


## Appendix B: SENIC 2020 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

Ali Abdelhafiz, Bote Zhao, Zhuojie Xiao, Jianhuang Zeng, Xiang Deng, Leiming Lang, Yong Ding, Huiyu Song, and Meilin Liu, "Facile Room-Temperature Synthesis of a Highly Active and Robust Single-Crystal Pt Multipod Catalyst for Oxygen Reduction Reaction," *ACS Applied Materials & Interfaces*, 2020.

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## Internal Conference Presentations


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S. Abdollahramezani, O. Hemmatyar, H. Taghinejad, K. Masselink, and A. Adibi, "Programmable metasurfaces employing phase-change-dielectric materials architecture," CLEO: QELS Fundamental Science, San Jose, CA, 2020.

S. Abdollahramezani, Y. Kiarashinejad, O. Hemmatyar, M. Zandehshahvar, and A. Adibi, "Electrically programmable phased-array antenna using phase-change materials," CLEO: QELS Fundamental Science, San Jose, CA, 2020.

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Sarma Achraj, Graham C. Collins, Namrata Nayar, Yash Chitalia, Seokhwan Jeong, Brooks D. Lindsey, and Jaydev P. Desai, "Towards the Development of an Ultrasound-Guided Robotically Steerable Guidewire," 2020 International Symposium on Medical Robotics (ISMR), pp. 173-180, Atlanta, 2020. 

A. Adesina, "Study of Gene Delivery Systems Utilizing Functionalized Single Wall Carbon Nanotubes," Smart Materials Programmed to Operate in Living Systems Workshop, May 27-28, 2020.

A. Adesina, S. Pourianejad, and T. Ignatova, "The SWCNT-DNA hybrid for imaging and vector delivery applications," APS March Meeting, March 2020. 

A. Ahmed, M. Huang, and H. Wang, "A Mixer-First Extremely Wideband 43-97 GHz RX Frontend with Broadband Quadrature Input Matching and Current Mode Transformer-Based Image Rejection for Massive MIMO Applications," IEEE Custom Integrated Circuits Conference (CICC), March 2020.

A. Amr, M. Huang, and H. Wang, "A Passive Extremely Wideband RX Frontend in CMOS SOI for Massive MIMOs," Government Microcircuit Applications and Critical Technology Conference (GOMACTech), March 2020.

E. Antonino-Daviu, A. Eid, R. Bahr, and M. M. Tentzeris, "Flexible Antenna Design with Characteristic Modes," Proc. of the 2020 14th European Conference on Antennas and Propagation (EuCAP), Copenhagen, Denmark, March 2020.

F. Ayazi, H. Wen, A. Daruwalla, and P. Gupta, "Environmentally-Robust High-Performance Silicon TIMU Chip," 2020 IEEE/ION Position, Location and Navigation Symposium (PLANS), pp. 16-23, Portland, OR, April 2020.

O. Ayodele, "Bacteria assisted selfcleaning of graphene," Smart Materials Programmed to Operate in Living Systems Workshop, May 27-28, 2020.

R. A. Bahr, A. O. Adeyeye, S. Van Rijs, and M. M. Tentzeris, "3D-Printed Omnidirectional Luneburg Lens Retroreflectors for Low-Cost mm-Wave Positioning," Proc. of the 2020 IEEE International Conference on RFID, October 2020.

M. Bakhtiary-Noodeh, M. Cho, C.-W. Tsou, H. Jeong, S.-C. Shen, T. Detchprohm, A. K. Sood, and R. D. Dupuis, "Homojunction GaN p-i-n Ultraviolet Avalanche Photodiodes Using Ion-Implantation Isolation," 62nd Electronic Materials Conference (EMC 2020), virtual, June 24-26, 2020.

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P. Bhaskar and J. Kacher, "Multiscale analysis of fatigue crack in initiation in stainless steel 316L." TMS, San Diego, CA, February 23-27, 2020.

W. Cai, "Creating nonlinear metamaterials with hot-carrier dynamics," Triangle Hard Matter Workshop, Duke University, Durham, NC, December 7-8, 2020.

W. Cai, "Deep learning for engineered multi-functional optical materials," OSA Novel Optical Materials and Applications Conference, p. NoW1C.1, Montreal, Canada, July 13-16, 2020.

W. Cai, "Deep-learning-enabled generative models for plasmonic metastructures," SPIE Photonics West, p. 11283-5, San Francisco, CA, February 1-6, 2020.

W. Cai, "Machine learning frameworks for the inverse design of highly complicated, multi-functional metasystems," SPIE Optics + Photonics, p. 11460-39, San Diego, CA, August 23-27, 2020.

W. Cai, "Metasurfaces, metadevices, and metasystems: Hierarchical photonics via machine learning," IEEE Photonics Conference, p. MA1.2, Vancouver, Canada, September 27 – October 1, 2020.

W. Cai, "Nonlinear optics with hot carriers," Materials Research Society (MRS) Fall Meeting, Boston, MA, November 29 – December 4, 2020.

W. Cai, "Smart design of photonic structures with artificial intelligence and neural networks," SPIE Photonics West, p. 11284-4, San Francisco, CA, February 1-6, 2020.

W. Cai, "Transient nonlinear optical media facilitated by hot-electron transport," SPIE Optics + Photonics, p. 11461-69, San Diego, CA, August 23-27, 2020.

Julie Champion, "Protein Vesicles for Intracellular Delivery of Protein and Small Molecules." Controlled Release Society, Virtual, 2020.

Julie Champion, "Self-assembled protein vesicles for drug delivery and biocatalysis," American Institute of Chemical Engineers Annual Meeting, Virtual, 2020.

Tzu-Hsuan Chang, Daniel Struk, Milad Navaei, Vladimir M. Doroshenko, Jean-Marie D. Dimandja, and Peter J. Hesketh, "Carbon Nanotube (CNT) Stationary Phase for Micro Gas Chromatograph Columns," IMCS 2020, Montreal, Canada, May 10-14, 2020.

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