Appendix D: SENIC 2021 Publications

Publications that acknowledge NSF support of SENIC using the grant number ECCS-1542174 or ECCS-2025462 (as identified through a Google Scholar search) are indicated below by the NNCI logo.

Internal Journal Publications


Assigning Relative Configurations of Antibacterial Bis lactones using GIAO NMR Shift Calculations”, *Journal of Natural Products*, vol. 84, pp. 1254–1260, 2021.


Meng Li, Bin Hua, Lu-Cun Wang, Joshua D. Sugar, Wei Wu, Yong Ding, Ju Li, and Dong Ding, “Switching of metal-oxygen hybridization for selective CO2 electrohydrogenation under mild temperature and pressure,” *Nature Catalysis*, vol. 4, no. 4, pp. 274-283, 2021.


Kai Pei, Yucun Zhou, Yong Ding, Kang Xu, Hua Zhang, Wei Yuan, Kotaro Sasaki, YongMan Choi, Meilin Liu, and Yu Chen, “An improved oxygen reduction reaction activity and CO2-tolerance of La0. 6Sr0. 4Co0. 2Fe0. 8O3-δ achieved by a surface modification with barium cobaltite coatings,” *Journal of Power Sources*, vol. 514, p. 230573, 2021.


**External Journal Publications**


**Internal Conference Presentations**

A. Adibi, “Phase-change materials for next-generation reconfigurable nanophotonic structures,” NSF Workshop on Future of Semiconductor and Beyond, March 2021.


Estefania Garcia, Pan Liu, and Yuanzhi Tang, “Arsenic (As) and Selenium (Se) Speciation in Coal Fly Ash,” Southeastern Biogeochemistry Symposium, Virtual, May 2021.

Estefania Garcia, Pan Liu, and Yuanzhi Tang, “Understanding As and Se speciation in coal fly ash,” American Chemical Society (ACS) Fall Meeting, Atlanta, GA, August 2021.


S. W. Lee, “Assembling 3D graphene electrodes for rechargeable battery applications,” KICChE Spring Meeting Symposium, Virtual Presentation, Busan, South Korea, April 2021.

Chao Li, Benoit Hamelin, Farrokh Ayazi, and Chandra Raman, “Progress towards chip-scale transverse laser cooling of thermal atomic beams,” 52nd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics, virtual, June 2021.


M. T. McDowell, “In Situ and Operando Imaging of The Evolution of Battery Materials and Interfaces,” Microscopy and Microanalysis (M&M), Virtual, August 2021.


S. Kochupurackal Rajan, A. Kaul, T Sarvey, G. S. May, and M. S. Bakir, "Design Considerations, Demonstration, and Benchmarking of Silicon Micro-cold Plate and Monolithic Microfluidic Cooling for 2.5D ICs," 71st IEEE Electronic Components and Technology Conf. (ECTC), San Diego, CA, June 2021.


Simin Zhao and Yuanzhi Tang, “Roles of Fe$^{2+}$ concentration in biogenic silica transformation in reverse weathering,” American Chemical Society (ACS) Fall Meeting, Atlanta, GA, August 2021.


External Conference Presentations


Books and Book Chapters


Hemali Rathnayake and Gayani Pathiraja, “Ultrathin metal hydroxide/oxide nanowires: Crystal growth, self-assembly, and fabrication for optoelectronic applications”, 21st Century Nanostructured Materials – Physics, Chemistry, Classification, and Emerging Applications in Industry, Biomedical, and Agriculture, Edited by P. V. Pham, 2021.


T. Zheng, A. Kaul, S. Kochupurackal Rajan, and M. S. Bakir, "Polyolithic Integrated Circuits using 2.5D and 3D Heterogeneous Integration: Electrical and Thermal Design Considerations and
Patents/Applications/Invention Disclosures


Hemali Rathnayake and Sheeba Dawood, “Nanoporous polyphenol-based coordination polymer frameworks (CPFs) and their nanostructures as molecular sieves for metal ions extraction”, International Application # PCT/US2020/050607, 2021.


