



Lin Yuan

Postdoctoral Scholar, Materials Science and Engineering

Bio

PROFESSIONAL EDUCATION

- Ph.D., Rice University , Chemistry (2022)
- B.S., Beijing Institute of Technology , Applied Physics (2017)

STANFORD ADVISORS

- Jennifer Dionne, Postdoctoral Faculty Sponsor

LINKS

- My Google Scholar page: <https://scholar.google.com/citations?user=ET7ZGo8AAAAJ&hl=en>

Publications

PUBLICATIONS

- **Atomic-Scale Moiré and Electronic Structure Analysis of Twisted Epitaxial MoS₂-Au-MoS₂ Heterostructures.** *Nano letters*
Cui, Y., Xu, K., Ren, P., Yuan, L., Czaja, P., Barnum, A., Sarkar, P., Altman, A., Bustillo, K., Kundu, S., Ramdas, A., Wang, X., Wan, et al
2026
- **Atmospheric-pressure ammonia synthesis on AuRu catalysts enabled by plasmon-controlled hydrogenation and nitrogen-species desorption** *NATURE ENERGY*
Yuan, L., Bourgeois, B. B., Begin, E., Zhang, Y., Dai, A. X., Cheng, Z., Mckeown-Green, A. S., Xue, Z., Cui, Y., Xu, K., Wang, Y., Jones, M. R., Majumdar, et al
2025
- **Integrative Approaches to Reveal Catalyst Dynamics: Bridging Operando Techniques, Theory, and Artificial Intelligence.** *ACS nano*
Lee, T. H., Lee, S., Yuan, L., Dionne, J. A., Park, J.
2025
- **Enhancing Catalyst Stability with Plasmonic Hot Carriers for Nitrous Oxide Decomposition, Carbon Monoxide Oxidation, and Steam Methane Reforming** *ACS ENERGY LETTERS*
Yuan, Y., Deneen, S., Bayles, A., Yuan, L., Lou, M., Dhindsa, P., Ahmad, A., Chung, S., Robatjazi, H., Nordlander, P., Halas, N. J.
2025
- **Catalight-An Open-Source Automated Photocatalytic Reactor Package Illustrated through Plasmonic Acetylene Hydrogenation** *JOURNAL OF PHYSICAL CHEMISTRY A*
Bourgeois, B. B., Dai, A. X., Carlin, C. C., Yuan, L., Al-Zubeidi, A., Cheng, W., Swearer, D. F., Dionne, J. A.
2025: 6170-6178
- **Light-Driven Dehydrogenation of Propane Using Plasmonic Al@TiO₂ Core-Shell Nanoparticles with Pt Single Atoms and Clusters** *ACS ENERGY LETTERS*
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2024

- **Tailoring the aluminum nanocrystal surface oxide for all- aluminum- based antenna- reactor plasmonic photocatalysts** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Bayles, A., Fabiano, C. J., Shi, C., Yuan, L., Yuan, Y., Craft, N., Jacobson, C. R., Dhindsa, P., Ogundare, A., Camacho, Y., Chen, B., Robatjazi, H., Han, et al
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- **A Quasi-Bound States in the Continuum Dielectric Metasurface-Based Antenna-Reactor Photocatalyst.** *Nano letters*
Yuan, L., Zhao, Y., Toma, A., Aglieri, V., Gerislioglu, B., Yuan, Y., Lou, M., Ogundare, A., Alabastri, A., Nordlander, P., Halas, N. J.
2024; 24 (1): 172-179
- **Linking Atomic and Reactor Scale Plasmon Photocatalysis in Acetylene Hydrogenation with Optically Coupled ETEM.** *Microscopy and microanalysis : the official journal of Microscopy Society of America, Microbeam Analysis Society, Microscopical Society of Canada*
Bourgeois, B., Carlin, C., Angell, D., Swearer, D., Cheng, W. H., Dai, A., Yuan, L., Dionne, J.
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- **Sustainable chemistry with plasmonic photocatalysts** *NANOPHOTONICS*
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- **Plasmonic Photocatalysis with Chemically and Spatially Specific Antenna-Dual Reactor Complexes** *ACS NANO*
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- **Al@TiO₂ Core-Shell Nanoparticles for Plasmonic Photocatalysis** *ACS NANO*
Bayles, A., Tian, S., Zhou, J., Yuan, L., Yuan, Y., Jacobson, C. R., Farr, C., Zhang, M., Swearer, D. F., Solti, D., Lou, M., Everitt, H. O., Nordlander, et al
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