

Kano Kajie

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EDUCATION

University of California, Berkeley Visiting Student Researcher, Herr Lab, Department of Bioengineering	08/2023- current
Tokyo Institute of Technology Master's Degree, Yagi Lab, Department of Mechanical Engineering, Human Centered Science & Biomedical Engineering	04/2021- current
Seoul National University Exchange Program, Department of Mechanical Engineering	09/2021- 02/2022
Tokyo Institute of Technology Bachelor's Degree, Yagi Lab, Department of Mechanical Engineering	04/2017- 03/2021

RESEARCH PROJECTS

- A study on control of drug release in ultrasound-responsive liposome-encapsulated gel patches** 04/2022 – current
- Prepared nanosized liposomes and hydrogels for drug release using ultrasound irradiation.
 - Calculated ultrasound intensity by measuring probe's vibration velocity through laser doppler vibrometer.
 - Observed the fluorescence intensity change by spectrophotometer.

- A study on the relationship between ultrasound irradiation time and drug uptake in drug delivery system** 04/2020 – 07/2021
- Prepared microsized liposomes and used ultrasound irradiation for drug uptake in liposomes.
 - Generated ultrasound by waveforms and Analog Discovery 2.
 - Observed the fluorescence intensity change by confocal microscopy and analyzed the images by ImageJ.

AWARDS

- **Best Women in Engineering Paper Award at IEEE Medical Measurements and Applications**, June 2023
- **Presentation Award at Young Investigator Workshop 2022 Japanese Society for Medical and Biological Engineering**, December 2022

CONFERENCES

“Control of drug release in ultrasound-responsive liposome-encapsulated gel patches”, IEEE Medical Measurements and Applications, June 2023, Jeju, South Korea, June 2023.

“A study on control of drug release in ultrasound-responsive liposome-encapsulated gel patches”, Young Investigator Workshop 2022 Japanese Society for Medical and Biological Engineering, Tokyo, Japan, December 2022.

“A study on liposome-encapsulated hydrogel patches for ultrasound triggered transdermal drug delivery system”, 2022 Annual Conference on Electronics, Information and Systems Institute of Electrical Engineers of Japan, Hiroshima, Japan, September 2022.

“Study on the relationship between ultrasound irradiation and membrane permeability in cell membrane drilling”, 2021 Annual Conference on Electronics, Information and Systems Institute of Electrical Engineers of Japan, September 2021.

“Study on the relationship between ultrasound exposure time and cellular drug uptake in DDS”, The 60th Annual Conference of Japanese Society for Medical and Biological Engineering, June 2021.

“Study on the relationship between ultrasound irradiation time and membrane permeability in DDS”, Technical Meeting, Magnetics and Bioengineering, IEE Japan 2021, March 2021.

“A study on optimal conditions for ultrasonic irradiation in cell membrane drilling”, Young Investigator Workshop 2020 Japanese Society for Medical and Biological Engineering, December 2020.

SKILLS

Programming: C++, JAVA, Ruby, MATLAB

Software: Microsoft Office Word, PowerPoint, Excel

Laboratory: Nano-sized liposome preparation, micro-sized liposome preparation, confocal microscopy, ImageJ, spectrophotometer, dynamic light scattering, ultrasound generating with piezoelectric element, hydrophone, Waveforms, Analog discovery 2 (oscilloscope, logic analyzer and variable power supply), laser doppler vibrometer

OTHER ACTIVITIES

Tokyo Tech/MIT Language Exchange Program (English/Japanese)

04/2021- 06/2020

- Practicing using English and Japanese to make a conversation with a language partner once per week.
- Exchanged culture, research, campus life at Tokyo Tech and MIT.
- Devised cumulative presentation at the end of the program summarizing what we learned from our cultural exchange.

Tokyo Tech Language Exchange Partnership (English/Japanese)

06/2019- 08/2019

01/2021- 04/2021

Overseas Training Program at University of Washington

02/2019

Collaborated with employees at Amazon, Microsoft, and Boeing to discuss global exchange culture and company recruiting procedures.