007/s10404-021-02429-8.
- [23] Y. Kazoe, Y. Shimizu, **K. Morikawa**, Y. Terui, T. Irie, T. Kitamori\*, (2021) "Development of microfluidic droplet shooter and its application to interface for mass spectrometry", *Sensors Actuators B. Chem.*, 340, 129957. DOI: 10.1016/j.snb.2021.129957.
- [24] **K. Morikawa**\*, H. Kazumi, Y. Tsuyama, R. Ohta, T. Kitamori\*, (2021) "Surface Patterning of Closed Nanochannel Using VUV Light and Surface Evaluation by Streaming Current", *Micromachines*, 12, 1367. DOI: 10.3390/mi12111367.
- [25] **K. Morikawa**\*, Y. Kazoe, Y. Takagi, Y. Tsuyama, Y. Pihosh, T. Tsukahara, T. Kitamori\*, (2020) "Advanced Top-Down Fabrication for a Fused Silica Nanofluidic Device", *Micromachines*, 11, 995. DOI: 10.3390/mi11110995.
- [26] H. Sano, Y. Kazoe\*, **K. Morikawa**, T. Kitamori\*, (2020) "Implementation of a nanochannel open/close valve into a glass nanofluidic device", *Microfluid. Nanofluidics*, 24, 78. DOI: 10.1007/s10404-020-02383-x.

- [27] Y. Tsuyama, **K. Morikawa**, K. Mawatari\*, (2020) "Nanochannel chromatography and photothermal optical diffraction: Femtoliter sample separation and label-free zeptomole detection", *J. Chromatogr. A*, 1624, 461265. DOI: 10.1016/j.chroma.2020.461265.
- [28] S. Fujiwara, **K. Morikawa**, T. Endo, H. Hisamoto, K. Sueyoshi\*, (2020) "Size Sorting of Exosomes by Tuning the Thicknesses of the Electric Double Layers on a Micro-Nanofluidic Device", *Micromachines*, 11, 458. DOI: 10.3390/mi11050458.
- [29] T. Nakao, Y. Kazoe, **K. Morikawa**, L. Lin, K. Mawatari, T. Kitamori\*, (2020) "Femtoliter Volumetric Pipette and Flask Utilizing Nanofluidics", *Analyst*, 145, 2669–2675. DOI: 10.1039/c9an02258a.
- [30] Y. Kazoe, K. Mawatari, L. Li, H. Emon, N. Miyawaki, H. Chinen, **K. Morikawa**, A. Yoshizaki, P.S. Dittrich, T. Kitamori\*, (2020) "Lipid Bilayer-Modified Nanofluidic Channels of Sizes with Hundreds of Nanometers for Characterization of Confined Water and Molecular/Ion Transport", *J. Phys. Chem. Lett.*, 11, 5756–5762. DOI: 10.1021/acs.jpcclett.0c01084.
- [31] K. Yamamoto, **K. Morikawa**\*, H. Imanaka, K. Imamura, T. Kitamori\*, (2020) "Picoliter enzyme reactor on a nanofluidic device exceeding the bulk reaction rate", *Analyst*, 145, 5801–5807. DOI: 10.1039/d0an00998a.
- [32] Y. Kazoe, Y. Pihosh, H. Takahashi, T. Ohyama, H. Sano, **K. Morikawa**, K. Mawatari, T. Kitamori\*, (2019) "Femtoliter nanofluidic valve utilizing glass deformation", *Lab Chip*, 19, 1686–1694. DOI: 10.1039/c8lc01340c.
- [33] R. Ohta, K. Mawatari\*, T. Takeuchi, **K. Morikawa**, T. Kitamori, (2019) "Detachable glass micro/nanofluidic device", *Biomicrofluidics*, 13, 024104. DOI: 10.1063/1.5087003.
- [34] T. Nakao, Y. Kazoe, E. Mori, **K. Morikawa**, T. Fukasawa, A. Yoshizaki, T. Kitamori\*, (2019) "Cytokine analysis on a countable number of molecules from living single cells on nanofluidic devices", *Analyst*, 144, 7200–7208. DOI: 10.1039/c9an01702j.
- [35] **K. Morikawa**, K. Matsushita, T. Tsukahara\*, (2017) "Rapid Plasma Etching for Fabricating Fused Silica Microchannels", *Anal. Sci.*, 33, 1453–1456. DOI: 10.2116/analsci.33.1453.
- [36] C. Wang\*, Y. Kazoe, **K. Morikawa**, H. Shimizu, Y. Pihosh, K. Mawatari, T. Kitamori\*, (2017) "Micro heat pipe device utilizing extended nanofluidics", *RSC Adv.*, 7, 50591–50597. DOI: 10.1039/C7RA10017E.
- [37] Y. Fukatsu, **K. Morikawa**, Y. Ikeda, T. Tsukahara\*, (2017) "Temperature and Size Effects on Structural and Dynamical Properties of Water Confined in 1 – 10 nm-scale Pores Using Proton NMR Spectroscopy", *Anal. Sci.*, 33, 903–909. DOI: 10.2116/analsci.33.903.
- [38] L. Lin, K. Mawatari, **K. Morikawa**, Y. Pihosh, A. Yoshizaki, T. Kitamori\*, (2017) "Micro/extended-nano sampling interface from a living single cell", *Analyst*, 142, 1689–1696. DOI: 10.1039/C7AN00220C.
- [39] H. Shimizu, **K. Morikawa**, Y. Liu, A. Smirnova, K. Mawatari, T. Kitamori\*, (2016) "Femtoliter high-performance liquid chromatography using extended-nano channels", *Analyst*, 141, 6068–6072. DOI: 10.1039/C6AN01195K.
- [40] **K. Morikawa**\*, T. Tsukahara\*, (2016) "Fabrication of Hydrophobic Nanostructured Surfaces for Microfluidic Control", *Anal. Sci.*, 32, 79–83. DOI: 10.2116/analsci.32.79.
- [41] L. Lin, K. Mawatari, **K. Morikawa**, T. Kitamori\*, (2016) "Living Single Cell Analysis Platform Utilizing Microchannel, Single Cell Chamber, and Extended-nano Channel", *Anal. Sci.*, 32, 75–78. DOI: 10.2116/analsci.32.75.
- [42] T. Tsukahara, K. Nagaoka, **K. Morikawa**, K. Mawatari, T. Kitamori\*, (2015) "Keto–Enol Tautomeric Equilibrium of Acetylacetone Solution Confined in Extended Nanospaces", *J. Phys. Chem. B*, 119, 14750–14755. DOI: 10.1021/acs.jpcc.5b08020.
- [43] **K. Morikawa**, Y. Kazoe, K. Mawatari, T. Tsukahara, T. Kitamori\*, (2015) "Dielectric Constant of

- Liquids Confined in the Extended Nanospace Measured by a Streaming Potential Method", *Anal. Chem.*, 87, 1475–1479. DOI: 10.1021/ac504141j.
- [44] C. Chang, Y. Kazoe, **K. Morikawa**, K. Mawatari, R.-J. Yang, T. Kitamori\*, (2013) "Numerical Simulation of Proton Distribution with Electric Double Layer in Extended Nanospaces", *Anal. Chem.*, 85, 4468–4474. <http://pubs.acs.org/doi/full/10.1021/ac400001v> (accessed March 19, 2014).
- [45] H. Chinen, K. Mawatari, Y. Pihosh, **K. Morikawa**, Y. Kazoe, T. Tsukahara, T. Kitamori\*, (2012) "Enhancement of Proton Mobility in Extended-Nanospace Channels", *Angew. Chem. Int. Ed. Engl.*, 51, 3573–3577. DOI: 10.1002/anie.201104883.
- [46] **K. Morikawa**, K. Mawatari, Y. Kazoe, T. Tsukahara, T. Kitamori\*, (2011) "Shift of isoelectric point in extended nanospace investigated by streaming current measurement", *Appl. Phys. Lett.*, 99, 123115. DOI: 10.1063/1.3644481.
- [47] **K. Morikawa**, K. Mawatari, M. Kato, T. Tsukahara, T. Kitamori\*, (2010) "Streaming potential/current measurement system for investigation of liquids confined in extended-nanospace", *Lab Chip*, 10, 871–875. DOI: 10.1039/b916776e.

#### Review Articles (\*Corresponding author)

- [1] **森川響二郎\***, 陳柏穎, 陳靈海, 嘉副裕, 陳致真, 北森武彦, (2023) "ドライエッチングによる平滑なガラス製マイクロ流路の高選択比加工法", *化学とマイクロ・ナノシステム学会誌*, 22, 22–25.

#### Prior to NTHU

- [2] 嘉副裕\*, 高木雄斗, **森川響二郎**, 北森武彦\*, (2021) "ナノ流体工学によるフェムトリットル液滴 MS インターフェース", *化学とマイクロ・ナノシステム学会誌*, 20, 36–39.
- [3] T.H.H. Le\*, H. Shimizu\*, **K. Morikawa\***, (2020) "Advances in Label-Free Detections for Nanofluidic Analytical Devices", *Micromachines*, 11, 885. DOI: 10.3390/mi11100885.
- [4] **森川響二郎\***, 嘉副裕, 塚原剛彦, 馬渡和真, 北森武彦\*, (2019) "ガラス製50 nm流路の作製と流動電流計測", *化学とマイクロ・ナノシステム学会誌*, 18, 28–31.
- [5] **K. Morikawa**, T. Tsukahara\*, (2014) "Investigation of Unique Protonic and Hydrodynamic Behavior of Aqueous Solutions Confined in Extended Nanospaces", *Isr. J. Chem.*, 54, 1564–1572. DOI: 10.1002/ijch.201400095.

#### Conference Proceedings (\*Corresponding author)

- [1] P. Chen, C. Chen\*, Y. Kazoe, **K. Morikawa**, T. Kitamori, (2022) "NUMERICAL MODELING OF MICROFLUIDIC GENERATION AND SHOOTING OF PICOLITER LIQUID DROPLETS USING AIR FLOW", *Proceeding of MicroTAS*, 809–810.
- [2] **K. Morikawa\***, K. Yamamoto, K. Sakurai, T. Kitamori\*, (2022) "NANOFLUIDIC ENZYME REACTOR EXCEEDING BULK SOLUBILITY LIMIT", *Proceeding of MicroTAS*, 853–854.
- [3] **K. Morikawa\***, C.-C. Chang, Y. Kazoe, K. Mawatari, T. Kitamori\*, (2022) "STREAMING CURRENT IN 50NM NANOFLUIDIC CHANNEL", *Proceeding of MicroTAS*, 825–826.
- [4] **K. Morikawa\***, R. Ohta, N. Sawahata, T. Kitamori\*, (2022) "GENERATION AND FUSION OF SIZE-CONTROLLED fL DROPLETS USING GAS / LIQUID INTERFACE", *Proceeding of MicroTAS*, 1025–1026.



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