

# Stanford

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## Gaurav Kamat

Ph.D. Student in Chemical Engineering, admitted Autumn 2020

### Bio

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#### HONORS AND AWARDS

- NSF Graduate Research Fellow, National Science Foundation (2020-2023)

#### EDUCATION AND CERTIFICATIONS

- M.S., Stanford University, Chemical Engineering (2022)
- B.S., University of California, Berkeley, Chemical Engineering (2020)

### Publications

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#### PUBLICATIONS

- **Electrolyte type affects electrochemical bubble formation.** *Nature chemistry*  
Kamat, G. A., Burke Stevens, M.  
2023
- **Acid anion electrolyte effects on platinum for oxygen and hydrogen electrocatalysis** *COMMUNICATIONS CHEMISTRY*  
Kamat, G., Zeledon, J., Gunasooriya, G., Dull, S. M., Perryman, J. T., Nørskov, J. K., Stevens, M., Jaramillo, T. F.  
2022; 5 (1)
- **Self-Limiting Shell Formation in Cu@Ag Core-Shell Nanocrystals during Galvanic Replacement** *JOURNAL OF PHYSICAL CHEMISTRY LETTERS*  
Kamat, G. A., Yan, C., Osowiecki, W. T., Moreno-Hernandez, I. A., Ledendecker, M., Alivisatos, A.  
2020; 11 (13): 5318–23
- **Tracking the Dynamics of a Ag-MnO<sub>x</sub> Oxygen Reduction Catalyst Using In Situ and Operando X-ray Absorption Near-Edge Spectroscopy** *ACS ENERGY LETTERS*  
Schroder, J., Zamora Zeledon, J. A., Kamat, G. A., Kreider, M. E., Wei, L., Mule, A. S., Torres, A., Yap, K., Sokaras, D., Gallo, A., Stevens, M., Jaramillo, T. F.  
2023
- **Hydrogen production with seawater-resilient bipolar membrane electrolyzers** *JOULE*  
Marin, D. H., Perryman, J. T., Hubert, M. A., Lindquist, G. A., Chen, L., Aleman, A. M., Kamat, G. A., Niemann, V. A., Stevens, M., Regmi, Y. N., Boettcher, S. W., Nielander, A. C., Jaramillo, et al  
2023; 7 (4): 765-781
- **Understanding the Stability of Manganese Chromium Antimonate Electrocatalysts through Multimodal In Situ and Operando Measurements.** *Journal of the American Chemical Society*  
Kreider, M. E., Kamat, G. A., Zamora Zeledón, J. A., Wei, L., Sokaras, D., Gallo, A., Stevens, M. B., Jaramillo, T. F.  
2022
- **A Versatile Li<sub>0.5</sub>FePO<sub>4</sub> Reference Electrode for Nonaqueous Electrochemical Conversion Technologies** *ACS ENERGY LETTERS*  
McShane, E. J., Benedek, P., Niemann, V. A., Blair, S. J., Kamat, G. A., Nielander, A. C., Jaramillo, T. F., Cargnello, M.  
2022: 230-235

- **Origins of wear-induced tungsten corrosion defects in semiconductor manufacturing during tungsten chemical mechanical polishing** *APPLIED SURFACE SCIENCE*  
Choi, S., Kreider, M. E., Nielander, A. C., Stevens, M., Kamat, G., Koo, J., Bae, K., Kim, H., Yoon, I., Yoon, B., Hwang, K., Lee, D., Jaramillo, et al  
2022; 598
- **Facet-selective etching trajectories of individual semiconductor nanocrystals** *SCIENCE ADVANCES*  
Yan, C., Byrne, D., Ondry, J. C., Kahnt, A., Moreno-Hernandez, I. A., Kamat, G. A., Liu, Z., Laube, C., Crook, M. F., Zhang, Y., Ercius, P., Alivisatos, A.  
2022; 8 (32): eabq1700
- **Engineering gold-platinum core-shell nanoparticles by self-limitation in solution** *COMMUNICATIONS CHEMISTRY*  
Ledendecker, M., Paciok, P., Osowiecki, W. T., Pander, M., Heggen, M., Goehl, D., Kamat, G. A., Erbe, A., Mayrhofer, K. J., Alivisatos, A.  
2022; 5 (1): 71
- **Methods-A Practical Approach to the Reversible Hydrogen Electrode Scale** *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*  
Zeledon, J., Jackson, A., Stevens, M., Kamat, G. A., Jaramillo, T. F.  
2022; 169 (6)
- **Engineering metal-metal oxide surfaces for high-performance oxygen reduction on Ag-Mn electrocatalysts** *ENERGY & ENVIRONMENTAL SCIENCE*  
Zeledon, J., Gunasooriya, G., Kamat, G. A., Kreider, M. E., Ben-Naim, M., Hubert, M. A., Acosta, J., Norskov, J. K., Stevens, M., Jaramillo, T. F.  
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- **Rational solvent molecule tuning for high-performance lithium metal battery electrolytes** *NATURE ENERGY*  
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- **Probing the Effects of Acid Electrolyte Anions on Electrocatalyst Activity and Selectivity for the Oxygen Reduction Reaction** *CHEMELECTROCHEM*  
Zamora Zeledon, J. A., Kamat, G., Gunasooriya, G., Norskov, J. K., Stevens, M., Jaramillo, T. F.  
2021; 8 (13): 2467-2478
- **Precise Colloidal Plasmonic Photocatalysts Constructed by Multistep Photodepositions** *NANO LETTERS*  
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2020; 20 (12): 8661-67
- **Factors and Dynamics of Cu Nanocrystal Reconstruction under CO<sub>2</sub> Reduction** *ACS APPLIED ENERGY MATERIALS*  
Osowiecki, W. T., Nussbaum, J. J., Kamat, G. A., Katsoukis, G., Ledendecker, M., Frei, H., Bell, A. T., Alivisatos, A.  
2019; 2 (11): 7744-49
- **Low-dimensional perovskite nanoplatelet synthesis using in situ photophysical monitoring to establish controlled growth** *NANOSCALE*  
Do, M., Kim, I., Kolaczowski, M. A., Kang, J., Kamat, G. A., Yuan, Z., Barchi, N. S., Wang, L., Liu, Y., Jurow, M. J., Sutter-Fella, C. M.  
2019; 11 (37): 17262-69