

# 2023-2024 CNF Research Accomplishments

## A SELECTION OF 2023 CNF-RESEARCH-RELATED PATENTS, PRESENTATIONS, AND PUBLICATIONS

“15-GHz Epitaxial AlN FBARs on SiC Substrates”; Zhao, W.; Asadi, M.J.; Li, L.; Chaudhuri, R.; Nomoto, K.; Xing, H.G.; Hwang, J.C.M.; Jena, D., *IEEE Electron Device Letters*, IEEE (2023).

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“A 3D biomimetic model of lymphatics reveals cell-cell junction tightening and lymphedema via a cytokine-induced ROCK2/JAM-A complex”; Lee, E.; Chan, S.-L.; Lee, Y.; Polacheck, W.J.; Kwak, S.; Wen, A.; Nguyen, D.-H.T.; Kutys, M.L.; Alimperti, S.; Kolarzyk, A.M.; Kwak, T. J.; Eyckmans, J.; Bielenberg, D.R.; Chen, H.; Chen, C.S., *Proceedings of the National Academy of Sciences*, Vol. 120, Issue 41, pgs e2308941120, DOI 10.1073/pnas.2308941120 (2023).

“A 3D Human Lymphatic Vessel-on-Chip Reveals the Roles of Interstitial Flow and VEGF-A/C for Lymphatic Sprouting and Discontinuous Junction Formation”; Ilan, I.S.; Yslas, A.R.; Peng, Y.; Lu, R.; Lee, E., *Cellular and Molecular Bioengineering*, Vol. 16, Issue 4, pgs 325-339, DOI 10.1007/s12195-023-00780-0 (2023).

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“A Non-Perturbative, Low-Noise Surface Coating for Sensitive Force-Gradient Detection of Electron Spin Resonance in Thin Films”; Boucher, Michael C.; Isaac, Corinne E.; Sun, Peter; Borbat, Peter P.; Marohn, John A., *ACS Nano*, Vol. 17, Issue 2, pgs 1153-1165, DOI 10.1021/acsnano.2c08635 (2023).

“A Photopolymer Composition Comprising Norbornene-derived Oligomers”; Yifan (Warrick) Ma, Yadong Wang, 10780, Invention Status; Unfiled, Invention, Disclosure Date 6/5/23 (2023).

“A puzzling insensitivity of magnon spin diffusion to the presence of 180-degree domain walls”; Li, Ruofan; Riddiford, Lauren J.; Chai, Yahong; Dai, Minyi; Zhong, Hai; Li, Bo; Li, Peng; Yi, Di; Zhang, Yuejie; Broadway, David A., *Nature Communications*, Nature Publishing Group UK London, Vol. 14, Issue 1, pgs 2393 (2023).

“A Wireless Sensor Array System Coupled with Data Analysis Methodologies towards Remote Monitoring of Human Breaths”; Dinh, Dong; Shang, Guojun; Yan, Shan; Luo, Jin; Huang, Aimin; Yang, Lefu; Lu, Susan; Zhong, Chuan-Jian, *IEEE Sensors Journal*, IEEE (2023).

“Absence of 3a0 Charge Density Wave Order in the Infinite Layer Nickelates”; Parzyck, C.; Gupta, N.; Wu, Y.; Anil, V.; Bhatt, L.; Bouliane, M.; Gong, R.; Gregory, B.; Luo, A.; Sutarto, R.; He, F.; Chuang, Y.; Zhou, T.; Herranz, G.; Kourkoutis, L.; Singer, A.; Schlom, D.; Hawthorn, D.; Shen, K., *arXiv 2307.06486 [cond-mat]* (2023).

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