CINT 2023 Publications (351)

1. Curwen, C. A.; Kawamura, J. H.; Hayton, D. J.; Addamane, S. J.; Reno, J. L.; Williams, B. S.; Karasik, B. S. Phase Locking of a Thz QC-VECSEL to a Microwave Reference *IEEE Transactions on Terahertz Science and Technology* (2023). DOI: 10.1109/TTHZ.2023.3280451
2. Callanan, J. G.; Martinez, D. T.; Ricci, S.; Derby, B. K.; Hollis, K. J.; Fensin, S. J.; Jones, D. R. Spall Strength of Additively Repaired 304L Stainless Steel. *Journal of Applied Physics* (2023). DOI: 10.1063/5.0177097
3. Saefan, A.; Liu, X.; Lang, E.; Higgins, L.; Wang, Y.; El-Atwani, O.; Allain, J. P.; Wang, X. Effects of Transition Metal Carbide Dispersoids on Helium Bubble Formation in Dispersion-Strengthened Tungsten. *Nature Scientific Reports* (2023). DOI:10.1038/s41598-023-40421-0
4. Mathew, V.; Schorr, N. B.; Sambandam, B.; Lambert, T. N.; Kim, J. A Critical Comparison of Mildly Acidic Versus Alkaline Zinc Batteries. *Accounts of Materials Research* (2023). DOI: 10.1021/accountsmr.2c00221
5. Nuwayhid, R. B.; Yeom, J.; Watt, J.; Ford, H. O.; Long, J. W.; Carter, R.; Love, C. T. Nanoscale Polycyclosiloxane Interlayer for Enhanced Lithium Plating on Copper. ACS Applied Energy Materials (2023). DOI: 10.1021/acsaem.3c02293
6. D'Ambrose, M. J.; Turney, D. E.; Nyce, M. N.; Lambert, T. N.; Yadav, G. G.; Banerjee, S. Performance Advances of Industrial-Design Rechargeable Zinc Alkaline Anodes via Low-Cost Additives. *ACS Applied Energy Materials* (2023). DOI: 10.1021/acsaem.3c00572
7. Rodriguez, D.; Edgar, A.; Williams, D.; Chov, A.; Vodnik, D.; Ross, D.; Siller, V.; Usov, I. Chemical Solution Deposition of Protective Er2O3 and Y2O3 Coatings onto Stainless Steel for Molten Metal Casting using Metal-Nitrate Precursors. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.3c05186
8. Nuwayhid, R. B.; Kozen, A. C.; Long, D. M.; Ahuja, K.; Rubloff, G. W.; Gregorczyk, K. E. Dynamic Electrode–Electrolyte Intermixing in Solid-State Sodium Nano-Batteries. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.2c23256
9. Kalra, P.; Ghosh, D.; Ingole, P. P. Favoring Product Desorption by a Tailored Electronic Environment of Oxygen Vacancies in SrTiO3 via Cr Doping for Enhanced and Selective Electrocatalytic CO2 to CO Conversion. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.3c04190
10. Tingare, Y. S.; Wang, W.-C.; Lin, H. J.; Wu, C. W.; Lin, J.-H.; Su, C.; Lin, X.-C.; Zhang, J.-R.; Huang, Y.-X.; Tsai, H.; Nie, W.; Li, W.-R. Heterocyclic Functionalized Donor–Acceptor Hole-Transporting Materials for Inverted Perovskite Solar Cells. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.3c02711
11. Lin, S.; Habib, Md. A.; Burse, S.; Mandavkar, R.; Khalid, T.; Joni, M. H.; Li, M.-Y.; Kunwar, S.; Lee, J. Hybrid UV Photodetector Design Incorporating AuPt Alloy Hybrid Nanoparticles, ZnO Quantum

Dots, and Graphene Quantum Dots. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.2c19006

12. Zeppuhar, A.N.; Rollins, D.S.; Huber, D.L.; Bazan-Bergamino, E.A.; Chen, F.; Evans, H.A.; Taylor, M. K. Linkage Transformations in a Three-Dimensional Covalent Organic Framework for High-Capacity Adsorption of Perfluoroalkyl Substances. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.3c12826
13. Xu, W.; Fang, W.; Shi, T.; Ming, X.; Wang, Y.; Xie, L.; Peng, L.; Chen, H.-T.; Ying, Y. Plasmonic Terahertz Devices and Sensors Based on Carbon Electronics. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.2c22411
14. Song, J.; Zhang, D.; Lu, P.; Zhang, Y.; Wang, H.; Dou, H.; Xu, X.; Deitz, J.; Zhang, X.; Wang, H. Self-Assembled Complex Three-Phase Core–Shell Nanostructure of Au–CoFe2–Tin with a Magneto-Optical Coupling Effect. *ACS Applied Materials & Interfaces* (2023). DOI: 10.1021/acsami.3c06777
15. Kim, K.; Zervoudakis, A. J.; LaNasa, J. A.; Haugstad, G.; Zhou, F.; Lee, B.; Lhost, O.; Trolez, Y.; Bates, F. S.; Macosko, C. W. Polyethylene Blends for Improved Oxygen Barrier: Processing-Dependent Microstructure and Gas Permeability. *ACS Applied Polymer Materials* (2023). DOI: 10.1021/acsapm.3c02211
16. Porter, S.; Ghosh, A.; Liu, C. H.; Kunwar, D.; Thompson, C.; Alcala, R.; Dean, D.; Miller, J.; DeLaRiva, A.; Pham, H.; Peterson, E.; Brearley, A.; Watt, J.; Kyriakidou, E.; Datye, A. Biphasic Janus Particles Explain Self-Healing in Pt–Pd Diesel Oxidation Catalysts. *ACS Catalysis* (2023). DOI: 10.1021/acscatal.3c00360
17. Wygant, B. R.; Washington, B. A.; Wright, C. N.; Goenaga, G. A.; Zawodzinski, T. A.; Lambert, T. N. The Effects of Compositional Tuning on the Bifunctional Oxygen Electrocatalytic Behavior of Nickel Sulfoselenides. *ACS Catalysis* (2023). DOI: 10.1021/acscatal.3c01348
18. Shirley, K.; Tsai, H.; Cucciniello, N.; Bird, J.; Jia, Q.; Torres, E.; Butler, P.; Butler, A.; Crocco, J.; Taha, E.; Alhawsawi, A.; Germino, J.; Dor, M.; Dun, C.; Firat, O.; Parker, J.; Graham, M.; Novoselov, K. S.; Nie, W. High-Efficiency X-Ray Sensing with Recyclable Perovskite—Graphene Heterostructured Transistors. *ACS Energy Letters* (2023). DOI: 10.1021/acsenergylett.3c00787
19. Mohottalalage, S. S.; Kosgallana, C.; Senanayake, M.; Wijesinghe, S.; Osti, N. C.; Perahia, D. Molecular Insight into the Effects of Clustering on the Dynamics of Ionomers in Solutions. *ACS Macro Letters* (2023). DOI: 10.1021/acsmacrolett.3c00353
20. Huang, H.-H.; Yang, T.-A.; Su, L.-Y.; Chen, C.-H.; Chen, Y.-T.; Ghosh, D.; Lin, K.-F.; Tretiak, S.; Chueh, C.-C.; Nie, W.; Tsai, H.; Wang, L. Thiophene-Based Polyelectrolyte Boosts High-Performance Quasi-2D Perovskite Solar Cells with Ultralow Energy Loss. *ACS Materials Letters* (2023). DOI: 10.1021/acsmaterialslett.2c01104
21. Sudakov, I.; Goovaerts, E.; Wenseleers, W.; Blackburn, J.; Duque, J. G.; Cambré, S. Chirality Dependence of Triplet Excitons in and Single-Wall Carbon Nanotubes Revealed by Optically Detected Magnetic Resonance. *ACS Nano* (2023). DOI: 10.1021/acsnano.2c08392

22. Pettine, J.; Maioli, P.; Vallée, F.; Del Fatti, N.; Nesbitt, D. J. Energy-Resolved Femtosecond Hot Electron Dynamics in Single Plasmonic Nanoparticles. *ACS Nano* (2023). DOI: 10.1021/acsnano.3c02062
23. Choi, J.; Jeong, J.; Zhu, X.-Y.; Kim, J; Kang, B.-K.; Wang, Q.-X..; Park, B.-I.; Lee, S.; Kim, J.; Kim, H.; Yoo, J.; Yi, G.-C.; Lee, D.-S.; Kim, J.; Hong, S.; Kim, M.-J.; Hong, Y.-J. Exceptional Thermochemical Stability of Graphene on N-Polar GaN for Remote Epitaxy. *ACS Nano* (2023). DOI: 10.1021/acsnano.3c06828
24. Noureddine, A.; Maestas-Olguin, A.; Tang, L.; Corman-Hijar, J. I.; Olewine, M.; Krawchuck, J. A.; Tsala Ebode, J.; Edeh, C.; Dang, C.; Negrete, O. A.; Watt, J.; Howard, T.; Coker, E. N.; Guo, J.; Brinker, C. J. Future of Mesoporous Silica Nanoparticles in Nanomedicine: Protocol for Reproducible Synthesis, Characterization, Lipid Coating, and Loading of Therapeutics (Chemotherapeutic, Proteins, Sirna and MRNA). *ACS Nano* (2023). DOI: 10.1021/acsnano.3c07621
25. Weight, B.; Sifain, A.; Gifford, B.; Htoon, H.; Tretiak, S. On-the-Fly Nonadiabatic Dynamics Simulations of Single-Walled Carbon Nanotubes with Covalent Defects. *ACS Nano* (2023). DOI: 10.1021/acsnano.2c08579
26. Sharma, A.; Chiang, R.; Manginell, M.; Nardi, I.; Coker, E.; Vanegas, J.; Rempe, S.; Bachand, G. Carbonic Anhydrase Robustness for Use in Nanoscale CO2 Capture Technologies. *ACS Omega* (2023). DOI: 10.1021/acsomega.3c02630
27. Hale, L. L.; Wang, Z.; Harris, C. T.; Brener, I.; Law, S.; Mitrofanov, O. Near-Field Spectroscopy of Individual Asymmetric Split-Ring Terahertz Resonators. *ACS Photonics* (2023). DOI: 10.1021/acsphotonics.3c00527
28. Borel, A.; Habrant-Claude, T.; Rapisarda, F.; Reichel, J.; Doorn, S. K.; Voisin, C.; Chassagneux, Y. Telecom Band Single-Photon Source Using a Grafted Carbon Nanotube Coupled to a Fiber Fabry-Perot Cavity in the Purcell Regime. *ACS Photonics* (2023). DOI: 10.1021/acsphotonics.3c00541
29. Tu, M. Q.; Davydovich, O.; Mei, B.; Singh, P. K.; Grest, G. S.; Schweizer, K. S.; O'Connor, T. C.; Schroeder, C. M. Unexpected Slow Relaxation Dynamics in Pure Ring Polymers Arise from Intermolecular Interactions. *ACS Polymers* (2023). DOI: 10.1021/acspolymersau.2c00069
30. Hu, C.; Berbenni, S.; Medlin, D. L.; Dingreville, R. Discontinuous Segregation Patterning across Disconnections. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2023.118724
31. Cheng, T.; Wei, G.; Jiang, S.; Zhang, J.; Wang, Y.; Liu, P.; Hong, M.; Guo, E.; Zhong, F.; Cai, G.; Jiang, C.; Ren, F. Enhanced Resistance to Helium Irradiations through Unusual Interaction between High-Entropy-Alloy and Helium. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2023.118765
32. Barrios, A.; Nathaniel, J. E.; Monti, J.; Milne, Z.; Adams, D. P.; Hattar, K.; Medlin, D. L.; Dingreville, R.; Boyce, B. L. Gradient Nanostructuring via Compositional Means. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2023.118733

33. Cunningham, W.; Zhang, Y.; Thomas, S. L.; El-Atwani, O.; Wang, Y.; Trelewicz, J. R. Grain Boundary Softening from Stress-Assisted Helium Cavity Coalescence in Ultrafine-Grained Tungsten. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2023.118948
34. Monti, J. M.; Stewart, J. A.; Custer, J. O.; Adams, D. P.; Depla, D.; Dingreville, R. Linking Simulated Polycrystalline Thin Film Microstructures to Physical Vapor Deposition Conditions. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2022.118581
35. Jain, M.; Yaddanapudi, K.; Kidigannappa, A. T.; Baldwin, K.; Knezevic, M.; Mara, N. A.; Beyerlein, I. J.; Pathak, S. Simultaneous High Strength and Mechanical Stability of Bcc Nb/Mg Nanolaminates. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2022.118487
36. Lear, C. R.; Chancey, M. R.; Flanagan, R.; Gigax, J. G.; Hoang, M. T.; Jones, D. R.; Kim, H.; Martinez, D. T.; Morrow, B. M.; Mathew, N.; Wang, Y.; Li, N.; Payton, J. R.; Prime, M. B.; Fensin, S. J. Transition in Helium Bubble Strengthening of Copper from Quasi-Static to Dynamic Deformation. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2023.118987
37. Zhang, Y.F.; Zecevic, M.; Chakraborty, A.; McCabe, R.J.; Nizolek, T.J.; Lebensohn, R.A.; Carpenter, J.S.; Li, N.; Capolungo, L. Unraveling Kinking: A Plasticity Enhancing Failure Mode in High Strength Nano Metallic Laminates. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2023.119342
38. Dillon, S.; Lang, E.; Finkeldei, S.; Ouyang, J.; Hattar, K. A Nucleation Rate Limited Model for Grain Boundary Creep. *Acta Materialia* (2023). DOI: 10.1016/j.actamat.2023.118718
39. Mirabal, A.; Loza-Hernandez, I.; Clark, C.; Hooks, D. E.; McBride, M.; Stull, J. A. Roughness Measurements across Topographically Varied Additively Manufactured Metal Surfaces. *Additive Manufacturing* (2023). DOI: 10.1016/j.addma.2023.103540
40. Dou, H.; Hellenbrand, M.; Xiao, M.; Hu, Z.; Kunwar, S.; Chen, A.; MacManus-Driscoll, J. L.; Jia, Q.; Wang, H. Engineering of Grain Boundaries in CeO2 Enabling Tailorable Resistive Switching Properties. *Advanced Electronic Materials* (2023). DOI: 10.1002/aelm.202201186
41. Roy, P.; Carr, A.; Zhou, T.; Paudel, B.; Wang, X.; Chen, D.; Kang, K. T.; Pateras, A.; Corey, Z.; Lin, S.; Zhu, J.; Holt, M. V.; Yoo, J.; Zapf, V.; Zeng, H.; Ronning, F.; Jia, Q.; Chen, A. Origin of Topological Hall-Like Feature in Epitaxial SrRuO3 Thin Films. *Advanced Electronic Materials* (2023). DOI: doi.org/10.1002/aelm.202300020
42. Le, T.; Driscoll, H.; Hou, C.; Montgomery, A.; Li, W.; Stein, J. S.; Nie, W. Perovskite Solar Module: Promise and Challenges in Efficiency, Meta-Stability, and Operational Lifetime. *Advanced Electronic Materials* (2023). DOI: 10.1002/aelm.202300093
43. Kunwar, S.; Somodi, C. B.; Lalk, R. A.; Rutherford, B. X.; Corey, Z.; Roy, P.; Zhang, D.; Hellenbrand, M.; Xiao, M.; MacManus-Driscoll, J. L.; Jia, Q.; Wang, H.; Joshua Yang, J.; Nie, W.; Chen, A. Protons: Critical Species for Resistive Switching in Interface-Type Memristors. *Advanced Electronic Materials* (2023). DOI: 10.1002/aelm.202200816

44. Startt, J.; Quazi, M.; Sharma, P.; Vazquez, I.; Poudyal, A.; Jackson, N.; Dingreville, R. Unlocking AlN Piezoelectric Performance with Earth-Abundant Dopants. *Advanced Electronic Materials* (2023). DOI: 10.1002/aelm.202201187
45. Monismith, S.; Fincher, C. D.; Chiang, Y.; Qu, J.; Dingreville, R. Harnessing Electrochemical-Mechanical Couplings to Improve the Reliability of Solid-State Batteries. *Advanced Energy Materials* (2023). DOI: 10.1002/aenm.202303567
46. Wang, Y.; Dong, H.; Katyal, N.; Vishnugopi, B. S.; Singh, M. K.; Hao, H.; Liu, Y.; Liu, P.; Mukherjee, P. P.; Henkelman, G.; Watt, J.; Mitlin, D. Intermetallics based on Sodium Chalcogenides Promote Stable Electrodeposition/Electrodissolution of Sodium Metal Anodes. *Advanced Energy Materials* (2023). DOI: 10.1002/aenm.202204402
47. Saini, K.; Nair, A. N.; Yadav, A.; Enriquez, L. G.; Pollock, C. J.; House, S. D.; Yang, S.; Guo, X.; Sreenivasan, S. T. Nickel-Based Single-Molecule Catalysts with Synergistic Geometric Transition and Magnetic Field-Assisted Spin Selection Outperform RuO2 for Oxygen Evolution. *Advanced Energy Materials* (2023). DOI: 10.1002/aenm.202302170
48. Hao, H.; Liu, Y.; Greene, S. M.; Yang, G.; Naik, K. G.; Vishnugopi, B. S.; Wang, Y.; Celio, H.; Dolocan, A.; Tsai, W-Y.; Fang, R.; Watt, J.; Mukherjee, P. P.; Siegel, D. J.; Mitlin, D. Tuned Reactivity at the Lithium Metal–Argyrodite Solid State Electrolyte Interphase. *Advanced Energy Materials* (2023). DOI: 10.1002/aenm.202301338
49. Stefani, A.; Salzillo, T.; Mussini, P.; Benincori, T.; Innocenti, M.; Pasquali, L.; Jones, A.; Mishra, S.; Fontanesi, C. Chiral Recognition: a Spin-Driven Process in Chiral Oligothiophene. A Chiral-Induced Spin Selectivity (CISS) Effect Manifestation. *Advanced Functional Materials* (2023). DOI: 10.1002/adfm.202308948
50. Chaudhary, A.; Prakash, D. J.; Jacobson, R.; Lagally, M. G.; Cavallo, F. Formation and Shape Changing of Conductive Helical Ribbons via Deposition of Highly Stressed Films on Mechanically Responsive Substrates. *Advanced Functional Materials* (2023). DOI: 10.1002/adfm.202312333
51. Huang, Y.; Gu, Y.; Mohan, S.; Dolocan, A.; Ignacio, N. D.; Kutagulla, S.; Matthews, K.; Londoño-Calderon, A.; Chang, Y.; Chen, Y.; Warner, J. H.; Pettes, M. T.; Lee, J. C.; Akinwande, D. Reliability Improvement and Effective Switching Layer Model of Thin-Film MoS2 Memristors. *Advanced Functional Materials* (2023). DOI: 10.1002/adfm.202214250
52. Kunwar, S.; Jernigan, Z.; Hughes, Z.; Somodi, C.; Saccone, M. D.; Caravelli, F.; Roy, P.; Zhang, D.; Wang, H.; Jia, Q.; MacManus-Driscoll, J. L.; Kenyon, G.; Sornborger, A.; Nie, W.; Chen, A. An Interface Type Memristive Device for Artificial Synapse and Neuromorphic Computing. *Advanced Intelligent Systems* (2023). DOI: 10.1002/aisy.202300035
53. Yang, G.; Komini Babu, S.; Liyanage, W.; Martinez, U.; Routkevitch, D.; Mukundan, R.; Borup, R. L.; Cullen, D.; Spendelow, J. Coaxial Nanowire Electrodes Enable Exceptional Fuel Cell Durability. *Advanced Materials* (2023). DOI: 10.1002/adma.202301264

54. Li, Z.; Yin, Q.; Jiang, Y.; Zhu, Z.; Gao, Y.; Wang, S.; Shen, J.; Zhao, T.; Cai, J.; Lei, H.; Lin, S.; Zhang, Y.; Shen, B. Discovery of Topological Magnetic Textures near Room Temperature in Quantum Magnet Tbmn6sn6. *Advanced Materials* (2023). DOI: 10.1002/adma.202211164
55. Dudipala, K. R.; Le, T-H.; Nie, W.; Hoye, R. L. Z. Halide Perovskites and Their Derivatives for Efficient, High-Resolution Direct Radiation Detection: Design Strategies and Applications. *Advanced Materials* (2023). DOI: 10.1002/adma.202304523
56. Sturniolo, N. E.; Hirsch, K.; Meredith, C. H.; Beshires, B. C.; Khanna, S.; Rayes, M. S.; Gallegos, M. A.; McGee, S.; Kaehr, B.; Zarzar, L. D. Iridescence from Total Internal Reflection at 3D Microscale Interfaces: Mechanistic Insights and Spectral Analysis. *Advanced Materials* (2023). DOI: 10.1002/adma.202210665
57. Wang, Y.; Liu, Y.; Nguyen, M.; Cho, J.; Katyal, N.; Vishnugopi, B. S.; Hao, H.; Fang, R.; Wu, N.; Liu, P.; Mukherjee, P. P.; Nanda, J.; Henkelman, G.; Watt, J.; Mitlin, D. Stable Anode-Free All-Solid-State Lithium Battery through Tuned Metal Wetting on the Copper Current Collector. *Advanced Materials* (2023). DOI: 10.1002/adma.202206762
58. Carpenter, S.; Palmaz, C. Thin Film PVD-Based Medical Device Components. *Advanced Materials & Processes* (2023). DOI: https://www.proquest.com/docview/2784475098/fulltextPDF/B00BD74DA6734964PQ/1?accountid=27865
59. López-Galán, O.A.; Perez, I; Nogan, J.; Ramos, M. Determining the Electronic Structure and Thermoelectric Properties of MoS2/MoSe2 Type-I Heterojunction by DFT and the Landauer Approach. *Advanced Materials Interfaces* (2023). DOI: 10.1002/admi.202202339
60. Lynes, D. D.; Young, J.; Lang, E.; Chandrahalim, H. Impact of Silicon Ion Irradiation on Aluminum Nitride-Transduced Microelectromechanical Resonators. *Advanced Materials Interfaces* (2023). DOI: 10.1002/admi.202300240
61. Zhang, Y.; Song, J.; Lu, P.; Deitz, J.; Zhang, D.; Dou, H.; Shen, J.; Hu, Z.; Zhang, X.; Wang, H. Tunable Magnetic and Optical Anisotropy in ZrO2-Co Vertically Aligned Nanocomposites. *Advanced Materials Interfaces* (2023). DOI: 10.1002/admi.202300150
62. Kaufman, G.; Jimenez, J.; Bradshaw, A.; Radecka, A.; Gallegos, M.; Kaehr, B.; Golecki, H. A Stiff-Soft Composite Fabrication Strategy for Fiber Optic Tethered Microtools. *Advanced Materials Technologies* (2023). DOI: 10.1002/admt.202202034
63. Tsai, H.; Pan, L.; Li, X.; Yoo, J.; Tretiak, S.; Ma, X.; Cao, L. R.; Nie, W. Quantum Efficiency Gain in 2D Perovskite Photo and X-Ray Detectors. *Advanced Optical Materials* (2023). DOI: 0.1002/adom.202300847
64. Kang, K. T.; Corey, Z. J.; Hwang, J.; Sharma, Y.; Paudel, B.; Roy, P.; Collins, L.; Wang, X.; Lee, J. W.; Oh, Y. S.; Kim, Y.; Yoo, J.; Lee, J.; Htoon, H.; Jia, Q.; Chen, A. Heterogeneous Integration of Freestanding Bilayer Oxide Membrane for Multiferroicity. *Advanced Science* (2023). DOI: 10.1002/advs.202207481

65. Chandrasekaran, V.; Titze, M.; Flores, A.R.; Campbell, D.; Henshaw, J.; Jones, A.C.; Bielejec, E.S.; Htoon, H. High-Yield Deterministic Focused Ion Beam Implantation of Quantum Defects Enabled by In Situ Photoluminescence Feedback. *Advanced Science* (2023). DOI: 10.1002/advs.202300190
66. Sanad, M.F.; Chava, V.S.N.; Zheng, T.; Pilla, S.; Joddar, B.; Sreenivasan, S. T. Unraveling the Cooperative Activity of Hydrophilicity, Conductivity, and Interfacial Active Sites in Alginate-CNT-Cuo Self-Standing Electrodes with Benchmark-Close Activity for Alkaline Water Splitting. *Advanced Sustainable Systems* (2023). DOI: 10.1002/adsu.202300283
67. Biswas, J.; Cultrera, L.; Liu, W.; Wang, E.; Skaritka, J.; Kisslinger, K.; Hawkins, S. D.; Lee, S. R.; Klem, J. F. Record Quantum Efficiency from Strain Compensated Superlattice GaAs/GaAsP Photocathode for Spin Polarized Electron Source. *AIP Advances* (2023). DOI: 10.1063/5.0159183
68. Liu, P.; Yen, D.; Vishnugopi, B. S.; Kankanallu, V. R.; Gürsoy, D.; Ge, M.; Watt, J.; Mukherjee, P. P.; Chen-Wiegart, Y. K.; Mitlin, D. Influence of Potassium Metal – Support Interactions on Dendrite Growth. *Angewandte Chemie International Edition* (2023). DOI: 10.1002/anie.202300943
69. Mazza, A. R.; Skoropata, E.; Lapano, J.; Chilcote, M. A.; Jorgensen, C.; Tang, N.; Gai, Z.; Singleton, J.; Brahlek, M. J.; Gilbert, D. A.; Ward, T. Z. Hole Doping in Compositionally Complex Correlated Oxide Enables Tunable Exchange Biasing. *APL Materials* (2023). DOI: 10.1063/5.0142224
70. Hale, L. L.; Wang, Z.; Harris, C. T.; Brener, I.; Law, S.; Mitrofanov, O. Near-Field Spectroscopy of Dirac Plasmons in Bi2Se3 Ribbon Arrays. *APL Photonics* (2023). DOI: 10.1063/5.0135867
71. Al-Mamun, N. S.; Rasel, M. A.; Wolfe, D. E.; Haque, A.; Schoell, R.; Hattar, K.; Ryu, S. H.; Kim, S. K. Mitigating Heavy Ion Irradiation Induced Degradation in P-Type SnO Thin Film Transistors at Room Temperature. *Applications and Materials Science* (2023). DOI: 10.1002/pssa.202300392
72. Shrestha, S.; Tsai, H.; Nie, W. A Perspective on the Device Physics of Lead Halide Perovskite Semiconducting Detector for Gamma and X-Ray Sensing. *Applied Physics Letters* (2023). DOI: 10.1063/5.0138830
73. Hackett, L.; Miller, M.; Beaucejour, R.; Nordquist, C.; Taylor, J.; Santillan, S.; Olsson, R.; Eichenfield, M. Aluminum Scandium Nitride Films for Piezoelectric Transduction into Silicon at Gigahertz Frequencies. *Applied Physics Letters* (2023). DOI: 10.1063/5.0151434
74. Webster, P. T.; Logan, J. V.; Helms, L.; Grant, P. C.; Hains, C.; Carrasco, R. A.; Newell, A. T.; Milosavljevic, M. S.; Johnson, S. R.; Balakrishnan, G.; Maestas, D.; Morath, C. P. Demonstration of a 4.32 Mm Cutoff InAsSbBi Nbn Photodetector, a Lattice-Matched Random Alloy III–V Solution for Mid-Wave Infrared Sensing. *Applied Physics Letters* (2023). DOI: 10.1063/5.0161051
75. Schneider, M. E.; Andrews, H.; Baryshev, S. V.; Jevarjian, E.; Kim, D.; Nichols, K.; Posos, T. Y.; Pettes, M.; Power, J.; Shao, J.; Simakov, E. I. Effect of Material Composition of Diamond Field

Emission Array Cathodes on Quality of Transversely Shaped Beams. *Applied Physics Letters* (2023). DOI: 10.1063/5.0128148

76. Newell, A. T.; Logan, J. V.; Carrasco, R. A.; Alsaad, Z. M.; Hains, C. P.; Duran, J. M.; Ariyawansa, G.; Balakrishnan, G.; Maestas, D.; Morath, C. P.; Hawkins, S. D.; Hendrickson, A.; Webster, P. T. Effects of Doping and Minority Carrier Lifetime on Mid-Wave Infrared InGaAs/InAsSb Superlattice Nbv Detector Performance. *Applied Physics Letters* (2023). DOI: 10.1063/5.0136409
77. Khalatpour, A.; Tam, M. C.; Addamane, S. J.; Reno, J.; Wasilewski, Z.; Hu, Q. Enhanced Operating Temperature in Terahertz Quantum Cascade Lasers Based on Direct Phonon Depopulation. *Applied Physics Letters* (2023). DOI: 10.1063/5.0144705
78. Tang, J.; Jiang, K.; House, S. D.; Xu, C.; Xiao, K.; Porter, L. M.; Davis, R. Mg and Al-Induced Phase Transformation and Stabilization of Ga2O3-Based Γ-Phase Spinels. *Applied Physics Letters* (2023). DOI: 10.1063/5.0145076
79. Shen, Y.; Massengale, J. A.; Yang, R. Q.; Hawkins, S. D.; Muhowski, A. J. Pushing the Performance Limits of Long Wavelength Interband Cascade Lasers Using Innovative Quantum Well Active Regions. *Applied Physics Letters* (2023). DOI: 10.1063/5.0162500
80. Gower, N. L.; Levy, S.; Piperno, S.; Addamane, S. J.; Reno, J. L.; Albo, A. Two-Well Injector Direct-Phonon Terahertz Quantum Cascade Lasers. *Applied Physics Letters* (2023). DOI: 10.1063/5.0155250
81. Yamaguchi, H.; Yusa, R.; Wang, G.; Pettes, M. T.; Liu, F.; Tsuda, Y.; Yoshigoe, A.; Abukawa, T.; Moody, N. A.; Ogawa, S. Work Function Lowering of Lab6 by Monolayer Hexagonal Boron Nitride Coating for Improved Photo- and Thermionic-Cathodes. *Applied Physics Letters* (2023). DOI: 10.1063/5.0142591
82. Burleigh, A.; Lau, M. L.; Burrill, M.; Olive, D. T.; Gigax, J. G.; Li, N.; Saleh, T.; Pellemoine, F.; Bidhar, S.; Long, M.; Ammigan, K.; Terry, J. Artificial Intelligence-Based Analysis of Nanoindentation Load–Displacement Data Using a Genetic Algorithm. *Applied Surface Science* (2023). DOI: 10.1016/j.apsusc.2022.155734
83. Mantos, P.; Ferrone, C.; Ohta, T.; Choudhury, P.; Chowdhury, S. Interaction Mechanism of Transition Metal Phthalocyanines on Transition Metal Nitride Supports. *Applied Surface Science* (2023). DOI: 10.1016/j.apsusc.2022.156204
84. Lin, S.; Mandavkar, R.; Habib, M. A.; Burse, S.; Khalid, T.; Joni, M. H.; Li, M.-Y.; Kunwar, S.; Lee, J. Investigation on the Agpt and Agpd Hybrid Alloy Nanoparticles (HANPS) for the Hybrid MoS2/ZnO/HANP UV Photodetector Application. *Applied Surface Science* (2023). DOI: 10.1016/j.apsusc.2022.155559
85. Cain, J. M.; Yan, X.; Liu, S. E.; Qian, J. H.; Zeng, T. T.; Sangwan, V. K.; Hersam, M. C.; Chou, S. S.; Lu, T.-M. Influence of Surface Adsorption on MoS2 Memtransistor Switching Kinetics. *Applies Physics Letters* (2023). DOI: 10.1063/5.0147241

86. Daykin, A. A.; Ravula, S.; Kaiser, H.; Heitmann, T.; Sanjeewa, L. D.; Baker, G. A.; He, X.; Mazza, A. R.; Miceli, P. F. Disorder and Hydrogenation in Graphene Nanopowder Revealed by Complementary X-Ray and Neutron Scattering. *Carbon* (2023). DOI: 10.1016/j.carbon.2023.02.005
87. Liu, R.; El Berch, J. N.; House, S.; Meil, S. W.; Mpourmpakis, G.; Porosoff, M. D. Reactive Separations of Co/Co2 Mixtures over Ru–Co Single Atom Alloys. *Catalysis* (2023). DOI: 10.1021/acscatal.2c05110
88. Wu, X.; van der Heide, T.; Wen, S.; Frauenheim, T.; Tretiak, S.; Yam, C. Y.; Zhang, Y. Molecular Dynamics Study of Plasmon-Mediated Chemical Transformations. *Chemical Science* (2023). DOI: 10.1039/D2SC06648C
89. Nam, Y.; Song, H.; Freixas, V. M.; Keefer, D.; Fernandez-Alberti, S.; Lee, J. Y.; Garavelli, M.; Tretiak, S.; Mukamel, S. Monitoring Vibronic Coherences and Molecular Aromaticity in Photoexcited Cyclooctatetraene with an X-Ray Probe: a Simulation Study. *Chemical Science* (2023). DOI: 10.1039/D2SC04335A
90. Asthana, A.; Kumar, A.; Abraham, V.; Grimsley, H.; Zhang, Y.; Cincio, L.; Tretiak, S.; Dub, P. A.; Economou, S. E.; Barnes, E.; Mayhall, N. J. Quantum Self-Consistent Equation-of-Motion Method for Computing Molecular Excitation Energies, Ionization Potentials, and Electron Affinities on a Quantum Computer. *Chemical Science* (2023). DOI: 10.1039/D2SC05371C
91. Harvel, F. G.; Lemon, M.; Gannon, R. N.; Rudin, S. P.; Lu, P.; Blackwood, H. R.; Johnson, D. C. 1T-FeSe2 Layers in (PbSe)I1+Δ(FeSe2)n — An Interlayer-Stabilized 2D Structure. *Chemistry of Materials* (2023). DOI: 10.1021/acs.chemmater.3c01096
92. Vizoso, D.; Subhash, G.; Rajan, K.; Dingreville, R. Connecting Vibrational Spectroscopy to Atomic Structure via Supervised Manifold Learning: Beyond Peak Analysis. *Chemistry of Materials* (2023). DOI: 10.1021/acs.chemmater.2c03207
93. Maestas-Olguin, A.; Olewine, M.; Thabata, S.; Tsala Ebode, J.; Arcos, M.; Krawchuck, J.; Coker, E. N.; Brearley, A. J.; Xue, X.; Watt, J.; Noureddine, A.; Brinker, C. J. Metallic Cation-Mediated Entrapment of Nucleic Acids on Mesoporous Silica Surface: Application in Castration-Resistant Prostate Cancer. *Chemistry of Materials* (2023). DOI: 10.1021/acs.chemmater.3c01174
94. Parobek, D.; DeLaney, C. R.; Watt, J.; Ivanov, S. A. Synthetic Understanding for Magnetic CrGeTe3 Nanoplatelets. *Chemistry of Materials* (2023). DOI: 10.1021/acs.chemmater.2c02903
95. Poerwoprajitno, A. R.; Li, Q.; Cheong, S.; Gloag, L.; Yang, Y.; Subhash, B.; Bedford, N. M.; Watt, J.; Huber, D. L.; Gooding, J. J.; Schuhmann, W.; Tilley, R. D. Tuning the Pt–Ru Atomic Neighbors for Active and Stable Methanol Oxidation Electrocatalysis. *Chemistry of Materials* (2023). DOI: 10.1021/acs.chemmater.3c02956
96. Eniodunmo, O.; Gumber, S.; Prezhdo, O.; Ghosh, D.; Ivanov, S. A.; Kilina, S.; Tretiak, S. Ground- and Excited-State Properties of Charged Non-Stoichiometric Quantum Dots. *Chemistry of Materials* (2023). DOI: 10.1021/acs.chemmater.3c01414

97. Horta-Fraijo, P.; García-Valdivieso, G.; Rodríguez-Aranda, M.; Navarro-Contreras, H.; Londoño-Calderón, A.; José-Yacaman, M.; Smolentseva, E.; Acosta, B. Catalytic Transformation of Positional Nitrophenol Isomers on Highly Active Ag/Linde-Type A4 Zeolite: a Comparative Analysis. *Chemnanomat* (2023). DOI: 10.1002/cnma.202200464
98. Lane, C.; Zhang, R.; Barbiellini, B.; Markiewicz, R. S.; Bansil, A.; Sun, J.; Zhu, J.-X. Competing Incommensurate Spin Fluctuations and Magnetic Excitations in Infinite-Layer Nickelate Superconductors. *Communications Physics* (2023). DOI: 10.1038/s42005-023-01213-0
99. Markiewicz, R.S.; Singh, B.; Lane, C.; Bansil, A. Investigating the Cuprates as a Platform for High-Order Van Hove Singularities and Flat-Band Physics. *Communications Physics* (2023). DOI: 10.1038/s42005-023-01373-z
100. Barnard, J. P.; Paldi, R. L.; Kalaswad, M.; He, Z.; Dou, H.; Zhang, Y.; Shen, J.; Zheng, D.; Dilley, N. R.; Sarma, R.; Siddiqui, A. M.; Ye, P. D.; Wang, H. Epitaxial Growth of Aurivillius Bi3Fe2Mn2Ox Supercell Thin Films on Silicon. *Crystal Growth & Design* (2023). DOI: 10.1021/acs.cgd.2c01300
101. Hasan, S. M.; You, W.; Ghosh, A.; Sadaf, S. Md.; Arafin, S. Selective Area Epitaxy of GaN Nanostructures: MBE Growth and Morphological Analysis. *Crystal Growth & Design* (2023). DOI: 10.1021/acs.cgd.2c01506
102. Richter, N. A.; Sheng, X.; Yang, B.; Stegman, B. T.; Wang, H.; Zhang, X. Assessing Strain Rate Sensitivity of Nanotwinned Al–Zr Alloys through Nanoindentation. *Crystals* (2023). DOI: 10.3390/cryst13020276
103. Niu, T.; Xu, K.; Shen, C.; Sun, T.; Oberst, J.; Handwerker, C. A.; Subbarayan, G.; Wang, H.; Zhang, X. In-Situ Study on Cu-to-Cu Thermal Compression Bonding. *Crystals* (2023). DOI: 10.3390/cryst13070989
104. Fleming, M. E.; Hooks, D. E.; McBride, M.; Li, N.; Swift, J. A. Cytosine Monohydrate under Mechanical Stress. *CrystEngComm* (2023). DOI: 10.1039/D3CE00293D
105. Serrano, M.; Larkin, K.; Tretiak, S.; Abdelkefi, A. Piezoelectric Energy Harvesting Gyroscopes: Comparative Modeling and Effectiveness. *Energies* (2023). DOI: 10.3390/en16042000
106. Serrano, M.; Larkin, K.; Tretiak, S.; Abdelkefi, A. Performance of Multifunctional Piezoelectric Energy Harvesting Microgyroscopes with Material Degradation. *European Journal of Mechanics - A/Solids* (2023). DOI: 10.1016/j.euromechsol.2022.104902
107. Taylor, P. A.; Stevens, M. J. Explicit Solvent Machine-Learned Coarse-Grained Model of Sodium Polystyrene Sulfonate to Capture Polymer Structure and Dynamics. *European Physical Journal E* (2023). DOI: 10.1140/epje/s10189-023-00355-x
108. Van, V. K.; DelRio, F. W.; Tu, Q.; Chung, K.-H. Friction Characteristics of Two-Dimensional Hybrid Organic-Inorganic Perovskites. *Experimental Mechanics* (2023). DOI: 10.1007/s11340-023-00967-6
109. El-Atwani, O.; Gigax, J. G.; Kim, H.; McCabe, R. J.; Canadinc, D.; Chancey, M. R.; Weaver, J. Micromechanical Properties of Spherical and Facetted He Bubble Loaded Copper. *Extreme Mechanics Letters* (2023). DOI: 10.1016/j.eml.2023.102007

110. Stevens, M.; Rempe, S. Insight into the K Channel's Selectivity from Binding of K+, Na+ and Water to N-Methylacetamide. *Faraday Discussions* (2023). DOI: 10.1039/D3FD00110E
111. El-Atwani, O.; Vo, H.; Krienke, N.; Martinez, E.; Baldwin, J. K.; Chen, W.-Y.; Li, M.; Fensin, S. Comparison of Dislocation Loop Formation Resistance in Nanocrystalline and Coarse-Grained Refractory High Entropy Alloys. *High Entropy Alloys & Materials* (2023). DOI: 10.1007/s44210-023-00013-z
112. Kim, A. D.; Curwen, C. A.; Wu, Y.; Reno, J. L.; Addamane, S. J.; Williams, B. S. Wavelength Scaling of Widely-Tunable Terahertz Quantum-Cascade Metasurface Lasers. *IEEE Journal of Microwaves* (2023). DOI: 10.1109/JMW.2022.3224640
113. Massengale, J. A.; Shen, Y.; Yang, R. Q.; Hawkins, S. D.; Muhowski, A. J. Low Threshold, Long Wavelength Interband Cascade Lasers with High Voltage Efficiencies. *IEEE Journal of Quantum Electronics* (2023). DOI:https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=10247006
114. Ivanov, S.A.; Mednikov, E.G.; Dahl, L.F. Octahedral Hexapalladium Pseudo-Td Pd6(μ3-CO)4(PEt3)6 with 80 Electron-Deficient Cluster Valence Electrons (CVEs) and a Comparison with Octahedral Hexapalladium Pseudo-C2v Pd6(μ3-CO)4(PMe3)7 with 82 CVEs: Computational Analysis and Resulting Implications. *Inorganic Chemistry* (2023). DOI: 10.1021/acs.inorgchem.2c03542
115. Santra, A.; Gupta, G.; Biswas, B.; Das, A.; Ghosh, D.; Paria, S. Understanding the Effect of Internal Electrostatic Fields Created by Alkaline Earth Metal Ions Poised Over Secondary Coordination Sphere of Molecular Iron Complexesy. *Inorganic Chemistry* (2023). DOI: 10.1021/acs.inorgchem.3c00648
116. Schoell, R.; Reyes, A.; Suman, G.; Lam, M. N.; Hamil, J.; Rosenberg, S. G.; Treadwell, L. R.; Hattar, K.; Lang, E. Hot Isostatic Pressing Control of Tungsten-Based Composites. *Inorganics* (2023). DOI: 10.3390/inorganics11020082
117. Bassett, K.; Watkins, T.; Coleman, J.; Bianco, N.; Bailey, L.; Pillars, J.; Williams, S.; Babuska, T.; Curry, J.; DelRio, F.; Henriksen, A.; Garland, A.; Hall, J.; Krick, B.; Boyce, B. A Workflow for Accelerating Multimodal Data Collection for Electrodeposited Films. *Integrating Materials and Manufacturing Innovation* (2023). DOI: 10.1007/s40192-023-00315-5
118. Kalaswad, M.; Custer, J. O.; Addamane, S.; Khan, R. M.; Jauregui, L.; Babuska, T. F.; Henriksen, A.; DelRio, F. W.; Dingreville, R.; Boyce, B. L.; Adams, D. P. Sputter-Deposited Mo Thin Films: Multimodal Characterization of Structure, Surface Morphology, Density, Residual Stress, Electrical Resistivity, and Mechanical Response. *Integrating Materials and Manufacturing Innovation* (2023). DOI: 10.1007/s40192-023-00297-4
119. Seong, J. H.; Morrell, J. T.; Singh, B.; Woloshun, K. A.; Olivas, E. R.; Lance, P. K.; Kollarik, N.; O'Brien, E. M.; Vermeulen, C. Development of Experimental and Computational Frameworks to Predict Subcooled Flow Boiling in the LANL Isotope Production Facility. *International Journal of Heat and Mass Transfer* (2023). DOI: 10.1016/j.ijheatmasstransfer.2022.123836

120. Sandoval, S. E.; Lewis, J. A.; Vishnugopi, B. S.; Nelson, D. L.; Schneider, M. M.; Cortes, F. J.; Matthews, C. M.; Watt, J.; Tian, M.; Shevchenko, P.; Mukherjee, P. P.; McDowell, M. T. Structural and Electrochemical Evolution of Alloy Interfacial Layers in Anode-Free Solid-State Batteries. *Joule* (2023). DOI: 10.1016/j.joule.2023.07.022
121. Lin, S.; Habib, M. A.; Burse, S.; Mandavkar, R.; Joni, M. H.; Kunwar, S.; Lee, J. Plasmonic Hybrid Core-Shell (Hycos) AgPt NP Template Hybridized with GQDS for SERS Enhancement of 4-MBA and BT. *Journal of Alloys and Compounds* (2023). DOI: 10.1016/j.jallcom.2023.169952
122. Huynh, K.; Wang, Y.; Liao, M. E.; Pfeifer, T.; Tomko, J.; Scott, E.; Hattar, K.; Hopkins, P. E.; Goorsky, M. S. Depth-Dependent Recovery of Thermal Conductivity after Recrystallization of Amorphous Silicon. *Journal of Applied Physics* (2023). DOI: 10.1063/5.0133548
123. Newell, A. T.; Logan, J. V.; Carrasco, R. A.; Hains, C. P.; Ariyawansa, G.; Duran, J. M.; Balakrishnan, G.; Maestas, D.; Morath, C. P.; Webster, P. T. Effects of 63 MeV proton irradiation on the performance of MWIR InGaAs/InAsSb nBn photodetectors. *Journal of Applied Physics* (2023). DOI: 10.1063/5.0169264
124. Lang, E. R.; Clark, T.; Schoell, R.; Hattar, K. A.; Adams, D. P. In-Situ Investigation of Ion Irradiation-induced Amorphization of (Ge2Sb2Te5)1-xCx [$0 \leq x \leq 0.12$]. *Journal of Applied Physics* (2023). DOI: 10.1063/5.0136748
125. Sereika, R.; Clay, M. P.; Zhu, L.; Rosa, P. F. S.; Bi, W. L.; Vohra, Y. K. Metastable Phase Formation in Europium Hexaboride on Compression to 187 GPa. *Journal of Applied Physics* (2023). DOI: 10.1063/5.0173376
126. Webster, P. T.; Carrasco, R. A.; Newell, A. T.; Logan, J. V.; Grant, P. C.; Maestas, D.; Morath, C. P. Utility of Shockley–Read–Hall Analysis to Extract Defect Properties from Semiconductor Minority Carrier Lifetime Data. *Journal of Applied Physics* (2023). DOI: 10.1063/5.0147482
127. Carrasco, R.; Newell, A.; Alsaad, Z.; Logan, J.; Duran, J.; Ariyawansa, G.; Pinkie, B.; Morath, C.; Webster, P. Capacitance–Voltage Modeling of Mid-Wavelength Infrared nBn Detectors. *Journal of Applied Physics* (2023). DOI: 10.1063/5.0138468
128. Zhugayevych, A.; Lin, K.-H.; Andrienko, D. Electronic Coarse-Graining of Long Conjugated Molecules: Case Study of Non-Fullerene Acceptors. *Journal of Chemical Physics* (2023). DOI: 10.1063/5.0155488
129. Chigaev, M.; Smith, J. S.; Anaya, S.; Nebgen, B.; Bettencourt, M.; Barros, K.; Lubbers, N. Lightweight and Effective Tensor Sensitivity for Atomistic Neural Networks. *Journal of Chemical Physics* (2023). DOI: 10.1063/5.0142127
130. Shock, C. J.; Stevens, M. J.; Frischknecht, A. L.; Nakamura, I. Molecular Dynamics Simulations of the Dielectric Constants of Salt-free and Salt-doped Polar Solvents. *Journal of Chemical Physics* (2023). DOI: 10.1063/5.0165481
131. Senanayake, M.; Aryal, D.; Grest, G. S.; Perahia, D. Response of Ionizable Block Copolymer Assemblies to Solvent Dielectrics: A Molecular Dynamics Study. *Journal of Chemical Physics* (2023). DOI: 10.1063/5.0174410

132. Fedik, N.; Nebgen, B.; Lubbers, N.; Barros, K.; Kulichenko, M.; Li, Y. W.; Zubatyuk, R.; Messerly, R.; Isayev, O.; Tretiak, S. Synergy of Semiempirical Models and Machine Learning in Computational Chemistry. *Journal of Chemical Physics* (2023). DOI: 10.1063/5.0151833
133. Zhugayevych, A.; Sun, W.; van der Heide, T.; Lien-Medrano, C.; Frauenheim, T.; Tretiak, S. Benchmark Data Set of Crystalline Organic Semiconductors. *Journal of Chemical Theory and Computation* (2023). DOI: 10.1021/acs.jctc.3c00861
134. Freixas, V. M.; Malone, W.; Li, X.; Song, H.; Negrin-Yuvero, H.; Pérez-Castillo, R.; White, A.; Gibson, T. R.; Makhov, D. V.; Shalashilin, D. V.; Zhang, Y.; Fedik, N.; Kulichenko, M.; Messerly, R.; Mohanam, L. N.; Sharifzadeh, S.; Bastida, A.; Mukamel, S.; Fernandez-Alberti, S.; Tretiak, S. NEXMD V2.0 Software Package for Nonadiabatic Excited State Molecular Dynamics Simulations. *Journal of Chemical Theory and Computation* (2023). DOI: 10.1021/acs.jctc.3c00583
135. Mejia-Rodriguez, D.; Aprà, E.; Autschbach, J.; Bauman, N. P.; Bylaska, E. J.; Govind, N.; Hammond, J. R.; Kowalski, K.; Kunitsa, A.; Panyala, A.; Peng, B.; Rehr, J. J.; Song, H.; Tretiak, S.; Valiev, M.; Vila, F. D. NWCHEM: Recent and Ongoing Developments. *Journal of Chemical Theory and Computation* (2023). DOI: 10.1021/acs.jctc.3c00421
136. Schleich, P.; Boen, J.; Cincio, L.; Anand, A.; Kottmann, J. S.; Tretiak, S.; Dub, P. A.; Aspuru-Guzik, A. Partitioning Quantum Chemistry Simulations with Clifford Circuits. *Journal of Chemical Theory and Computation* (2023). DOI: 10.1021/acs.jctc.3c00335
137. Kulichenko, M.; Barros, K.; Lubbers, N.; Fedik, N.; Zhou, G.; Tretiak, S.; Nebgen, B.; Niklasson, A. M. Semi-Empirical Shadow Molecular Dynamics: a Pytorch Implementation. *Journal of Chemical Theory and Computation* (2023). DOI: 10.1021/acs.jctc.3c00234
138. Meyerson, M.L.; Maraschky, A.M.; Watt, J.; Small, L. J. Fast Cycling of Anode-less, Eedox-mediated Li-S Flow Batteries. *Journal of Energy Storage* (2023). DOI: 10.1016/j.est.2023.108767
139. Dillon, S. J.; Ma, Y.; Lang, E.; Ouyang, J.-H.; Hattar, K. An Interface Nucleation Rate Limited Sintering Kinetic Model Applied to In-Situ Sintering Al2O3-SMaLo3 Composites. *Journal of European Ceramic Society* (2023). DOI: 10.1016/j.jeurceramsoc.2023.02.058
140. DelRio, F. W.; Khan, R. M.; Heiden, M. J.; Kotula, P. G.; Renner, P. A.; Karasz, E. K.; Melia, M. A. Porosity, Roughness, and Passive Film Morphology Influence the Corrosion Behavior of 316L Stainless Steel Manufactured by Laser Powder Bed Fusion. *Journal of Manufacturing Processes* (2023). DOI: 10.1016/j.jmapro.2023.07.062
141. He, D.; Nie, W.; Huang, H. An Integrated-Milliampere-Level Hydroelectric Generator Utilizing Chemical-Doped P-type and N-type Graphites. *Journal of Materials Chemistry A* (2023). DOI: 10.1039/d3ta06080b
142. Gumber, S.; Eniodunmo, O.; Ivanov, S. A.; Kilina, S.; Prezhdo, O. V.; Ghosh, D.; Tretiak, S. Hot Carrier Relaxation Dynamics in Non-Stoichiometric CdSe Quantum Dots: Computational Insights. *Journal of Materials Chemistry A* (2023). DOI: 10.1039/D3TA00149K
143. Kim, M. A.; Zimmerer, E. K.; Piontkowski, Z. T.; Rodriguez, M. A.; Schorr, N. B.; Wygant, B. R.; Okasinski, J. S.; Chuang, A. C.; Lambert, T. N.; Gallaway, J. W. Li-Ion and Na-Ion Intercalation in

Layered MnO2 Cathodes Enabled by Using Bismuth as a Cation Pillar. *Journal of Materials Chemistry A* (2023). DOI: 10.1039/D3TA00684K

144. Nie, W.; Tsai, H. Perovskite Nanocrystals Stabilized in Metal–Organic Frameworks for Light Emission Devices. *Journal of Materials Chemistry A* (2023). DOI: 10.1039/D2TA02154D
145. Yang, M.; Rollins, D.; Huber, D.; Ou, J.; Baptiste, M.; Zeppuhar, A.; Chen, F.; Taylor, M. Carbonyl-Rich Porous Organic Polymers for Cobalt Adsorption from Water. *Journal of Materials Chemistry C* (2023). DOI: 10.1039/d3tc03320a
146. Forde, A.; Evans, A. C.; Nie, W.; Tretiak, S.; Neukirch, A. J. Molecular Properties Controlling Chirality Transfer to Halide Perovskite: Computational Insights. *Journal of Materials Chemistry C* (2023). DOI: 10.1039/D3TC02248J
147. Mukazhanova, A.; Negrin-Yuvero, H.; Freixas, V. M.; Tretiak, S.; Fernandez-Alberti, S.; Sharifzadeh, S. The Impact of Stacking and Phonon Environment on Energy Transfer in Organic Chromophores: Computational Insights. *Journal of Materials Chemistry C* (2023). DOI: 10.1039/D3TC00479A
148. Nayak, P. K.; Ghosh, D. Tuning Charge Carrier Dynamics through Spacer Cation Functionalization in Layered Halide Perovskites: an Ab Initio Quantum Dynamics Study. *Journal of Materials Chemistry C* (2023). DOI: 10.1039/D3TC00331K
149. Benzing, J. T.; Derimow, N.; Kafka, O. L.; Hrabe, N.; Schumacher, P.; Godfrey, D.; Beamer, C.; Pathare, P.; Carroll, J. D.; Lu, P.; Trujillo, I.; Delrio, F. W. Enhanced Strength of Additively Manufactured Inconel 718 By Means of a Simplified Heat Treatment Strategy. *Journal of Materials Processing Technology* (2023). DOI: 10.1016/j.jmatprotec.2023.118197
150. Liu, G.; Tang, Y.; Hattar, K.; Wang, Y.; Windes, W.; Haque, A.; Du, J. An Investigation of Fracture Behaviors of NBG-18 Nuclear Graphite Using in-Situ Mechanical Testing Coupled with Micro-CT. *Journal of Materials Research* (2023). DOI: 10.1557/s43578-023-00929-7
151. Bolmin, O.; Young, B.; Leathe, N.; Noell, P. J.; Boyce, B. L. Interlocking Metasurfaces. *Journal of Materials Science* (2023). DOI: 10.1007/s10853-022-08015-9
152. Huber, Dale L.The January 2023 Cover Paper. *Journal of Materials Science* (2023). DOI: 10.1007/s10853-022-08078-8
153. Huber, D. Editorial: the May 2023 Cover Paper. *Journal of Materials Science* (2023). DOI: 10.1007/s10853-023-08481-9
154. Jones, M. R.; Bobbitt, N. S.; DelRio, F. W.; Wilson, M. A.; Howard, H. C.; Endsley, M. A.; Pegues, J. W.; Lu, P.; Kustas, A. B.; Beyerlein, I. J.; Chandross, M.; Argibay, N. Evidence of Twinning-Induced Plasticity (TWIP) and Ultrahigh Hardness in Additively-Manufactured near-Eutectic Ni–Nb. *Journal of Materials Science* (2023). DOI: 10.1007/s10853-023-08636-8
155. Cerjan, A.; Loring, T. A.; Vides, F. Quadratic Pseudospectrum for Identifying Localized States. *Journal of Mathematical Physics* (2023). DOI: 10.1063/5.0098336
156. Cerjan, A.; Koekenbier, L.; Schulz-Baldes, H. Spectral Localizer for Line-Gapped Non-Hermitian Systems. *Journal of Mathematical Physics* (2023). DOI: 10.1063/5.0150995

157. Saadat, Y.; Tabatabaei, S. M.; Kim, K.; Foudazi, R. Thermoresponsive Antifouling Ultrafiltration Membranes from Mesophase Templating. *Journal of Membrane Science* (2023). DOI: 10.1016/j.memsci.2023.121861
158. Chen, Y.-X.; Chen, D.; Weaver, J.; Gigax, J.; Wang, Y.-Q.; Mara, N. A.; Fensin, S.; Maloy, S. A.; Misra, A.; Li, N. Heavy Ion Irradiation Effects on CrFeMnNi and AlCrFeMnNi High Entropy Alloys Journal of Nuclear Materials. (2023). DOI: 10.1016/j.jnucmat.2022.154163
159. Barr, C. M.; Lang, E.; Burns, K.; Price, P.; Miller, B. D.; Keiser, D. D.; Aitkaliyeva, A.; Hattar, K. The Complex Structural and Chemical Nature of Monolithic U-10Mo Fuel and Zr Barrier Layer. *Journal of Nuclear Materials* (2023). DOI: 10.1016/j.jnucmat.2022.154083
160. Habib, A.; Lubbers, N.; Tretiak, S.; Nebgen, B. Machine Learning Models Capture Plasmon Dynamics in Ag Nanoparticles. *Journal of Physical Chemistry A* (2023). DOI: 10.1021/acs.jpca.2c08757
161. Foley, C. D.; Allen, C. D.; Au, K.; Lee, C.; Rempe, S. B.; Ren, P.; Sibert, E. L.; Zwier, T. S. Molecular Cage Reports on Its Contents: Spectroscopic Signatures of Cryo-Cooled K+- and Ba2+-Benzocryptand Complexes. *Journal of Physical Chemistry A* (2023). DOI: 10.1021/acs.jpca.3c03457
162. Vigil, D. L.; Stevens, M.; Frischknecht, A. Accurate Calculation of Solvation Properties of Lithium Ions in Nonaqueous Solutions. *Journal of Physical Chemistry B* (2023). DOI: 10.1021/acs.jpcb.3c05591
163. Wait, E. E.; Gourary, J.; Liu, C.; Spoerke, E. D.; Rempe, S. B.; Ren, P. Development of AMOEBA Polarizable Force Field for Rare-Earth La3+ Interaction with Bioinspired Ligands. *Journal of Physical Chemistry B* (2023). DOI: 10.1021/acs.jpcb.2c07237
164. Sharma, A.; Leverant, C. J.; Richards, D.; Beamis, C. P.; Spoerke, E. D.; Percival, S. J.; Rempe, S. B.; Vanegas, J. M. Transport and Energetics of Carbon Dioxide in Ionic Liquids at Aqueous Interfaces. *Journal of Physical Chemistry B* (2023). DOI: 10.1021/acs.jpcb.3c05946
165. Khurana, S.; Hassan, M. S.; Yadav, P.; Chonamada, T. D.; Das, M. R.; Santra, P. K.; Ghosh, D.; Sapra, S. Defect Passivation Results in the Stability of Cesium Lead Halide Perovskite Nanocrystals. *Journal of Physical Chemistry C* (2023). DOI: 10.1021/acs.jpcc.2c08508
166. Lewis, D.; Setzler, C.; Goodwin, P. M.; Thomas, K.; Branham, M.; Arrington, C. A.; Petty, J. T. Interrupted DNA and Slow Silver Cluster Luminescence. *Journal of Physical Chemistry C* (2023). DOI: 10.1021/acs.jpcc.3c01050
167. Campbell, Q. T.; Koepke, J. C.; Ivie, J. A.; Mounce, A. M.; Ward, D. R.; Carroll, M. S.; Misra, S.; Baczewski, A. D.; Bussmann, E. Quantifying the Variation in the Number of Donors in Quantum Dots Created Using Atomic Precision Advanced Manufacturing. *Journal of Physical Chemistry C* (2023). DOI: 10.1021/acs.jpcc.3c00479
168. Riley, C.; Valdez, N.; Smyth, C. M.; Grant, R.; Burnside, B.; Park, J. E.; Meserole, S.; Benavidez, A.; Craig, R.; Porter, S.; DeLaRiva, A.; Datye, A.; Rodriguez, M.; Chou, S. S. Vacancy-Driven

Stabilization of Sub-Stoichiometric Aluminate Spinel High Entropy Oxides. *Journal of Physical Chemistry C* (2023). DOI: 10.1021/acs.jpcc.3c01499

169. Hsu, Y.-L.; Li, C.; Jones, A. C.; Pettes, M. T.; Chowdhury, A.; Yan, Y.; Yoon, H. P. Subsurface Characteristics of Metal-Halide Perovskites Polished by Argon Ion Beam. *Journal of Physical Chemistry C* (2023). DOI: 10.1021/acs.jpcc.2c09122
170. Stevens, M.; Rempe, S. Binding of Li+ to Negatively Charged and Neutral Ligands in Polymer Electrolytes. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.3c02565
171. Singh, S.; Nayak, P.; Tretiak, S; Ghosh, D. Composition Dependent Strain Engineering of Lead-Free Halide Double Perovskite: Computational Insights. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.3c02249
172. Phun, G.-S.; Rappoport, D.; Furche, F.; Gibson, T.; Tretiak, S. Constructing the Mechanism of Dinoflagellate Luciferin Bioluminescence Using Computation. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.3c01053
173. Ho, T.-A.; Wang, Y.; Rempe, S.; Dasgupta, N.; Johnston, C.; Xu, G.; Zwier, T.; Mills, M. Control of the Structural Charge Distribution and Hydration State upon Intercalation of CO2 into Expansive Clay Interlayers. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.3c00291
174. Li, X.; Nie, W.; Ma, X. Intersubband Transitions in Lead Halide Perovskite-Based Quantum Wells for Mid-Infrared Detectors. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.3c00565
175. Weight, B. M.; Zheng, M.; Tretiak, S. Signatures of Chemical Dopants in Simulated Resonance Raman Spectroscopy of Carbon Nanotubes. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.2c03591
176. Negrin-Yuvero, H.; Freixas, V. M.; Ondarse-Alvarez, D.; Alfonso-Hernandez, L.; Rojas-Lorenzo, G.; Bastida, A.; Tretiak, S.; Fernandez-Alberti, S. Vibrational Funnels for Energy Transfer in Organic Chromophores. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.3c00748
177. Aditya, A.; Mishra, A.; Baradwaj, N.; Nomura, K.-ichi; Nakano, A.; Vashishta, P.; Kalia, R. K. Wrinkles, Ridges, Miura-Ori, and Moire Patterns in MoSe2 Using Neural Networks. *Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.2c03539
178. Negrin-Yuvero, H.; Freixas, V. M.; Ondarse-Alvarez, D.; Ledesma, A. E.; Tretiak, S.; Fernandez-Alberti, S. Photoexcited Energy Relaxation in a Zigzag Carbon Nanobelt. *Journal of Physical Chemisty C* (2023). DOI: 10.1021/acs.jpcc.2c08676
179. Rasel, M. A.; Schoell, R.; Sultan Al-Mamun, N.; Hattar, K.; Harris, C. T.; Haque, A.; Wolfe, D. E.; Ren, F.; Pearton, S. J. Heavy Ion Irradiation Induced Failure of Gallium Nitride High Electron Mobility Transistors: Effects of in-Situ Biasing. *Journal of Physics D: Applied Physics* (2023). DOI: 10.1088/1361-6463/accfa7
180. Barman, B.; Linn, A. G.; O'Beirne, A. L.; Holleman, J.; Garcia, C.; Mapara, V.; Reno, J. L.; McGill, S. A.; Turkowski, V.; Karaiskaj, D.; Hilton, D. J. Superradiant Emission in a High-Mobility Two-

Dimensional Electron Gas. *Journal of Physics: Condensed Matter* (2023). DOI: 10.1088/1361-648X/acce8c

181. Poerwoprajitno, A.; Baradwaj, N.; Singh, M.; Carter, C.; Huber, D.; Kalia, R.; Watt, J. Asymmetric Nanoparticle Oxidation Observed In-Situ by the Evolution of Diffraction Contrast. *Journal of Physics-Materials* (2023). DOI: 10.1088/2515-7639/ad025f
182. Monismith, S.; Qu, J.; Dingreville, R. Electrochemically Induced Fracture in LLZO: How the Interplay between Flaw Density and Electrostatic Potential Affects Operability. *Journal of Power Sources* (2023). DOI: 10.1016/j.jpowsour.2023.232646
183. Freixas, V. M.; Rouxel, J. R.; Nam, Y.; Tretiak, S.; Govind, N.; Mukamel, S. X-Ray and Optical Circular Dichroism as Local and Global Ultrafast Chiral Probes of Helicene Racemization. *Journal of the American Chemical Society* (2023). DOI: 10.1021/jacs.3c07032
184. Merrill, L. C.; Gannon, R. N.; Jungjohann, K. L.; Randolph, S. J.; Goriparti, S.; Zavadil, K. R.; Johnson, D. C.; Harrison, K. L. Evaluation of Lithium Metal Anode Volumetric Expansion through Laser Plasma Focused Ion Beam Cross-Sectional Imaging. *Journal of The Electrochemical Society* (2023). DOI: 10.1149/1945-7111/acf162
185. Pinzon, S. K.; Valdez, J. A.; Kocevski, V.; Baldwin, J. K.; Uberuaga, B. P.; Kreller, C. R.; Derby, B. K. Effects of Processing Parameters on the Morphologies of Complex Sesquioxide Thin Films. *Journal of Vacume Science & Technology A* (2023). DOI: 10.1116/6.0002398
186. Stricklin, I.; Gotszalk, T.; Behzadirad, M.; Manske, E.; Kissinger, T.; Rangelow, I. W.; Busani, T. L. Multipurpose Active Scanning Probe Cantilevers for near-Field Spectroscopy, Scanning Tunnel Imaging, and Atomic-Resolution Lithography. *Journal of Vacume Science & Technology B* (2023). DOI: 10.1116/6.0002486
187. Wang, H.; Self, E. C.; Addamane, S. J.; Rouleau, C. M.; Wixom, R. R.; Browning, K. L.; Veith, G. M.; Liang, L.; Browning, J. F. Deposition and Characterization of A-Fe2O3/Pd Thin Films for Neutron Reflectometry Studies. *Journal of Vacuum Science & Technology A* (2023). DOI: 10.1116/6.0002717
188. Lemon, M.; Harvel, F. G.; Gannon, R. N.; Lu, P.; Rudin, S. P.; Johnson, D. C. Targeted Synthesis of Predicted Metastable Compounds Using Modulated Elemental Reactants. *Journal of Vacuum Science & Technology A* (2023). DOI: 10.1116/6.0002260
189. Vyas, K.; Awan, K. M.; Dolgaleva, K. Systematic Study of InP/InGaAsP Heated Plasma Etching and Roughness Improvement for Integrated Optical Devices. *Journal of Vacuum Science and Technology B* (2023). DOI: 10.1116/6.0002167
190. Wu, Y.; Curwen, C. A.; Shahili, M.; Reno, J. L.; Williams, B. S. Rf Injection Locking of Thz Metasurface Quantum-Cascade Vecsel. *Laser & Photonics Reviews* (2023). DOI: 10.1002/lpor.202300007
191. Alkhazraji, E.; Chow, W. -W.; Grillot, F.; Bowers, J. E.; Wan, Y. Linewidth Narrowing in Self-Injection-Locked on-Chip Lasers. *Light: Science & Applications* (2023). DOI: 10.1038/s41377-023-01172-9

192. Pettine, J.; Padmanabhan, P.; Sirica, N.; Prasankumar, R. P.; Taylor, A. J.; Chen, H.-T. Ultrafast Terahertz Emission from Emerging Symmetry-Broken Materials. *Light: Science & Applications* (2023). DOI: 10.1038/s41377-023-01163-w
193. Kabir, M.; Mia, M.; Ahmed, I.; Jaidye, N.; Ahmed, S.; Kim, S. Anisotropic Leaky-Like Perturbation with Subwavelength Gratings Enables Zero Crosstalk. *Light: Science & Applications* (2023). DOI: 10.1038/s41377-023-01184-5
194. Duke, R.; Bhat, V.; Smith, A.; Goodlett, S.; Tretiak, S.; Risko, C. Factors Impacting Dihedral Angle Rotation and Classification in Π-Conjugated Systems. *Macromolecules* (2023). DOI: 10.1021/acs.macromol.3c00824
195. Win, M.; Winey, K.; Frischknecht, A. Morphology–Diffusivity Relationships in Fluorine-Free Random Terpolymers for Proton-Exchange Membranes. *Macromolecules* (2023). DOI: 10.1021/acs.macromol.3c01707
196. Mohottalalage, S. S.; Kosgallana, C.; Meedin, S.; O'Connor, T. C.; Grest, G. S.; Perahia, D. Response of Sulfonated Polystyrene Melts to Nonlinear Elongation Flows. *Macromolecules* (2023). DOI: 10.1021/acs.macromol.2c02326
197. Bezik, C. T.; Redline, E. M.; Foster, J. C.; Frischknecht, A. L. Simulations of Glass Transition and Mechanical Behavior of Off-Stoichiometric Crosslinked Polymers. *Macromolecules* (2023). DOI: 10.1021/acs.macromol.3c00924
198. Foster, J. C.; Yoon, A.; Lyons, K.; Martinez, E. J.; Leguizamon, S. C.; Bezik, C. T.; Frischknecht, A. L.; Redline, E. M. Unexpected Thermomechanical Behavior of Off-Stoichiometry Epoxy/Amine Materials. *Macromolecules* (2023). DOI: 10.1021/acs.macromol.2c02414
199. Shahane, N.; Mohan, K.; Smet, V.; Antoniou, A. Anomalous Evolution of Topology in Nanoporous Copper under Thermal and Electrolyte Treatment. *Materialia* (2023). DOI: 10.1016/j.mtla.2023.101757
200. Cucciniello, N.; Mazza, A.; Roy, P.; Kunwar, S.; Zhang, D.; Feng, H.-Y.; Arsky, K.; Chen, A.-P.; Jia, Q.-X. Anisotropic Properties of Epitaxial Ferroelectric Lead-Free 0.5[Ba(Ti0.8Zr0.2)O3]-0.5(Ba0.7Ca0.3)TiO3 Films. *Materials* (2023). DOI: 10.3390/ma16206671
201. Pineda-Domínguez, P. M.; Boll, T.; Nogan, J.; Heilmaier, M.; Hurtado-Macías, A.; Ramos, M. The Piezoresponse in Wo3 Thin Films Due to N2-Filled Nanovoids Enrichment by Atom Probe Tomography. *Materials* (2023). DOI: 10.3390/ma16041387
202. Yang, Z.; Wei, X.; Roy, P.; Zhang, D.; Lu, P.; Dhole, S.; Wang, H.; Cucciniello, N.; Patibandla, N.; Chen, Z.; Zeng, H.; Jia, Q.; Zhu, M. CMOS-Compatible Ultrathin Superconducting NbN Thin Films Deposited by Reactive Ion Sputtering on 300 mm Si Wafer. *Materials* (2023). DOI: 10.3390/ma16237468
203. Brown, N. K.; Young, B.; Clark, B.; Bolmin, O.; Boyce, B. L.; Noell, P. J. Optimized Design of Interlocking Metasurfaces. *Materials & Design* (2023). DOI: 10.1016/j.matdes.2023.112272
204. Young, B.; Bolmin, O.; Boyce, B.; Noell, P. Synergistic Strengthening in Interlocking Metasurfaces. *Materials & Design* (2023). DOI: 10.1016/j.matdes.2023.111798

205. Kocevski, V.; Valdez, J. A.; Derby, B. K.; Wang, Y. Q.; Pilania, G.; Uberuaga, B. P. Predicting and Accessing Metastable Phases. *Materials Advances* (2023). DOI: 10.1039/D2MA00995A
206. Srinivasan, S.; Lang, E.; Burns, K.; Hattar, K.; Hornbuckle, B. C.; Darling, K. A.; Solanki, K. In-Situ TEM Bubble to Cavity Evolution Due to Annealing Post Helium and Dual Ion Irradiation in Cu-10Ta and Cu-3Ta. *Materials Characterizations* (2023). DOI: 10.1016/j.matchar.2023.113038
207. Henshaw, J.; Kehayias, P.; Basso, L.; Jaris, M.; Cong, R.; Titze, M.; Lu, T.-M.; Lilly, M. P.; Mounce, A. M. Mitigation of Nitrogen Vacancy Photoluminescence Quenching from Material Integration for Quantum Sensing. *Materials for Quantum Technology* (2023). DOI: 10.1088/2633-4356/ace095
208. Verma, M.; Bahuguna, G.; Singh, S.; Kumari, A.; Ghosh, D.; Haick, H.; Gupta, R. Porous SnO2 Nanosheets for Room Temperature Ammonia Sensing in Extreme Humidity. *Materials Horizons* (2023). DOI: 10.1039/d3mh01078c
209. Lu, J.; Zhang, D.; Paldi, R. L.; He, Z.; Lu, P.; Deitz, J.; Ahmad, A.; Dou, H.; Wang, X.; Liu, J.; Hu, Z.; Yang, B.; Zhang, X.; El-Azab, A.; Wang, H. Abnormal In-Plane Epitaxy and Formation Mechanism of Vertically Aligned Au Nanopillars in Self-Assembled CeO2–Au Metamaterial Systems. *Materials Horizons* (2023). DOI: 10.1039/d3mh00233k
210. Stewart, J.; Startt, J.; Dingreville, R. A Molecular Dynamics Study on the Mie-Gruneisen Equation-of-State and High Strain-Rate Behavior of Equiatomic CoCrFeMnNi. *Materials Research Letters* (2023). DOI: 10.1080/21663831.2023.2280635
211. Mishra, A.; Dang, K.; Kober, E.M.; Fensin, S.J.; Mathew, N. Role of Microscopic Degrees of Freedom in Mechanical Response of Bicrystal Nanopillars. *Materials Research Letters* (2023). DOI: 10.1080/21663831.2023.2252885
212. Chen, M.-J.; Xie, D.; Li, N.; Zikry, M. A. Dislocation-Density Evolution and Pileups in Bicrystalline Systems. *Materials Science and Engineering A* (2023). DOI: 10.1016/j.msea.2023.144812
213. Wang, X.; Kaufmann, R.; Jones, A. C.; Chen, R.; Ahmed, T.; Pettes, M. T.; Kotula, P. G.; Bilgin, I.; Wang, Y.; Kar, S.; Yoo, J. Evidence of Hexagonal Germanium Grains on Annealed Monolayer MoS2. *Materials Today Advances* (2023). DOI: 10.1016/j.mtadv.2023.100401
214. Cheng, T.; Qin, W.-J.; Wang, H; Cai, G.-X.; Jin, S.-X.; Wang, Y.-Q.; Jiang, C.-Z.; Ren, F. Enhanced Radiation Tolerance and Plasticity in Nanochannel Al0.1CoCrFeNi High-Entropy Alloy. *Materials Today Communications* (2023). DOI: 10.1016/j.mtcomm.2023.105346
215. Song, J.; Zhang, D.; Lu, P.; Wang, H.; Xu, X.; Meyerson, M.; Rosenberg, S.; Deitz, J.; Liu, J; Wang, X.; Zhang, X.; Wang, H. Anisotropic Optical and Magnetic Response in Self-Assembled TiNeCoFe2 Nanocomposites. *Materials Today Nano* (2023). DOI: 10.1016/j.mtnano.2023.100316
216. Boyce, B.; Dingreville, R.; Desai, S.; Walker, E.; Shilt, T.; Bassett, K. L.; Wixom, R. R.; Stebner, A. P.; Arroyave, R.; Hattrick-Simpers, J.; Warren, J. A. Matter of Opinion: Machine Learning for Materials Science: Barriers to Broader Adoption. *Matter* (2023). DOI: 10.1016/j.matt.2023.03.028

217. White, B.C.; Garland, A.; Boyce, B.L. Toughening by Interpenetrating Lattices. *Matter* (2023). DOI: 10.1016/j.matt.2022.11.025
218. Xie, D.; Chen, M.-J.; Gigax, J.; Luscher, D.; Wang, J.; Hunter, A.; Fensin, S.; Zikry, M.; Li, N. A Fundamental Understanding of How Dislocation Densities Affect Strain Hardening Behavior in Copper Single Crystalline Micropillars. *Mechanics of Materials* (2023). DOI: 10.1016/j.mechmat.2023.104731
219. Kim, S. E. In-Situ TEM Study of Irradiation Induced Creep in Al–Sc Alloys. *Metals and Materials International* (2023). DOI: 10.1007/s12540-023-01503-w
220. Titze, M.; Poplawsky, J. D.; Kretschmer, S.; Krasheninnikov, A. V.; Doyle, B. L.; Bielejec, E. S.; Hobler, G.; Belianinov, A. Measurement and Simulation of Ultra-Low-Energy Ion – Solid Interaction Dynamics. *Micromachines* (2023). DOI: 10.3390/mi14101884
221. Cummings, D.P.; Perry, D.L.; Jauregui, L.J.; Deitz, J.; Klem, J.F.; Pan, W.; Lu, P. Observation of Focused Ion Beam-Induced Artifacts in Transmission Electron Microscopy Samples Leading to the Epitaxial Growth of AlGaSb Quantum Dots on the GaSb Substrate. *Microscopy and Microanalysis* (2023). DOI: 10.1093/micmic/ozac008
222. Shifat, A. S.; Stricklin, I.; Chityala, R. K.; Aryal, A.; Esteves, G.; Siddiqui, A.; Busani, T. Etching of Scandium-Doped Aluminum Nitride Using Inductively Coupled Plasma Dry Etch and Tetramethyl Ammonium Hydroxide. *MRS Advances* (2023). DOI: 10.1557/s43580-023-00601-6
223. Islam, Md. S.; Babicheva, V. E. Lattice Resonances of Lossy Transition Metal and Metalloid Antennas. *MRS Advances* (2023). DOI: 10.1557/s43580-023-00558-6
224. Mannodi-Kanakkithodi, A.; McDannald, A.; Sun, S.; Desai, S.; Brown, K.; Kusne, A. A Framework for Materials Informatics Education through Workshops. *MRS Bulletin* (2023). DOI: 10.1557/s43577-023-00531-6
225. Wang, X.; Choi, J.; Yoo, J.; Hong, Y. J. Unveiling the Mechanism of Remote Epitaxy of Crystalline Semiconductors on 2D Materials-Coated Substrates. *Nano Convergence* (2023). DOI: 10.1186/s40580-023-00387-1
226. Hanmandlu, C.; Paste, R.; Tsai, H.; Yadav, S. N.; Lai, K.-W.; Wang, Y.-Y.; Gantepogu, C. S.; Hou, C.-H.; Shyue, J.-J.; Lu, Y.-J.; Jadhav, T. S.; Liao, J.-M.; Chou, H.-H.; Wong, H. Q.; Yen, T.-J.; Lai, C.-S.; Ghosh, D.; Tretiak, S.; Yen, H.-J.; Chu, C.-W. 3D Nanographene Precursor Suppress Interfacial Recombination in PEDOT: PSS Based Perovskite Solar Cells. *Nano Energy* (2023). DOI: 10.1016/j.nanoen.2022.108136
227. Lozovoi, A.; Chen, Y.; Vizkelethy, G.; Bielejec, E.; Flick, J.; Doherty, M. W.; Meriles, C. A. Detection and Modeling of Hole Capture by Single Point Defects under Variable Electric Fields. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c00860
228. Stangebye, S.; Ding, K.; Zhang, Y.; Lang, E.; Hattar, K.; Zhu, T.; Kacher, J.; Pierron, O. Direct Observation of Grain-Boundary-Migration-Assisted Radiation Damage Healing in Ultrafine Grained Gold under Mechanical Stress. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c00180

229. Brahlek, M.; Mazza, A. R.; Annaberdiyev, A.; Chilcote, M.; Rimal, G.; Halász, G. B.; Pham, A.; Pai, Y.-Y.; Krogel, J. T.; Lapano, J.; Lawrie, B. J.; Eres, G.; McChesney, J.; Prokscha, T.; Suter, A.; Oh, S.; Freeland, J. W.; Cao, Y.; Gardner, J. S.; Salman, Z.; Moore, R. G.; Ganesh, P.; Ward, T. Z. Emergent Magnetism with Continuous Control in the Ultrahigh-Conductivity Layered Oxide PdCoO2. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c01065
230. Park, J. B.; Wu, W.; Wu, J. Y.; Karkee, R.; Kucinski, T. M.; Bustillo, K. C.; Schneider, M. M.; Strubbe, D. A.; Ophus, C.; Pettes, M. T. Enabling Oxidation Protection and Carrier-Type Switching for Bismuth Telluride Nanoribbons via in Situ Organic Molecule Coating. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c02000
231. Wang, X.; Pettes, M. T.; Wang, Y.; Zhu, J.-X.; Dhall, R.; Song, C.; Jones, A. C.; Ciston, J.; Yoo, J. Enhanced Exciton-to-Trion Conversion by Proton Irradiation of Atomically Thin WS2. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.2c04987
232. Tsai, H.; Ghosh, D.; Kinigstein, E.; Dryzhakov, B.; Driscoll, H.; Owczarek, M.; Hu, B.; Zhang, X.; Tretiak, S.; Nie, W. Light-Induced Structural Dynamics and Charge Transport in Layered Halide Perovskite Thin Films. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.2c03403
233. Yuan, R.; Kumar, A.; Zhuang, S.; Cucciniello, N.; Lu, T.; Xue, D.; Penn, A.; Mazza, A. R.; Jia, Q.; Liu, Y.; Xue, D.; Li, J.; Hu, J.-M.; LeBeau, J. M.; Chen, A. Machine Learning-Enabled Superior Energy Storage in Ferroelectric Films with a Slush-Like Polar State. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c00277
234. Zhao, H.; Zhu, L.; Li, X.; Chandrasekaran, V.; Baldwin, J. K.; Pettes, M. T.; Piryatinski, A.; Yang, L.; Htoon, H. Manipulating Interlayer Excitons for Near-Infrared Quantum Light Generation. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c03296
235. Paul, P.; Addamane, S. J.; Liu, P. Q. Mid-Infrared Intersubband Cavity Polaritons in Flexible Single Quantum Well. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c00251
236. Patra, B.; Kafle, B.; Habteyes, T. G. Molecular Optomechanics Induced Hybrid Properties in Soft Materials Filled Plasmonic Nanocavities. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c01035
237. Ngan, K.; Zhan, Y.; Dory, C.; Vuckovic, J.; Sun, S. Quantum Photonic Circuits Integrated with Color Centers in Designer Nanodiamonds. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c02645
238. Golter, D. A.; Clark, G.; El Dandachi, T.; Krastanov, S.; Leenheer, A. J.; Wan, N. H.; Raniwala, H.; Zimmermann, M.; Dong, M.; Chen, K. C.; Li, L.; Eichenfield, M.; Gilbert, G.; Englund, D. Selective and Scalable Control of Spin Quantum Memories in a Photonic Circuit. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c01511
239. Nair, A. N.; Fernandez, S.; Marcos-Hernández, M.; Romo, D. R.; Singamaneni, S. R.; Villagran, D.; Sreenivasan, S. T. Spin-Selective Oxygen Evolution Reaction in Chiral Iron Oxide Nanoparticles: Synergistic Impact of Inherent Magnetic Moment and Chirality. *Nano Letters* (2023). DOI: 10.1021/acs.nanolett.3c02752

240. Bosomtwi, D.; Babicheva, V. Beyond Conventional Sensing: Hybrid Plasmonic Metasurfaces and Bound States in the Continuum. *Nanomaterials* (2023). DOI: 10.3390/nano13071261
241. Babicheva, V. E. Optical Processes behind Plasmonic Applications . *Nanomaterials* (2023). DOI: 10.3390/nano13071270
242. Thomas, M.; Salvador, H.; Clark, T.; Lang, E.; Hattar, K.; Mathaudhu, S. Thermal and Radiation Stability in Nanocrystalline Cu. *Nanomaterials* (2023). DOI: 10.3390/nano13071211
243. Shifat, A. S.; Stricklin, I.; Chityala, R. K.; Aryal, A.; Esteves, G.; Siddiqui, A.; Busani, T. Vertical Etching of Scandium Aluminum Nitride Thin Films Using TMAH Solution. *Nanomaterials* (2023). DOI: 10.3390/nano13020274
244. Xu, X.; Martin, Z. O.; Titze, M.; Wang, Y.; Sychev, D.; Henshaw, J.; Lagutchev, A. S.; Htoon, H.; Bielejec, E. S.; Bogdanov, S. I.; Shalaev, V. M.; Boltasseva, A. Fabrication of Single-Color Centers in Sub-50 Nm Nanodiamonds Using Ion Implantation. *Nanophotonics* (2023). DOI: 10.1515/nanoph-2022-0678
245. Bhati, M.; Ivanov, S. A.; Senftle, T. P.; Tretiak, S.; Ghosh, D. How Structural and Vibrational Features Affect Optoelectronic Properties of Non-Stoichiometric Quantum Dots: Computational Insights. *Nanoscale* (2023). DOI: 10.1039/D2NR06785D
246. Roy, P.; Zhang, D.; Mazza, A. R.; Cucciniello, N.; Kunwar, S.; Zeng, H.; Chen, A. P.; Jia, Q. X. Manipulating Topological Hall-like Signatures by Interface Engineering in Epitaxial Ruthenate/Manganite Heterostructures. *Nanoscale* (2023). DOI: 10.1039/d3nr02407e
247. Deswal, P.; Samanta, K.; Ghosh, D. The Impact of Spatially Heterogeneous Chemical Doping on the Electronic Properties of CdSe Quantum Dots: Insights from Ab Initio Computation. *Nanoscale* (2023). DOI: 10.1039/d3nr04342h
248. Piryatinski, A.; Sukharev, M. Degenerate Parametric Down-Conversion Facilitated by Exciton-Plasmon Polariton States in a Nonlinear Plasmonic Cavity. *Nanotechnology* (2023). DOI: 10.1088/1361-6528/acb5a8
249. Delegan, N.; Whiteley, S. J.; Zhou, T.; Bayliss, S. L.; Titze, M.; Bielejec, E.; Holt, M. V.; Awschalom, D. D.; Heremans, F. J. Deterministic Nanoscale Quantum Spin-Defect Implantation and Diffraction Strain Imaging. *Nanotechnology* (2023). DOI: 10.1088/1361-6528/acdd09
250. Wang, X.; Thomas, S. M.; Baldwin, J. K.; Addamane, S.; Sheehan, C.; Yoo, J. Direct Growth of Crystalline SiGe Nanowires on Superconducting NbTiN Thin Films. *Nanotechnology* (2023). DOI: 10.1088/1361-6528/acb49e
251. Dunlap, M. K., Ryan, D. P., Goodwin, P. M., Sheehan, C. J., Werner, J. H., Majumder, S., Hollingsworth, J. A., Gelfand, M. P., Van Orden, A. Nanoscale Imaging of Quantum Dot Dimers Using Time-Resolved Super-Resolution Microscopy Combined with Scanning Electron Microscopy. *Nanotechnology* (2023). DOI: 10.1088/1361-6528/acc9c9
252. Barr, C.; Duong, T.; Bufford, D.; Milne, Z.; Molkeri, A.; Heckman, N.; Adams, D.; Srivastava, A.; Hattar, K.; Demkowicz, M.; Boyce, B. Autonomous Healing of Fatigue Cracks via Cold Welding. *Nature* (2023). DOI: 10.1038/s41586-023-06223-0

253. El Atwani, O.; Vo, H. T.; Tunes, M. A.; Lee, C.; Alvarado, A.; Krienke, N.; Poplawsky, J. D.; Kohnert, A. A.; Gigax, J.; Chen, W.-Y.; Li, M.; Wang, Y. Q.; Wróbel, J. S.; Nguyen-Manh, D.; Baldwin, J. K.; Tukac, O. U.; Aydogan, E.; Fensin, S.; Martinez, E. A. A Quinary WtAcRvHf Nanocrystalline Refractory High-Entropy Alloy withholding Extreme Irradiation Environments. *Nature Communications* (2023). DOI: 10.1038/s41467-023-38000-y
254. Vijayakrishnan, S.; Poitevin, F.; Yu, O.; Berkson-Korenberg, Z.; Petrescu, M.; Lilly, M. P.; Szkopek, T.; Agarwal, K.; West, K. W.; Pfeiffer, L. N.; Gervais, G. Anomalous Electronic Transport in High-Mobility Corbino Rings. *Nature Communications* (2023). DOI: 10.1038/s41467-023-39526-x
255. Li, D.; Wang, H.; Li, K.; Zhu, B.; Jiang, K.; Backes, D.; Veiga, L. S.; Shi, J.; Roy, P.; Xiao, M.; Chen, A.; Jia, Q.; Lee, T.-L.; Dhesi, S. S.; Scanlon, D. O.; MacManus-Driscoll, J. L.; van Aken, P. A.; Zhang, K. H.; Li, W. Emergent and Robust Ferromagnetic-Insulating State in Highly Strained Ferroelastic LaCoO3 Thin Films. *Nature Communications* (2023). DOI: 10.1038/s41467-023-39369-6
256. Deneff, J. I.; Rohwer, L. E.; Butler, K. S.; Kaehr, B.; Vogel, D. J.; Luk, T. S.; Reyes, R. A.; Cruz-Cabrera, A. A.; Martin, J. E.; Sava Gallis, D. F. Orthogonal Luminescence Lifetime Encoding by Intermetallic Energy Transfer in Heterometallic Rare-Earth MOFS. *Nature Communications* (2023). DOI: 10.1038/s41467-023-36576-z
257. Timmer, D.; Quenzel, T.; Stephan, S.; Zhang, Y.; Schumacher, M.; Lutzen, A.; Tretiak, S.; Zhong, J.-H.; De Sio, A.; Lienau, C. Plasmon Mediated Coherent Population Oscillations in Molecular Aggregates. *Nature Communications* (2023). DOI: 10.1038/s41467-023-43578-4
258. Cheng, W.; Cerjan, A.; Chen, S.-Y.; Prodan, E.; Loring, T. A.; Prodan, C. Revealing Topology in Metals Using Experimental Protocols Inspired by K-Theory. *Nature Communications* (2023). DOI: 10.1038/s41467-023-38862-2
259. Longley, R.; Robinson, A.; Liber, J.; Bryson, A.; Morales, D.; Labutti, K; Riley, R; Mondo, S.; Kuo, A.; Yoshinaga, Y; Daum, C; Barry, K; Grigoriev, I.; Desiro, A; Chain, P.; Bonito, G. Comparative Genomics of Mollicutes-related Endobacteria Supports a Late Invasion into Mucoromycota Fungi. *Nature Communications Biology* (2023). DOI: 10.1038/s42003-023-05299-8
260. Kulichenko, M.; Barros, K.; Lubbers, N.; Li, Y. W.; Messerly, R.; Tretiak, S.; Smith, J. S.; Nebgen, B. Uncertainty-Driven Dynamics for Active Learning of Interatomic Potentials. *Nature Computational Science* (2023). DOI: 10.1038/s43588-023-00406-5
261. Hackett, L.; Miller, M.; Weatherred, S.; Arterburn, S.; Storey, M. J.; Peake, G.; Dominguez, D.; Finnegan, P. S.; Friedmann, T. A.; Eichenfield, M. Non-Reciprocal Acoustoelectric Microwave Amplifiers with Net Gain and Low Noise in Continuous Operation. *Nature Electronics* (2023). DOI: 10.1038/s41928-022-00908-6
262. Lee, C.; Kort-Kamp, W. J.; Yu, H.; Cullen, D. A.; Patterson, B. M.; Arman, T. A.; Komini Babu, S.; Mukundan, R.; Borup, R. L.; Spendelow, J. S. Grooved Electrodes for High-Power-Density Fuel Cells. *Nature Energy* (2023). DOI: 10.1038/s41560-023-01263-2
263. Nie, W. Stability beyond Lead. *Nature Energy* (2023). DOI: 10.1038/s41560-023-01203-0

264. Senanayak, S.; Dey, K.; Shivanna, R.; Li, W.; Ghosh, D.; Zhang, Y.; Roose, B.; Zelewski, S.; Andaji-Garmaroudi, Z.; Wood, W.; Tiwale, N.; MacManus-Driscoll, J.; Friend, R.; Stranks, S.; Sirringhaus, H. Charge Transport in Mixed Metal Halide Perovskite Semiconductors. *Nature Materials* (2023). DOI: 10.1038/s41563-022-01448-2
265. Sutula, M.; Christen, I.; Bersin, E.; Walsh, M. P.; Chen, K. C.; Mallek, J.; Melville, A.; Titze, M.; Bielejec, E. S.; Hamilton, S.; Braje, D.; Dixon, P. B.; Englund, D. R. Large-Scale Optical Characterization of Solid-State Quantum Emitters. *Nature Materials* (2023). DOI: 10.1038/s41563-023-01644-8
266. Li, X.; Jones, A. C.; Choi, J.; Zhao, H.; Chandrasekaran, V.; Pettes, M. T.; Piryatinski, A.; Tschudin, M. A.; Reiser, P.; Broadway, D. A.; Maletinsky, P.; Sinitsyn, N.; Crooker, S. A.; Htoon, H. Proximity-Induced Chiral Quantum Light Generation in Strain-Engineered WsE2/NiPs3 Heterostructures. *Nature Materials* (2023). DOI: 10.1038/s41563-023-01645-7
267. Jin, H.; Livache, C.; Kim, W. D.; Diroll, B. T.; Schaller, R. D.; Klimov, V. I. Spin-Exchange Carrier Multiplication in Manganese-Doped Colloidal Quantum Dots. *Nature Materials* (2023). DOI: 10.1038/s41563-023-01598-x
268. Dong, M.; Zimmermann, M.; Heim, D.; Choi, H.; Clark, G.; Leenheer, A. J.; Palm, K. J.; Witte, A.; Dominguez, D.; Gilbert, G.; Eichenfield, M.; Englund, D. Programmable Photonic Integrated Meshes for Modular Generation of Optical Entanglement Links. *Nature NPJ Quantum Information* (2023). DOI: https://doi.org/10.1038/s41534-023-00708-6
269. Iyer, P. P.; Karl, N.; Addamane, S.; Gennaro, S. D.; Sinclair, M. B.; Brener, I. Sub-Picosecond Steering of Ultrafast Incoherent Emission from Semiconductor Metasurfaces. *Nature Photonics* (2023). DOI: 10.1038/s41566-023-01172-6
270. Morissette, E.; Lin, J.-X.; Sun, D.; Zhang, L.; Liu, S.; Rhodes, D.; Watanabe, K.; Taniguchi, T.; Hone, J.; Pollanen, J.; Scheurer, M. S.; Lilly, M.; Mounce, A.; Li, J. I. Dirac Revivals Drive a Resonance Response in Twisted Bilayer Graphene. *Nature Physics* (2023). DOI: 10.1038/s41567-023-02060-0
271. Trettel, D.; Neale, C.; Gnanakaran, G.; Esquer, C. G. Monatomic Ions Influence Substrate Permeation across Bacterial Microcompartment Shells. *Nature Scientific Reports* (2023). DOI: 10.1038/s41598-023-42688-9
272. Guo, L.; Liu, F.; Koyama, K.; Regis, N.; Alexander, A. M.; Wang, G.; DeFazio, J.; Valdez, J. A.; Poudel, A.; Yamamoto, M.; Moody, N. A.; Takashima, Y.; Yamaguchi, H. Rugged Bialkali Photocathodes Encapsulated with Graphene and Thin Metal Film. *Nature Scientific Reports* (2023). DOI: 10.1038/s41598-023-29374-6
273. Shin, D.; Alberdi, R.; Lebensohn, R. A.; Dingreville, R. Deep Material Network via a Quilting Strategy: Visualization for Explainability and Recursive Training for Improved Accuracy. *NPJ Computational Materials* (2023). DOI: 10.1038/s41524-023-01085-6
274. Padilla, R.; Gonzalez, E; Kachiguine, S.; Martinez-Mckinney, F.; Mazza, S.; Nagel, N.; Nizam, M.; Norvell, N.; Potter, E.; Schumm, B. A.; Tarka, M.; Wilder, M.; Jacobson, B.; Macarthur, J.;

Torrecilla, I.S.; Smedley, J.; Zhu, D.; Kim, D.; Bohon, J.; Grace, C.; Prakash, T.; Harris, C. T.; Stuart, D.; Freeman, P.; Prebys, E.; Rowling, C. Development of Diamond-Based Diagnostics for Next-Generation XFELs. *Nuclear Instruments & Methods In Physics Research Section A-Accelerators Spectrometers Detectors and Associated Equipment* (2023). DOI: 10.1016/j.nima.2023.168763

275. Lang, E. J.; Heckman, N. M.; Clark, T.; Derby, B.; Barrios, A.; Monterrosa, A.; Barr, C. M.; Buller, D. L.; Stauffer, D. D.; Li, N.; Boyce, B. L.; Briggs, S. A.; Hattar, K. Development of an In-Situ Ion Irradiation Scanning Electron Microscope. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* (2023). DOI: 10.1016/j.nimb.2023.01.016
276. Kalita, D.; Józwik, I.; Kurpaska, L.; Zhang, Y.; Mulewska, K.; Chrominski, W.; O'Connell, J.; Ge, Y.; Boldman, W.L.; Rack, P.D.; Wang, Y.; Weber, W.J.; Jagielski, J. The Microstructure and He+ Ion Irradiation Behavior of Novel Low-Activation W-Ta-Cr-V Refractory High Entropy Alloy for Nuclear Applications. *Nuclear Materials and Energy* (2023). DOI: 10.1016/j.nme.2023.101513
277. Palm, K. J.; Dong, M.; Golter, D. A.; Clark, G.; Zimmermann, M.; Chen, K. C.; Li, L.; Menssen, A.; Leenheer, A. J.; Dominguez, D.; Gilbert, G.; Eichenfield, M.; Englund, D. Modular Chip-Integrated Photonic Control of Artificial Atoms in Diamond Waveguides. *Optica* (2023). DOI: 10.1364/OPTICA.486361
278. Topper, B.; Wilke, S. K.; Pettes, M.; Alrubkhi, A.; Menon, V.; Neumann, A.; Möncke, D.; Weber, R.; Mafi, A. Mid-Infrared Luminescence Properties of Erbium and Dysprosium Doped Lanthanum Titanate Glasses. *Optical Materials Express* (2023). DOI: 10.1364/OME.503121
279. Gilinsky, S. D.; Zohrabi, M.; Lim, W. Y.; Supekar, O. D.; Bright, V. M.; Gopinath, J. T. Fabrication and Characterization of a Two-Dimensional Individually Addressable Electrowetting Microlens Array. *Optics Express* (2023). DOI: 10.1364/OE.497992
280. Peters, W.; Feltman, J.; Jones, T.; Song, S.; Chollet, M.; Robinson, J.; Padmanabhan, P.; Foglia, L.; Bencivenga, F.; Coffee, R.; Bowlan, P. Hard X-Ray – Optical Four-Wave Mixing Using a Split-and-Delay Line. *Optics Express* (2023). DOI: https://opg.optica.org/oe/abstract.cfm?uri=oe-31-19-31410
281. Topper, B.; Kuhn, S.; Neumann, A.; Albrecht, A. R.; Flores, A. S.; Hässner, D.; Hein, S.; Hupel, C.; Nold, J.; Haarlammert, N.; Schreiber, T.; Sheik-Bahae, M.; Mafi, A. Impact of Site-Selective Spectroscopy on Laser Cooling Parameter Characterization. *Optics Express* (2023). DOI: 10.1364/OE.493825
282. Levy, S.; Lander Gower, N.; Piperno, S.; Addamane, S. J.; Reno, J. L.; Albo, A. Split-Well Resonant-Phonon Terahertz Quantum Cascade Laser. *Optics Express* (2023). DOI: 10.1364/OE.486446
283. Ware, A.; Bergthold, M.; Mansfield, N.; Sakotic, Z.; Scott, E. A.; Harris, C. T.; Wasserman, D. Decoupling Absorption and Radiative Cooling in Mid-Wave Infrared Bolometric Elements. *Optics Letters* (2023). DOI: 10.1364/ol.491601.

284. You, W.; Arefin, R.; Uzgur, F.; Lee, S.; Addamane, S. J.; Liang, B.; Arafin, S. Enhancement in Electro-Optic Performance of Inalgaas/Gaas Quantum Dot Lasers by Ex-Situ Thermal Annealing. *Optics Letters* (2023). DOI: 10.1364/OL.485775
285. Ahmed, I.; Ahmed, S. Z.; Jaidye, N.; Mia, M. B.; Bernussi, A.; Kim, S. High-Density Integrated Delay Line Using Extreme Skin-Depth Subwavelength Grating Waveguides. *Optics Letters* (2023). DOI: 10.1364/OL.479003
286. Morath, C.; Casias, L.; Umana-Membreno, G.; Webster, P.; Grant, P.; Maestas, D.; Cowan, V.; Faraone, L.; Krishna, S.; Balakrishnan, G. Carrier Concentration and in-Plane Mobility in Both Non-Intentionally and Si-Doped InAsSb and InAs/InAsSb Type-II Superlattice Materials for Space-Based Infrared Detectors. *Opto-Electronics Review* (2023). DOI: 10.24425/opelre.2023.144554
287. Dhole, S.; Wei, X.; Hui, H.; Roy, P.; Corey, Z.; Wang, Y.; Nie, W.; Chen, A.; Zeng, H.; Jia, Q. A Facile Aqueous Solution Route for the Growth of Chalcogenide Perovskite Bazrs3 Films. *Photonics* (2023). DOI: 10.3390/photonics10040366
288. Stevens, M.; Rempe, S. Binding of Carboxylate and Water to Monovalent Cations. *Physical Chemistry Chemical Physics* (2023). DOI: 10.1039/d3cp04200f
289. Poudel, B.; Monteith, H. L.; Sammon, J. P.; Whiting, J. J.; Moorman, M. W.; Vanegas, J. M.; Rempe, S. B. Energetics of High Temperature Degradation of Fentanyl into Primary and Secondary Products. *Physical Chemistry Chemical Physics* (2023). DOI: 10.1039/d3cp03068g
290. Tkachenko, N. V.; Tkachenko, A. A.; Nebgen, B.; Tretiak, S.; Boldyrev, A. I. Neural Network Atomistic Potentials for Global Energy Minima Search in Carbon Clusters. *Physical Chemistry Chemical Physics* (2023). DOI: 10.1039/D3CP02317F
291. Kehayias, P.; Walraven, J.; Rodarte, A. L.; Mounce, A. M. High-Resolution Short-Circuit Fault Localization in a Multi-Layer Integrated Circuit Using a Quantum Diamond Microscope. *Physical Review Applied* (2023). DOI: 10.1103/PhysRevApplied.20.014036
292. Thurn, A.; Bissinger, J.; Meinecke, S.; Schmiedeke, P.; Oh, S.-S.; Chow, W.-W.; Lüdge, K.; Koblmüller, G.; Finley, J. J. Self-Induced Ultrafast Electron-Hole-Plasma Temperature Oscillations in Nanowire Lasers. *Physical Review Applied* (2023). DOI: 10.1103/PhysRevApplied.20.034045
293. Young, S. M.; Katzenmeyer, A. M.; Anderson, E. M.; Luk, T. S.; Ivie, J. A.; Schmucker, S. W.; Gao, X.; Misra, S. Suppression of Mid-Infrared Plasma Resonance Due to Quantum Confinement in Delta-Doped Silicon. *Physical Review Applied* (2023). DOI: 10.1103/PhysRevApplied.20.024043
294. Ning, J.; Lane, C.; Zhang, Y.; Matzelle, M.; Singh, B.; Barbiellini, B.; Markiewicz, R.; Bansil, A.; Sun, J. Critical Role of Magnetic Moments in the Lattice Dynamics of Yba2cu3o6 . *Physical Review B* (2023). DOI: 10.1103/PhysRevB.107.045126
295. Wan, X.-H.; Sarkar, S.; Sun, K.; Lin, S.-Z. Nearly Flat Chern Band in Periodically Strained Monolayer and Bilayer Graphene. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.108.125129

296. Schultz, P. A.; Edwards, A. H.; Van Ginhoven, R. M.; Hjalmarson, H. P.; Mounce, A. M. Theory of Magnetic 3D Transition Metal Dopants in Gallium Nitride. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.107.205202
297. Nag, T.; Das, S. K.; Zeng, C.; Nandy, S. Third-Order Hall Effect in the Surface States of a Topological Insulator. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.107.245141
298. Ali, Z.; Wang, Z.; Mazza, A. R.; Saghayezhian, M.; Nepal, R.; Ward, T. Z.; Zhu, Y.; Zhang, J. Tuning Structural, Transport, and Magnetic Properties of Epitaxial SrRuO3 through Ba Substitution. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.107.144405
299. Elmslie, T. A.; Startt, J.; Yang, Y.; Soto-Medina, S.; Zappala, E.; Meisel, M. W.; Manuel, M. V.; Frandsen, B. A.; Dingreville, R.; Hamlin, J. J. Tuning the Magnetic Properties of the CrMnFeCoNi Cantor Alloy. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.108.094437
300. Fang, Y.; Wu, Z.; Yang, G.; Zhang, Y.; Zhu, W.; Wu, Y.; Guo, C.; Li, Y.; Yuan, H.; Zhu, J.-X.; Liu, Y.; Cao, C. Valence Transition and Termination-Dependent Surface States in the Topological Kondo Semimetal YbPtBi. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.108.125110
301. Sullivan, S. E.; Lee, H.; Weathers, A.; Shi, L. Frequency-Dependent Phonon-Mediated Unidirectional Magnetoresistance in a Metal on an Insulator with Highly Nonequilibrium Magnons. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.107.L140412
302. Jang, B. G.; O'Neal, K. R.; Lane, C.; Böhm, T. U.; Sirica, N.; Yarotski, D.; Bauer, E. D.; Ronning, F.; Prasankumar, R.; Zhu, J.-X. One-Dimensionality Signature in Optical Conductivity of Heavy-Fermion CeIr3B2. *Physical Review B* (2023). DOI: 10.1103/PhysRevB.107.205116
303. Monti, J.M.; Srivastava, I.; Silbert, .L.E.; Lechman, J.B.; Grest, G.S. Fractal Dimensions of Jammed Packings with Power-Law Particle Size Distributions in Two and Three Dimensions. *Physical Review E* (2023). DOI: 10.1103/PhysRevE.108.L042902
304. Wan, X.; Sarkar, S.; Lin, S.-Z.; Sun, K. Topological Exact Flat Bands in Two-Dimensional Materials under Periodic Strain. *Physical Review Letters* (2023). DOI: 10.1103/PhysRevLett.130.216401
305. Nguyen, Q. L.; Duncan, R. A.; Orenstein, G.; Huang, Y. J.; Krapivin, V.; de la Peña, G.; Ornelas-Skarin, C.; Reis, D. A.; Abbamonte, P.; Bettler, S.; Chollet, M.; Hoffmann, M. C.; Hurley, M.; Kim, S.; Kirchmann, P. S.; Kubota, Y.; Mahmood, F.; Miller, A.; Osaka, T.; Qu, K.J.; Sato, T.; Shoemaker, D.P.; Sirica, N.; Song, S.H.; Stanton, J.; Teitelbaum, S.W.; Tilton, S. E.; Togashi, T.; Zhu, D. L.; Trigo, M. Ultrafast X-Ray Scattering Reveals Composite Amplitude Collective Mode in the Weyl Charge Density Wave Material (Tase4)2I. *Physical Review Letters* (2023). DOI: 10.1103/PhysRevLett.131.076901
306. Weiland, A.; Santos, F. B.; Thompson, J. D.; Bauer, E. D.; Thomas, S. M.; Rosa, P. F. Differences in the Resistive and Thermodynamic Properties of the Single Crystalline Chiral Superconductor Candidate SrPtAs. *Physical Review Materials* (2023). DOI: 10.1103/PhysRevMaterials.7.054802
307. Kaspar, T. C.; Spurgeon, S. R.; Yano, K. H.; Matthews, B. E.; Bowden, M. E.; Ophus, C.; Kim, H.; Wang, Y.; Schreiber, D. K. Role of Structural Defects in Mediating Disordering Processes at

Irradiated Epitaxial Fe3O4/Cr2O3 Interfaces. *Physical Review Materials* (2023). DOI: 10.1103/PhysRevMaterials.7.093604

308. Cook, M. S.; Peterson, E. A.; Girod, C.; Weiland, A.; Zhu, J.-X.; Thompson, J. D.; Thomas, S. M.; Rosa, P. F. Structural Transition and Anisotropic Magnetism in Disordered Zintl Phase Eu7Ga6Sb8. *Physical Review Materials* (2023). DOI: 10.1103/PhysRevMaterials.7.094601
309. Mazza, A. R.; Acharya, S. R.; Wąsik, P.; Lapano, J.; Li, J.; Musico, B. L.; Keppens, V.; Nelson, C. T.; May, A. F.; Brahlek, M.; Mazzoli, C.; Pelliciari, J.; Bisogni, V.; Cooper, V. R.; Ward, T. Z. Variance Induced Decoupling of Spin, Lattice, and Charge Ordering in Perovskite Nickelates. *Physical Review Research* (2023). DOI: 10.1103/PhysRevResearch.5.013008
310. Shanmugam, A.; Kumbhakar, P.; Sundaresan, H.; Sunny, A. A.; Reno, J. L.; Thalakulam, M. GHz Operation of a Quantum Point Contact using Stub-Impedance Matching Circuit. *Physics Open* (2023). DOI: 10.1016/j.physo.2023.100181
311. Hirth, J. P.; Xie, D.; Hirth, G.; Wang, J. Recovery and Facets for Deformation Twins in Minerals and Metals. *PNAS Proceedings of the National Academy of Sciences of the United States of America* (2023). DOI: 10.1073/pnas.2215085120
312. Eastmond, T.; Hu, J.; Alizadeh, V.; Hrubiak, R.; Oswald, J.; Kim, K.; Amirkhizi, A.; Peralta, P. Determining the Influence of Temperature and Pressure on the Structural Stability in a Polyurea Elastomer. *Polymer* (2023). DOI: 10.1016/j.polymer.2023.126372
313. Herman, M. J.; Bull, M. R.; Watkins, E. B.; Hooks, D. E.; Miller, N. A.; Liu, C.; Yeager, J. D. Structural Properties of Aqueous Grown Polydopamine Thin Films Determined by Neutron Reflectometry. *Polymer* (2023). DOI: 10.1016/j.polymer.2023.126272
314. Shenk, T. M.; Benjamin, K. M.; Winter, R. M. Impact of Carbamate Formation on the Surface Tension of Epoxy-Amine Curing Systems. *Polymer Engineering & Science* (2023). DOI: 10.1002/pen.26288
315. Noell, P. J.; Sills, R. B.; Benzerga, A. A.; Boyce, B. L. Void Nucleation during Ductile Rupture of Metals: A Review. *Progress in Materials Science* (2023). DOI: 10.1016/j.pmatsci.2023.101085
316. Bao, D.; Chang, Q.; Chen, B.; Chen, X.; Sun, H.; Lam, Y. M.; Zhao, D.; Zhu, J.-X.; Chia, E. E. M. Evidence of Polaron Formation in Halide Perovskites via Carrier Effective Mass Measurements. *PRX Energy* (2023). DOI: 10.1103/PRXEnergy.2.013001
317. Harris, I.; Michaels, C.; Chen, K.; Parker, R.; Titze, M.; Martinez, J.; Sutula, M.; Christen, I.; Stramma, A.; Roth, W.; Purser, C.; Appel, M.; Li, C.; Trusheim, M.; Palmer, N.; Markham, M.; Bielejec, E.; Atatüre, M.; Englund, D. Hyperfine Spectroscopy of Isotopically Engineered Group-IV Color Centers in Diamond. *PRX Quantum* (2023). DOI: 10.1103/PRXQuantum.4.040301
318. Wang, X.; Zimmermann, C.; Titze, M.; Niaouris, V.; Hansen, E. R.; D'Ambrosia, S. H.; Vines, L.; Bielejec, E. S.; Fu, K.-M. C. Properties of Donor Qubits in ZnO Formed by Indium-Ion Implantation. Physical Review Applied (2023). DOI: 10.1103/PhysRevApplied.19.054090
319. Fauseweh, B.; Zhu, J.-X. Quantum Computing Floquet Energy Spectra. *Quantum* (2023). DOI: 10.22331/q-2023-07-20-1063.

320. Wijesinghe, S.; Junghans, C.; Perahia, D.; Grest, G. S. Polydots, Soft Nanoparticles, At Membrane Interfaces. *RSC Advances* (2023). DOI: 10.1039/D3RA02085A
321. Shang, Z.; Sun, T.; Ding, J.; Richter, N. A.; Heckman, N. M.; White, B. C.; Boyce, B. L.; Hattar, K.; Wang, H.; Zhang, X. Gradient Nanostructured Steel with Superior Tensile Plasticity. *Science Advances* (2023). DOI: 10.1126/sciadv.add9780
322. Hellenbrand, M.; Bakhit, B.; Dou, H.; Xiao, M.; Hill, M. O.; Sun, Z.; Mehonic, A.; Chen, A.; Jia, Q.; Wang, H.; MacManus-Driscoll, J. L. Thin-Film Design of Amorphous Hafnium Oxide Nanocomposites Enabling Strong Interfacial Resistive Switching Uniformity. *Science Advances* (2023). DOI: 10.1126/sciadv.adg1946
323. Lupini, S.; Nguyen, H. N.; Morales, D.; House, G. L.; Paudel, S.; Chain, P. S. G.; Rodrigues, D. F. Diversity of Fungal Microbiome Obtained from Plant Rhizoplanes . *Science of the Total Environment* (2023). DOI: 10.1016/j.scitotenv.2023.164506
324. Hatfield, K. O.; Dervishi, E.; Johnson, D.; Clark, C.; Brown, N.; Kidman, G. C.; Williams, D. J.; Hooks, D. E. Electrodeposition and Analysis of Thick Bismuth Films. *Scientific Reports* (2023). DOI: 10.1038/s41598-023-28042-z
325. Parida, S.; Dobley, A.; Carter, C. B.; Dongare, A. M. Phase Engineering of Layered Anode Materials during Ion-Intercalation in Van Der Waal Heterostructures. *Scientific Reports* (2023). DOI: 10.1038/s41598-023-31342-z
326. DeAguero, J.; Howard, T.; Kusewitt, D.; Brearley, A.; Ali, A.-M.; Degnan, J. H.; Jett, S.; Watt, J.; Escobar, G. P.; Dokladny, K.; Wagner, B. The Onset of Rare Earth Metallosis Begins with Renal Gadolinium-Rich Nanoparticles from Magnetic Resonance Imaging Contrast Agent Exposure. *Scientific Reports* (2023). DOI: 10.1038/s41598-023-28666-1
327. Lane, C.; Piva, M.; Rosa, P.; Zhu, J.-X. Correlation versus Hybridization Gap in CaMn2 Bi2. *Scientific Reports* (2023). DOI: 10.1038/s41598-023-35812-2
328. Banerjee, S.; Lin, S.-Z. Emergent Orbital Magnetization in Kitaev Quantum Magnets. *Scipost Physics* (2023). DOI: 10.21468/SciPostPhys.14.5.127
329. Sheu, E.; Zhang, Y.; Kim, H.; Williams, D. J.; Baldwin, J. K.; Demkowicz, M. J. Fragmentation of the Edge of a Terminated Cu Nanolayer within a Nb Matrix Upon Annealing. *Scripta Materialia* (2023). DOI: 10.1016/j.scriptamat.2022.115168
330. Srinivasan, S.; Hornbuckle, B. C.; Chancey, M.; Darling, K. A.; Wang, Y. Q.; Solanki, K. Role of Tantalum Concentration on the High Dose Self-Ion Irradiation Behavior of Nanocrystalline Binary Alloys. *Scripta Materialia* (2023). DOI: 10.1016/j.scriptamat.2022.115100
331. Vizoso, D.; Deo, C.; Dingreville, R. Stability, Reversibility, and Recovery of Radiation-Induced Phase Transformations in Nanowires under Mechanical Loads. *Scripta Materialia* (2023). DOI: 10.1016/j.scriptamat.2022.115226
332. Hinojos, A.; Hong, D.; Sriram, H.; Feng, L.; Yang, C.; Wharry, J. P.; Gao, X.; Hattar, K.; Li, N.; Schaffer, J. E.; Wang, Y.; Mills, M. J.; Anderson, P. M. Taming the Pseudoelastic Response of

Nitinol Using Ion Implantation. *Scripta Materialia* (2023). DOI: 10.1016/j.scriptamat.2022.115261

333. Zhang, Y.; Nizolek, T. J.; Capolungo, L.; Li, N.; Carpenter, J. S.; McCabe, R. J. The Effect of Annealing on Kink Band Formation in Ag/Fe Nanolaminates. *Scripta Materialia* (2023). DOI: 10.1016/j.scriptamat.2023.115623
334. Massengale, J. A.; Shen, Y.-X.; Yang, R.-Q.; Hawkins, S. D.; Klem, J. F. Enhanced Performance of InAs-based Interband Cascade Lasers Emitting between 10-13 µm Semiconductor. *Science and Technology* (2023). DOI: 10.1088/1361-6641/acac4e
335. Mandavkar, R.; Lin, S.-S.; Habib, M. A.; Burse, S.; Joni, M. H.; Kunwar, S.; Najar, A.; Aravindh, S. A.; Jeong, J. H.; Lee, J. H. Ultra-Sensitive H2O2 Sensing with 3-D Porous Au/CuO/Pt Hybrid Framework. *Sensors and Actuators B-Chemical* (2023). DOI: 10.1016/j.snb.2023.134512
336. Brady, N. G.; O'Leary, S. L.; Moormann, G. C.; Singh, M. K.; Watt, J.; Bachand, G. D. Mycosynthesis of Zinc Oxide Nanoparticles Exhibits Fungal Species Dependent Morphological Preference. *Small* (2023). DOI: 10.1002/smll.202205799
337. Burns, K.; Tan, A. M.; Hachtel, J. A.; Aditya, A.; Baradwaj, N.; Mishra, A.; Linker, T.; Nakano, A.; Kalia, R.; Lang, E. J.; Schoell, R.; Hennig, R. G.; Hattar, K.; Aitkaliyeva, A. Tailoring the Angular Mismatch in MoS2 Homobilayers through Deformation Fields. *Small* (2023). DOI: 10.1002/smll.202300098
338. Barrios, A.; Kunka, C.; Nogan, J.; Hattar, K.; Boyce, B. Automated High-Throughput Fatigue Testing of Freestanding Thin Films. *Small Methods* (2023). DOI: 10.1002/smtd.202201591
339. Khan, R.M.; Rejhon, M.; Li, Y.X.; Parashar, N.; Riedo, E.; Wixom, R.R.; DelRio, F.W.; Dingreville, R. Probing the Mechanical Properties of 2D Materials via Atomic-Force-Microscopy-Based Modulated Nanoindentation . *Small Methods* (2023). DOI: 10.1002/smtd.202301043
340. Rutherford, B.; Zhang, D.; Quigley, L.; Barnard, J.; Yang, B.; Lu, J.; Kunwar, S.; Dou, H.; Shen, J.; Chen, A.; Wang, H. Combinatorial Growth of Vertically-Aligned Nanocomposite Thin Films for Accelerated Exploration in Composition Variation. *Small Science* (2023). DOI: 10.1002/smsc.202300049
341. Singh, A.; Majumder, S.; Orfield, N. J. T.; Sarpkaya, I.; Nordlund, D.; Bustillo, K. C.; Ciston, J.; Nisoli, V.; Ivanov, S. A.; Bowes, E. G.; Htoon, H.; Hollingsworth, J. A. From Inside Out: How the Buried Interface, Shell Defects, and Surface Chemistry Conspire to Determine Optical Performance in Nonblinking Giant Quantum Dots. *Small Science* (2023). DOI: 10.1002/smsc.202300092
342. Zhu, C.; Schorr, N. B.; Qi, Z.; Wygant, B. R.; Turney, D. E.; Yadav, G. G.; Worsley, M. A.; Duoss, E. B.; Banerjee, S.; Spoerke, E. D.; van Buuren, A.; Lambert, T. N. Direct Ink Writing of 3D Zn Structures as High-Capacity Anodes for Rechargeable Alkaline Batteries. *Small Structures* (2023). DOI: 10.1002/sstr.202200323
343. McClintock, L. M.; Yuan, L.; Song, Z.; Pettes, M. T.; Yarotski, D.; Karkee, R.; Strubbe, D. A.; Tan, L. Z.; Ben-Akacha, A.; Ma, B.; Shi, Y.; Taufour, V.; Yu, D. Surface Effects on Anisotropic

Photoluminescence in One-Dimensional Organic Metal Halide Hybrids. *Small Structures* (2023). DOI: 10.1002/sstr.202200378

344. Hall, D.; Stevens, M.; Grason, G. Building Blocks of Non-Euclidean Ribbons: Size-Controlled Self-Assembly via Discrete Frustrated Particles. *Soft Matter* (2023). DOI: 10.1039/D2SM01371A
345. Liu, B.; Grest, G. S.; Cheng, S. Inducing Stratification of Colloidal Mixtures with a Mixed Binary Solvent. *Soft Matter* (2023). DOI: 10.1039/d3sm01192e
346. Dasgupta, N.; Ho, T. A.; Rempe, S. B.; Wang, Y. Hydrophobic Nanoconfinement Enhances Co2 Conversion to H2Co3. *The Journal of Physical Chemistry Letters* (2023). DOI: 10.1021/acs.jpclett.3c00124
347. Callanan, J.; Adlakha, R.; Mousa, M.; Nouh, M. Traveling Wave Thermoacoustic Refrigeration with Variable Phase-Coordinated Boundary Conditions. *The Journal of the Acoustical Society of America* (2023). DOI: 10.1121/10.0023954
348. Lang, E.; Beechem, T.; McDonald, A.; Friedmann, T.; Olsson, R. H.; Stevens, J. O.; Clark, B. G.; Hattar, K. Defect Structures as a Function of Ion Irradiation and Annealing in LiNbO3. *Thin Solid Films* (2023). DOI: 10.1016/j.tsf.2023.139719
349. Derby, B. K.; Gomez-Hurtado, L. R.; Copeland, G.; Hattar, K.; Briggs, S. Deposition-Controlled Phase Separation in CuNb Metallic Alloys. *Thin Solid Films* (2023). DOI: 10.1016/j.tsf.2023.140083
350. DelRio, F. W.; Mangolini, F.; Edwards, C.; Babuska, T. F.; Adams, D. P.; Lu, P.; Curry, J. F. Revealing the Structure-Property Relationships of Amorphous Carbon Tribofilms on Platinum-Gold Surfaces. *Wear* (2023). DOI: 10.1016/j.wear.2023.204690
351. Young, S.; Valdez, J.; Espy, M.; Edgar, A.; Brett, J.; Pettes, M.; Mathers, C.; Barbour, M.; Patterson, B. Analysis of Coronado State Historic Site Artifacts Using X-Rays. *X-Ray Spectrometry* (2023). DOI: 10.1002/xrs.3350