Yingzhe Wang, Ph.D.

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Academic Curriculum Vitae

Effective Aug. 31, 2022

Personal

Full Name: Yingzhe Wang
Sex: Male
Born: June 19, 1991 (Zhejiang, China)
Citizenship: Chinese

Academic Appointments

2021-pres Specially Appointed Researcher (Full time), Osaka University
2019-2021 Specially Appointed Researcher (Part time), Osaka University

Education

2021 Ph.D. in Mechanical Engineering, Osaka University
2016 M.Eng. in Control Engineering, Zhejiang University
2013 B.Eng. in Automation, Zhejiang University

Areas of Interest

Micro robotics, Biohybrid robotics, Microfluidics

Skills

Languages: Chinese (native-speaker), English (fluent), Japanese (fluent)
Programming: C (advanced), LabVIEW (advanced), MATLAB (intermediate), Python (beginner)
Research tools: AutoCAD, SolidWorks, COMSOL, ZEMAX, EndNote, CorelDRAW, Origin, ImageJ

Honors & Awards

2022 Best Poster Award of IEEE 39th International Conference on Robotics and Automation
2014 The Third Prize of Zhejiang University Virtual Instrument Design Contest
2013 Excellent Graduation Thesis of Zhejiang University
2012 The Third Prize of the 7th Supcon Cup Robotics Competition
2010 The Third Prize of Zhejiang Province Collegiate Advanced Mathematics Contest
2010 The Second Prize of Zhejiang Province Collegiate Physic Contest

Publications

Journal Paper

2022 **Wang, Y.**, Uesugi, K., Nitta, T., Hiratsuka, Y., & Morishima, K. "Contractile measurement of artificial muscles assembled from biomolecular motors using a modified force sensor." *APL Bioengineering*. (Under review)

Ariyanto, M., Masum Refat, C. M., Zheng, X., Hirao, K., **Wang, Y.**, & Morishima K. "Teleoperated cyborg cockroach between Japan and Bangladesh." *Computation*. (Under review)

Wang, Y., Nitta, T., Hiratsuka, Y., & Morishima, K. "In situ integrated micro-robots driven by active network actuator built from biomolecular motors." *Science Robotics* 7.69 (2022): eaba8212. (Cover paper)

2021 Nitta, T., **Wang, Y.**, Du, Z., Morishima, K. & Hiratsuka, Y. "A printable active network actuator built from an engineered biomolecular motor." *Nature Materials* 20.8 (2021): 1149-1155.

2020 **Wang, Y.**, Toyoda, K., Uesugi, K., & Morishima K. "A simple micro check valve using a photo-patterned hydrogel valve core." *Sensors and Actuators A: Physical* 304 (2020): 111878.

International Conference

2022 **Wang, Y.**, Hiratsuka, Y., Nitta, T., Uesugi, K., & Morishima, K. "In-situ integrated microrobots on a chip powered by biomolecular artificial muscle." *2022 IEEE 35nd International Conference on Micro Electro Mechanical Systems (MEMS)*. IEEE, 2022. (Oral presentation)

2019 **Wang, Y.**, Hiratsuka, Y., Nitta, T., Uesugi, K., & Morishima, K. "Microfluidic fabrication of bio-actuators driven by artificial muscles made from molecular motors." *23rd International Conference on Miniaturized Systems for Chemistry and Life Sciences, μTAS 2019.* Chemical and Biological Microsystems Society, 2019. (Poster presentation)

Wang, Y., Hiratsuka, Y., Nitta, T., Uesugi, K., & Morishima, K. "Micro-Assembly Using Optically Patterned Molecular-Motor-Powered Artificial Muscles." *2019 IEEE 32nd International Conference on Micro Electro Mechanical Systems (MEMS)*. IEEE, 2019. (Poster presentation)

Wang, Y., Uesugi, K., & Morishima, K. "A Simple Micro Check Valve Using Patterned Hydrogel Valve Core." *2019 IEEE 32nd International Conference on Micro Electro Mechanical Systems (MEMS).* IEEE, 2019. (Poster presentation)

2018 Bessho, Y., **Wang, Y.**, Uesugi, K., & Morishima, K. "A venous valve-like check valve for microfluidic device." *22nd International Conference on Miniaturized Systems for Chemistry and Life Sciences, μTAS 2018*. Chemical and Biological Microsystems Society, 2018 (Poster presentation)

Domestic Conference

2022 **Wang, Y.**, Minakata, K., Hiratsuka, Y., Uesugi, K., & Morishima, K. "Microfluidic actuators driven by biomolecular artificial muscle." *The Proceedings of JSME annual Conference on Robotics and Mechatronics (ROBOMECH) 2022*. The Japan Society of Mechanical Engineers, 2022. (Poster presentation)

2021 **Wang, Y.**, Minakata, K., Hiratsuka, Y., Uesugi, K., & Morishima, K. "Contractile measurement of printable artificial muscles built from biomolecular motors." *The Proceedings of JSME annual Conference on Robotics and Mechatronics (ROBOMECH) 2021*. The

Japan Society of Mechanical Engineers, 2021. (Poster presentation)

2020 **Wang, Y.**, Nishida, K., Nitta, T., Hiratsuka, Y., Uesugi K., & Morishima, K. "Direct force measurement of artificial muscle printed from motor proteins." *The Proceedings of JSME annual Conference on Robotics and Mechatronics (ROBOMECH) 2020*. The Japan Society of Mechanical Engineers, 2020. (Poster presentation)

2018 **Wang, Y.**, Minakata, K., Hiratsuka, Y., Uesugi, K., & Morishima, K. "Fabrication of bio-actuators with molecular motors by stereolithography." *The Proceedings of JSME annual Conference on Robotics and Mechatronics (ROBOMECH) 2018*. The Japan Society of Mechanical Engineers, 2018. (Poster presentation)

2017 **Wang, Y.**, Hiratsuka, Y., Uesugi, K., & Morishima, K. "Manufacturing System of Micro-robots with Molecular Artificial Muscle." *The Proceedings of JSME annual Conference on Robotics and Mechatronics (ROBOMECH) 2017*. The Japan Society of Mechanical Engineers, 2017. (Poster presentation)