



Rusiou Hsu

Postdoctoral Scholar, Ophthalmology

 Curriculum Vitae available Online

Bio

BIO

Dr. Rusiou (Alice) Hsu is a postdoc research fellow in the Department of Chemistry, a group member of Prof. Honjie Dai at Stanford University. She was mentored by Prof. Shang-Hsiu Hu and received her Ph.D. degree in Biomedical engineering and environmental science from National Tsing Hua University. Her research interests include droplet-based microfluidic systems, biomaterials, and she focuses on neuroscience in peripheral nerve and brain repair and continues her study on nerve image at Stanford University now. Dr. Hsu was a high school teacher before her Ph. D studies and loves to share life science with her students as she said: "It is a beautiful thing when career and passion come together."

HONORS AND AWARDS

- SPARK Translational Pilot Grant Award, Stanford University (2023)
- Bio-X travel Award, Stanford University, USA (2022)
- Emerging Scholar Award, Society for Biomaterials (SFB), USA (2022)
- Fellowship of Postdoctoral Research. (40,000 USD/year), Ministry of Science and Technology, Taiwan. (2021)
- Honor member of the Phi Tau Phi Scholastic Honor Society, Phi Tau Phi Scholastic Honor Society of the Republic of China (2021)
- Excellent Dissertation Award (200,000 NTD), Tien-Te Lee Biomaterial Foundation (2020)
- International inventor Prize (IIP) (Praised by the president of Taiwan), Taiwan (2020)
- 16th National innovation Award, Ministry of Economic Affairs, Taiwan (2019)
- President Scholarship (4-years), National Tsing-Hua University (2016)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Tsinghua University (2021)
- Doctor of Science, National Tsing Hua University (2021)
- Ph. D, National Tsing Hua University, Taiwan , Department of Biomedical Engineering and Environmental Science (2021)

STANFORD ADVISORS

- Yaping Liao, Postdoctoral Faculty Sponsor

LINKS

- Linked in: <https://www.linkedin.com/in/ru-siou-alice-hsu-3556b7143/>
- google scholar: <https://scholar.google.com/citations?user=qFi1MikAAAAJ&hl=en>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

1. Droplet-based microfluidic technology.
2. Polymer synthesis and hydrogel scaffold for tissue regeneration.
3. Drug controlled- released and Nanocarrier design.
4. NIR II window of images for real-time diagnosis.

Publications

PUBLICATIONS

- **In Situ Forming of Nitric Oxide and Electric Stimulus for Nerve Therapy by Wireless Chargeable Gold Yarn-Dynamos.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*
Chiang, M. R., Lin, Y. H., Zhao, W. J., Liu, H. C., Hsu, R. S., Chou, T. C., Lu, T. T., Lee, I. C., Liao, L. D., Chiou, S. H., Chu, L. A., Hu, S. H.
2023; e2303566
- **Sustained Release of Nitric Oxide-Mediated Angiogenesis And Nerve Repair by Mussel-Inspired Adaptable Microreservoirs for Brain Traumatic Injury Therapy.** *Advanced healthcare materials*
Liu, H. C., Huang, C. H., Chiang, M. R., Hsu, R. S., Chou, T. C., Lu, T. T., Lee, I. C., De Liao, L., Chiou, S. H., Lin, Z. H., Hu, S. H.
2023; e2302315
- **Shortwave-infrared-light-emitting probes for the in vivo tracking of cancer vaccines and the elicited immune responses.** *Nature biomedical engineering*
Ren, F., Wang, F., Baghdasaryan, A., Li, Y., Liu, H., Hsu, R., Wang, C., Li, J., Zhong, Y., Salazar, F., Xu, C., Jiang, Y., Ma, et al
2023
- **In situ magnetoelectric generation of nitric oxide and electric stimulus for nerve therapy by wireless chargeable molybdenum carbide octahedrons** *NANO TODAY*
Chan, Y., Lin, Y., Liu, H., Hsu, R., Chiang, M., Wang, L., Chou, T., Lu, T., Lee, I., Chu, L., Hu, S.
2023; 51
- **Wireless charging-mediated angiogenesis and nerve repair by adaptable microporous hydrogels from conductive building blocks** *NATURE COMMUNICATIONS*
Hsu, R., Li, S., Fang, J., Lee, I., Chu, L., Lo, Y., Lu, Y., Chen, Y., Hu, S.
2022; 13 (1): 5172
- **High-precision tumor resection down to few-cell level guided by NIR-IIb molecular fluorescence imaging.** *Proceedings of the National Academy of Sciences of the United States of America*
Wang, F., Qu, L., Ren, F., Baghdasaryan, A., Jiang, Y., Hsu, R., Liang, P., Li, J., Zhu, G., Ma, Z., Dai, H.
2022; 119 (15): e2123111119
- **Marginative Delivery-Mediated Extracellular Leakiness and T Cell Infiltration in Lung Metastasis by a Biomimetic Nanoraspberry** *NANO LETTERS*
Shen, W., Hsu, R., Fang, J., Hu, P., Chiang, C., Hu, S.
2021; 21 (3): 1375-1383
- **4D printing of stretchable nanocookie@conduit material hosting biocues and magnetoelectric stimulation for neurite sprouting** *NPG ASIA MATERIALS*
Fang, J., Hsu, H., Hsu, R., Peng, C., Lu, Y., Chen, Y., Chen, S., Hu, S.
2020; 12 (1)
- **Transdermal Composite Microneedle Composed of Mesoporous Iron Oxide Nanoraspberry and PVA for Androgenetic Alopecia Treatment** *POLYMERS*
Fang, J., Liu, C., Hsu, R., Chen, Y., Chiang, W., Wang, H., Hu, S.
2020; 12 (6)
- **Injectable DNA-architected nanoraspberry depot-mediated on-demand programmable refilling and release drug delivery** *NANOSCALE*
Hsu, R., Fang, J., Shen, W., Sheu, Y., Su, C., Chiang, W., Hu, S.
2020; 12 (20): 11153-11164

- **Adaptable Microporous Hydrogels of Propagating NGF-Gradient by Injectable Building Blocks for Accelerated Axonal Outgrowth** *ADVANCED SCIENCE*
Hsu, R., Chen, P., Fang, J., Chen, Y., Chang, C., Lu, Y., Hu, S.
2019; 6 (16): 1900520
- **The Penetrated Delivery of Drug and Energy to Tumors by Lipo-Graphene Nanosponges for Photolytic Therapy** *ACS NANO*
Su, Y., Chen, K., Sheu, Y., Sung, S., Hsu, R., Chiang, C., Hu, S.
2016; 10 (10): 9420-9433
- **A stepwise mechanism for intercalating hydrophobic organics into multilayered clay nanostructures** *RSC ADVANCES*
Chiou, J., Hsu, R., Chiu, C., Lin, J.
2013; 3 (31): 12847-12854
- **Mechanism of Silicate Platelet Self-Organization during Clay-Initiated Epoxy Polymerization** *JOURNAL OF PHYSICAL CHEMISTRY C*
Chan, Y., Hsu, R., Lin, J.
2010; 114 (23): 10373-10378
- **Nanohybrids of Magnetic Iron-Oxide Particles in Hydrophobic Organoclays for Oil Recovery** *ACS APPLIED MATERIALS & INTERFACES*
Hsu, R., Chang, W., Lin, J.
2010; 2 (5): 1349-1354
- **Thermoresponsive Dual-Phase Transition and 3D Self-Assembly of Poly(N-Isopropylacrylamide) Tethered to Silicate Platelets** *CHEMISTRY OF MATERIALS*
Chen, Y., Lin, H., Hsu, R., Hsieh, B., Su, Y., Sheng, Y., Lin, J.
2009; 21 (17): 4071-4079
- **Synthesis of acrylic copolymers consisting of multiple amine pendants for dispersing pigment** *JOURNAL OF COLLOID AND INTERFACE SCIENCE*
Chen, Y., Hsu, R., Lin, H., Chang, S., Chen, S., Lin, J.
2009; 334 (1): 42-49