

Stanford

Valerie Niemann

Ph.D. Student in Chemical Engineering, admitted Autumn 2019

Publications

PUBLICATIONS

- **Calcium-mediated nitrogen reduction for electrochemical ammonia synthesis.** *Nature materials*
Fu, X., Niemann, V. A., Zhou, Y., Li, S., Zhang, K., Pedersen, J. B., Saccoccia, M., Andersen, S. Z., Enemark-Rasmussen, K., Benedek, P., Xu, A., Deissler, N. H., Mygind, et al
2023
- **Quantifying Influence of the Solid-Electrolyte Interphase in Ammonia Electrosynthesis** *ACS ENERGY LETTERS*
McShane, E. J., Niemann, V. A., Benedek, P., Fu, X., Nielander, A. C., Chorkendorff, I., Jaramillo, T. F., Cagnello, M.
2023
- **Development of a versatile electrochemical cell for in situ grazing-incidence X-ray diffraction during non-aqueous electrochemical nitrogen reduction.** *Journal of synchrotron radiation*
Blair, S. J., Nielander, A. C., Stone, K. H., Kreider, M. E., Niemann, V. A., Benedek, P., McShane, E. J., Gallo, A., Jaramillo, T. F.
2023
- **Combined, time-resolved, in situ neutron reflectometry and X-ray diffraction analysis of dynamic SEI formation during electrochemical N-2 reduction** *ENERGY & ENVIRONMENTAL SCIENCE*
Blair, S. J., Doucet, M., Niemann, V. A., Stone, K. H., Kreider, M. E., Browning, J. F., Halbert, C. E., Wang, H., Benedek, P., McShane, E. J., Nielander, A. C., Gallo, A., Jaramillo, et al
2023
- **X-ray Absorption Spectroscopy Reveals Mechanisms of Calcium and Silicon Fouling on Reverse Osmosis Membranes Used in Wastewater Reclamation** *ACS ES&T WATER*
Niemann, V. A., Huck, M., Steinrueck, H., Toney, M. F., Tarpeh, W. A., Bone, S. E.
2023
- **Co-designing Electrocatalytic Systems with Separations To Improve the Sustainability of Reactive Nitrogen Management** *ACS CATALYSIS*
Niemann, V. A., Benedek, P., Guo, J., Xu, Y., Blair, S. J., Corson, E. R., Nielander, A. C., Jaramillo, T. F., Tarpeh, W. A.
2023; 13 (9): 6268-6279
- **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
- **A Versatile Li0.5FePO4 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., Cagnello, M.
2022: 230-235