

**MRSEC-SUPPORTED PUBLICATIONS AND PATENTS**  
**†Denotes Publications with International Co-Authors**

**IRG-1: Publications resulting from PRIMARY MRSEC Support**

1. Ganguly, K.; Prakash, A.; **Jalan, B.; Leighton, C.** *Mobility-electron density relation probed via controlled oxygen vacancy doping in epitaxial BaSnO<sub>3</sub>* APL Materials, **2017**, 5 (5), 056102. DOI: [10.1063/1.4983039](https://doi.org/10.1063/1.4983039) **DMR-1420013**
2. Robbins, M.C.; Haratipour, N.; **Koester, S.J.** *Band-to-band tunneling limited ambipolar current in black phosphorus MOSFETs.* IEEE Xplore, **2017**, 7999417. DOI: [10.1109/DRC.2017.7999417](https://doi.org/10.1109/DRC.2017.7999417) **DMR-1420013**
3. Walter, J.; Yu, G.; Yu, B.; Grutter, A.; Kirby, B.; Borchers, J.; Zhang, Z.; Zhou, H.; **Birol, T.; Greven, M.; Leighton, C.** *Ion-gel-gating-induced oxygen vacancy formation in epitaxial La<sub>0.5</sub>Sr<sub>0.5</sub>CoO<sub>3-δ</sub> films from in operando x-ray and neutron scattering.* Physical Review Materials, **2017**, 1 (7), 071403. DOI: [10.1103/PhysRevMaterials.1.071403](https://doi.org/10.1103/PhysRevMaterials.1.071403) **DMR-1420013**
4. Wu, Y.; Ren, X.; McGarry, K.A.; Bruzek, M.J.; Douglas, C.J.; **Frisbie, C.D.** *Scanning Kelvin Probe Microscopy Reveals Planar Defects Are Sources of Electronic Disorder in Organic Semiconductor Crystals.* Advanced Electronic Materials, **2017**, 3 (7), 1700117. DOI: [10.1002/aelm.201700117](https://doi.org/10.1002/aelm.201700117) **DMR-1420013**
5. †Wu, X.; Walter, J.; Feng, T.; Zhu, J.; Zheng, H.; Mitchell, J.F.; Biskup, N.; Varela, M.; Ruan, X.; **Leighton, C.; Wang, X.** *Glass-Like Through-Plane Thermal Conductivity Induced by Oxygen Vacancies in Nanoscale Epitaxial La<sub>0.5</sub>Sr<sub>0.5</sub>CoO<sub>3-δ</sub>.* Advanced Functional Materials, **2017**, 27 (47), 1704233. DOI: [10.1002/adfm.201704233](https://doi.org/10.1002/adfm.201704233)  
**Collaboration with SEED. DMR-1420013**

**IRG-1: Publications resulting from PARTIAL MRSEC Support**

6. Hellman, F.; Hoffmann, A.; Tserkovnyak, Y.; Beach, G.S.; Fullerton, E.E.; **Leighton, C.;** Macdonald, A.H.; Ralph, D.C.; Arena, D.A.; Durr, H.A.; Fischer, P.; Grollier, J.; Heremans, J.P.; Jungwirth, T.; Kimel, A.V.; Koopmans, B.; Krivorotov, I.N.; May, S.J.; Petford-long, A.K.; Rondinelli, J.M.; Samarth, N.; Schuller, I.K.; Slavin, A.N.; Stiles, M.D.; Tchernyshyov, O.; Thiaville, A.; Zink, B.L. *Interface-induced phenomena in magnetism.* Reviews of Modern Physics, **2017**, 89 (2). DOI: [10.1103/RevModPhys.89.025006](https://doi.org/10.1103/RevModPhys.89.025006) **DMR-1420013**
7. Robbins, M.C.; **Koester, S.J.** *Crystal-oriented black phosphorus TFETs with strong band-to-band-tunneling anisotropy and subthreshold slope nearing the thermionic limit.* **2017**15.7.1-15.7.4. DOI: [10.1109/IEDM.2017.8268399](https://doi.org/10.1109/IEDM.2017.8268399) **DMR-1420013**
8. Walter, J.; Zhang, X.; Voigt, B.; Hool, R.; Manno, M.; Mork, F.; **Aydil, E.S.; Leighton, C.** *Surface conduction in n-type pyrite FeS<sub>2</sub> single crystals.* Physical Review Materials, **2017**, 1 (6). DOI: [10.1103/PhysRevMaterials.1.065403](https://doi.org/10.1103/PhysRevMaterials.1.065403) **Collaboration with IRG-2. DMR-1420013**
9. Wang, T.; Thoutam, L.R.; Prakash, A.; Nunn, W.; **Haugstad, G.; Jalan, B.** *Defect-driven localization crossovers in MBE-grown La-doped SrSn O<sub>3</sub> films.* Physical Review Materials, **2017**, 1 (6). DOI: [10.1103/PhysRevMaterials.1.061601](https://doi.org/10.1103/PhysRevMaterials.1.061601) **DMR-1420013**
10. †Watts, J.D.; **Jeong, J.S.; O'Brien, L.; Mkhoyan, K.A.; Crowell, P.A.; Leighton, C.** *Room temperature spin Kondo effect and intermixing in Co/Cu non-local spin valves.* Applied Physics Letters, **2017**, 110 (22), 222407. DOI: [10.1063/1.4984896](https://doi.org/10.1063/1.4984896)  
**Collaboration with IRG-2. DMR-1420013**

11. Yun, H.; Topsakal, M.; Prakash, A.; Ganguly, K.; **Leighton, C.; Jalan, B.; Wentzcovitch, R.M.; Mkhoyan, K.A.; Jeong, J.S.** *Electronic structure of BaSnO<sub>3</sub> investigated by high-energy-resolution electron energy-loss spectroscopy and ab initio calculations.* Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, **2018**, *36* (3), 031503. DOI: [10.1116/1.5026298](https://doi.org/10.1116/1.5026298) **Collaboration with IRG-2. DMR-1420013**
12. Zhang, X.; Li, M.; Walter, J.; O'Brien, L.; Manno, M.A.; Voigt, B.; Mork, F.; Baryshev, S.V.; Kakalios, J.; **Aydil, E.S.; Leighton, C.** *Potential resolution to the doping puzzle in iron pyrite: Carrier type determination by Hall effect and thermopower.* Physical Review Materials, **2017**, *1* (1), 015402. DOI: [10.1103/PhysRevMaterials.1.015402](https://doi.org/10.1103/PhysRevMaterials.1.015402) **Collaboration with IRG-2. DMR-1420013**

### **IRG-1: Publications resulting from the USE OF SHARED FACILITIES**

13. Anugrah, Y.; Hu, J.; Stecklein, G.; **Koester, S.J.; Crowell, P.A.** *Independent gate control of injected and detected spin currents in CVD graphene nonlocal spin valves.* AIP Advances, **2018**, *8* (1), 015129. DOI: [10.1063/1.5008761](https://doi.org/10.1063/1.5008761)
14. Atalla, M.R.; **Koester, S.J.** *Black phosphorus avalanche photodetector.* **2017**, 7999500. DOI: [10.1109/DRC.2017.7999500](https://doi.org/10.1109/DRC.2017.7999500) **DMR-1420013**
15. †Barik, A.; Zhang, Y.; Grassi, R.; Nadappuram, B.P.; Edel, J.B.; **Low, T.; Koester, S.J.; Oh, S.H.** *Graphene-edge dielectrophoretic tweezers for trapping of biomolecules.* Nature Communications, **2017**, *8* (1), 1867. DOI: [10.1038/s41467-017-01635-9](https://doi.org/10.1038/s41467-017-01635-9) **Collaboration with SEED. DMR-1420013**
16. †Percher, I.M.; Volotsenko, I.; Frydman, A.; **Shklovskii, B.I.; Goldman, A.M.** *Vortex variable range hopping in a conventional superconducting film.* Physical Review B, **2017**, *96* (22), 224511. DOI: [10.1103/PhysRevB.96.224511](https://doi.org/10.1103/PhysRevB.96.224511) **DMR-1420013**
17. Prakash, A.; Xu, P.; Faghaninia, A.; Shukla, S.; Ager, J.W.; Lo, C.S.; **Jalan, B.** *Wide bandgap BaSnO<sub>3</sub> films with room temperature conductivity exceeding 10<sup>4</sup> S cm<sup>-1</sup>* Nature Communications, **2017**, *8*, 15167. DOI: [10.1038/ncomms15167](https://doi.org/10.1038/ncomms15167) **DMR-1420013**
18. †Smith, C.E.; Xie, Z.; Baldea, I.; **Frisbie, C.D.** *Work function and temperature dependence of electron tunneling through an N-type perylene diimide molecular junction with isocyanide surface linkers.* Nanoscale, **2018**, *10* (3), 964-975. DOI: [10.1039/c7nr06461f](https://doi.org/10.1039/c7nr06461f)
19. Wang, Y.; Kim, C.H.; Yoo, Y.; Johns, J.E.; **Frisbie, C.D.** *Field Effect Modulation of Heterogeneous Charge Transfer Kinetics at Back-Gated Two-Dimensional MoS<sub>2</sub> Electrodes.* Nano Letters, **2017**, *17* (12), 7586-7592. DOI: [10.1021/acs.nanolett.7b03564](https://doi.org/10.1021/acs.nanolett.7b03564) **DMR-1420013**
20. †Xie, Z.; Baldea, I.; Demissie, A.T.; Smith, C.E.; Wu, Y.; Haugstad, G.; **Frisbie, C.D.** *Exceptionally Small Statistical Variations in the Transport Properties of Metal-Molecule-Metal Junctions Composed of 80 Oligophenylene Dithiol Molecules.* Journal of the American Chemical Society, **2017**, *139* (16), 5696-5699. DOI: [10.1021/jacs.7b01918](https://doi.org/10.1021/jacs.7b01918) **DMR-1420013**
21. Yoo, Y.; Degregorio, Z.P.; Su, Y.; **Koester, S.J.; Johns, J.E.** *In-Plane 2H-1T' MoTe<sub>2</sub> Homojunctions Synthesized by Flux-Controlled Phase Engineering.* Advanced Materials, **2017**, *29* (16), 1605461. DOI: [10.1002/adma.201605461](https://doi.org/10.1002/adma.201605461) **DMR-1420013**
22. Zhang, Y.; Ma, R.; Zhen, X.V.; Kudva, Y.C.; Buhlmann, P.; **Koester, S.J.** *Capacitive Sensing of Glucose in Electrolytes Using Graphene Quantum Capacitance Varactors.* ACS Applied Materials and Interfaces, **2017**, *9* (44), 38863-38869. DOI: [10.1021/acsami.7b14864](https://doi.org/10.1021/acsami.7b14864) **DMR-1420013**

### **IRG-2: Publications resulting from PRIMARY MRSEC Support**

23. Fu, H.; Sammon, M.; **Shklovskii, B.I.** *Roughness scattering induced insulator-metal-insulator transition in a quantum wire*. Physical Review B, **2018**, 97 (3). DOI: [10.1103/PhysRevB.97.035304](https://doi.org/10.1103/PhysRevB.97.035304) **DMR-1420013**
24. †Greenberg, B.L.; Robinson, Z.L.; Reich, K.V.; Gorynski, C.; Voigt, B.N.; **Francis, L.F.; Shklovskii, B.I.; Aydil, E.S.; Kortshagen, U.R.** *ZnO Nanocrystal Networks Near the Insulator-Metal Transition*. Nano Letters, **2017**, 17 (8), 4634-4642. DOI: [10.1021/acs.nanolett.7b01078](https://doi.org/10.1021/acs.nanolett.7b01078) **DMR-1420013**
25. Held, J.T.; Hunter, K.I.; Dahod, N.; Greenberg, B.; Reifsnnyder Hickey, D.; Tisdale, W.A.; **Kortshagen, U.; Mkhoyan, K.A.** *Obtaining Structural Parameters from STEM-EDX Maps of Core/Shell Nanocrystals for Optoelectronics*. ACS Applied Nano Materials, **2018**, 1 (2), 989-996. DOI: [10.1021/acsanm.7b00398](https://doi.org/10.1021/acsanm.7b00398) **DMR-1420013**
26. †Petach, T.A.; Reich, K.V.; Zhang, X.; Watanabe, K.; Taniguchi, T.; **Shklovskii, B.I.**; Goldhaber-Gordon, D. *Disorder from the Bulk Ionic Liquid in Electric Double Layer Transistors*. ACS Nano, **2017**, 11 (8), 8395-8400. DOI: [10.1021/acs.nano.7b03864](https://doi.org/10.1021/acs.nano.7b03864) **DMR-1420013**
27. †Trier, F.; Reich, K.V.; Christensen, D.V.; Zhang, Y.; Tuller, H.L.; Chen, Y.; **Shklovskii, B.I.**; Pryds, N. *Universality of electron mobility in LaAlO<sub>3</sub>/SrTiO<sub>3</sub> and bulk SrTiO<sub>3</sub>* Applied Physics Letters, **2017**, 111 (9), 092106. DOI: [10.1063/1.5001316](https://doi.org/10.1063/1.5001316) **DMR-1420013**
28. Wenger, W.N.; **Bates, F.S.; Aydil, E.S.** *Functionalization of Cadmium Selenide Quantum Dots with Poly(ethylene glycol)*. Langmuir, **2017**, 33 (33), 8239-8245. DOI: [10.1021/acs.langmuir.7b01924](https://doi.org/10.1021/acs.langmuir.7b01924) **Collaboration with IRG-3. DMR-1420013**
29. Williams, B.A.; Trejo, N.D.; Wu, A.; Holgate, C.S.; **Francis, L.F.; Aydil, E.S.** *Copper-Zinc-Tin-Sulfide Thin Films via Annealing of Ultrasonic Spray Deposited Nanocrystal Coatings*. ACS Applied Materials and Interfaces, **2017**, 9 (22), 18865-18871. DOI: [10.1021/acsami.7b04414](https://doi.org/10.1021/acsami.7b04414) **DMR-1420013**
30. †Zheng, W.; Nemilentsau, A.; Lattery, D.; Wang, P.; **Low, T.; Zhu, J.; Wang, X.** *Direct Investigation of the Birefringent Optical Properties of Black Phosphorus with Picosecond Interferometry*. Advanced Optical Materials, **2017**, 6 (1), 1700831. DOI: [10.1002/adom.201700831](https://doi.org/10.1002/adom.201700831) **Collaboration with SEED. DMR-1420013**

### **IRG-2: Publications resulting from PARTIAL MRSEC Support**

31. Xie, K.; Mork, K.; Held, J.T.; **Mkhoyan, K.A.; Kortshagen, U.**; Gupta, M.C. *Quasi continuous wave laser sintering of Si-Ge nanoparticles for thermoelectrics*. Journal of Applied Physics, **2018**, 123 (9), 094301. DOI: [10.1063/1.5018337](https://doi.org/10.1063/1.5018337) **DMR-1420013**
32. Xu, D.; Wang, Q.; Wu, X.; Zhu, J.; Zhao, H.; Xiao, B.; **Wang, X.**; Wang, X.; Hao, Q. *Largely reduced cross-plane thermal conductivity of nanoporous In<sub>0.1</sub>Ga<sub>0.9</sub>N thin films directly grown by metal organic chemical vapor deposition*. Frontiers in Energy, **2018**. DOI: [10.1007/s11708-018-0519-5](https://doi.org/10.1007/s11708-018-0519-5) **DMR-1420013**
33. Zhu, J.; Wu, X.; Lattery, D.M.; Zheng, W.; **Wang, X.** *The Ultrafast Laser Pump-Probe Technique for Thermal Characterization of Materials With Micro/Nanostructures*. Nanoscale and Microscale Thermophysical Engineering, **2017**, 21 (3), 177-198. DOI: [10.1080/15567265.2017.1313343](https://doi.org/10.1080/15567265.2017.1313343) **DMR-1420013**
34. Wu, R.J.; Mittal, A.; Odlyzko, M.L.; **Mkhoyan, K.A.** *Simplifying Electron Beam Channeling in Scanning Transmission Electron Microscopy (STEM)*. Microscopy and Microanalysis, **2017**, 23 (4), 794-808. DOI: [10.1017/S143192761700068X](https://doi.org/10.1017/S143192761700068X) **DMR-1420013**

## **IRG-2: Publications resulting from the USE OF SHARED FACILITIES**

35. †Baesch, S.; Price, K.; Scharfer, P.; **Francis, L.**; Schabel, W. *Influence of the drying conditions on the particle distribution in particle filled polymer films*. Chemical Engineering and Processing: Process Intensification, **2018**, *123*, 138-147. DOI: [10.1016/j.cep.2017.10.018](https://doi.org/10.1016/j.cep.2017.10.018) **DMR-1420013**
36. Buchman, J.T.; Rahnamoun, A.; Landy, K.M.; Zhang, X.; Vartanian, A.M.; Jacob, L.M.; Murphy, C.J.; Hernandez, R.; **Haynes, C.L.** *Using an environmentally-relevant panel of Gram-negative bacteria to assess the toxicity of polyallylamine hydrochloride-wrapped gold nanoparticles*. Environmental Science: Nano, **2018**, *5* (2), 279-288. DOI: [10.1039/c7en00832e](https://doi.org/10.1039/c7en00832e) **DMR-1420013**
37. Chang, H.; Liu, T.; Reifsnnyder Hickey, D.; Janantha, P.A.; **Mkhoyan, K.A.**; Wu, M. *Sputtering growth of Y<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub>/Pt bilayers and spin transfer at Y<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub>/Pt interfaces*. APL Materials, **2017**, *5* (12), 126104. DOI: [10.1063/1.5013626](https://doi.org/10.1063/1.5013626) **DMR-1420013**
38. Diroll, B.T.; Schramke, K.S.; Guo, P.; **Kortshagen, U.R.**; Schaller, R.D. *Ultrafast Silicon Photonics with Visible to Mid-Infrared Pumping of Silicon Nanocrystals*. Nano Letters, **2017**, *17* (10), 6409-6414. DOI: [10.1021/acs.nanolett.7b03393](https://doi.org/10.1021/acs.nanolett.7b03393) **DMR-1420013**
39. Du, Y.; Xu, J.; Sakizadeh, J.D.; Weiblen, D.G.; McCormick, A.V.; **Francis, L.F.** *Modulus- and Surface-Energy-Tunable Thiol-ene for UV Micromolding of Coatings*. ACS Applied Materials and Interfaces, **2017**, *9* (29), 24976-24986. DOI: [10.1021/acsami.7b06339](https://doi.org/10.1021/acsami.7b06339) **DMR-1420013**
40. Gunsolus, I.L.; Hang, M.N.; Hudson-Smith, N.V.; Buchman, J.T.; Bennett, J.W.; Conroy, D.; Mason, S.E.; Hamers, R.J.; **Haynes, C.L.** *Influence of nickel manganese cobalt oxide nanoparticle composition on toxicity toward Shewanella oneidensis MR-1: redesigning for reduced biological impact*. Environmental Science: Nano, **2017**, *4* (3), 636-646. DOI: [10.1039/c6en00453a](https://doi.org/10.1039/c6en00453a) **DMR-1420013**
41. Ionescu, R.; Campbell, B.; Wu, R.; Aytan, E.; Patalano, A.; Ruiz, I.; Howell, S.W.; McDonald, A.E.; Beechem, T.E.; **Mkhoyan, K.A.**; Ozkan, M.; Ozkan, C.S. *Chelant Enhanced Solution Processing for Wafer Scale Synthesis of Transition Metal Dichalcogenide Thin Films*. Scientific Reports, **2017**, *7* (1), 6419. DOI: [10.1038/s41598-017-06699-7](https://doi.org/10.1038/s41598-017-06699-7) **DMR-1420013**
42. Lade, R.K.; Hippchen, E.J.; Macosko, C.W.; **Francis, L.F.** *Dynamics of Capillary-Driven Flow in 3D Printed Open Microchannels*. Langmuir, **2017**, *33* (12), 2949-2964. DOI: [10.1021/acs.langmuir.6b04506](https://doi.org/10.1021/acs.langmuir.6b04506) **DMR-1420013**
43. Lee, A.L.; Gee, C.T.; Weegman, B.P.; Einstein, S.A.; Juelfs, A.R.; Ring, H.L.; Hurley, K.R.; Egger, S.M.; Swindlehurst, G.; Garwood, M.; Pomerantz, W.C.; **Haynes, C.L.** *Oxygen Sensing with Perfluorocarbon-Loaded Ultraporous Mesoporous Silica Nanoparticles*. ACS Nano, **2017**, *11* (6), 5623-5632. DOI: [10.1021/acs.nano.7b01006](https://doi.org/10.1021/acs.nano.7b01006) **DMR-1420013**
44. Mutlu, Z.; Ruiz, I.; Wu, R.J.; Ionescu, R.; Shahrezaei, S.; Temiz, S.; Ozkan, M.; **Mkhoyan, K.A.**; Ozkan, C.S. *Chemical vapor deposition of partially oxidized graphene*. RSC Advances, **2017**, *7* (51), 32209-32215. DOI: [10.1039/c7ra05097f](https://doi.org/10.1039/c7ra05097f) **DMR-1420013**
45. Newhouse-Illige, T.; Liu, Y.; Xu, M.; Reifsnnyder Hickey, D.; Kundu, A.; Almasi, H.; Bi, C.; Wang, X.; Freeland, J.W.; Keavney, D.J.; Sun, C.J.; Xu, Y.H.; Rosales, M.; Cheng, X.M.; Zhang, S.; **Mkhoyan, K.A.**; Wang, W.G. *Voltage-controlled interlayer coupling in perpendicularly magnetized magnetic tunnel junctions*. Nature Communications, **2017**, *8*, 15232. DOI: [10.1038/ncomms15232](https://doi.org/10.1038/ncomms15232) **DMR-1420013**
46. Pinto, A.H.; Shin, S.W.; Isaac, E.; Knutson, T.R.; **Aydil, E.S.**; Penn, R.L. *Controlling Cu<sub>2</sub>ZnSnS<sub>4</sub> (CZTS) phase in microwave solvothermal synthesis*. Journal of Materials Chemistry A, **2017**, *5* (44), 23179-23189. DOI: [10.1039/c7ta06086f](https://doi.org/10.1039/c7ta06086f) **DMR-1420013**

47. †Pinto, A.H.; Shin, S.W.; Sharma, A.; Penn, R.L.; **Aydil, E.S.** *Synthesis of  $Cu_2(Zn_{1-x}Co_x)SnS_4$  nanocrystals and formation of polycrystalline thin films from their aqueous dispersions.* *Journal of Materials Chemistry A*, **2018**, *6* (3), 999-1008. DOI: [10.1039/C7TA06295H](https://doi.org/10.1039/C7TA06295H) **Collaboration with SEED. DMR-1420013**
48. †Qin, Y.; Kong, X.T.; Wang, Z.; Govorov, A.O.; **Kortshagen, U.R.** *Near-Infrared Plasmonic Copper Nanocups Fabricated by Template-Assisted Magnetron Sputtering.* *ACS Photonics*, **2017**, *4* (11), 2881-2890. DOI: [10.1021/acsphotonics.7b00866](https://doi.org/10.1021/acsphotonics.7b00866) **DMR-1420013**
49. Qiu, T.A.; Torelli, M.D.; Vartanian, A.M.; Rackstraw, N.B.; Buchman, J.T.; Jacob, L.M.; Murphy, C.J.; Hamers, R.J.; **Haynes, C.L.** *Quantification of Free Polyelectrolytes Present in Colloidal Suspension, Revealing a Source of Toxic Responses for Polyelectrolyte-Wrapped Gold Nanoparticles.* *Analytical Chemistry*, **2017**, *89* (3), 1823-1830. DOI: [10.1021/acs.analchem.6b04161](https://doi.org/10.1021/acs.analchem.6b04161) **DMR-1420013**
50. Robinson, M.E.; Ng, J.D.; Zhang, H.; Buchman, J.T.; Shenderova, O.A.; **Haynes, C.L.**; Ma, Z.; Goldsmith, R.H.; Hamers, R.J. *Optically Detected Magnetic Resonance for Selective Imaging of Diamond Nanoparticles.* *Analytical Chemistry*, **2018**, *90* (1), 769-776. DOI: [10.1021/acs.analchem.7b03157](https://doi.org/10.1021/acs.analchem.7b03157)
51. Shete, M.; Kumar, P.; Bachman, J.E.; Ma, X.; Smith, Z.P.; Xu, W.; **Mkhoyan, K.A.**; Long, J.R.; Tsapatsis, M. *On the direct synthesis of Cu(BDC) MOF nanosheets and their performance in mixed matrix membranes.* *Journal of Membrane Science*, **2018**, *549*, 312-320. DOI: [10.1016/j.memsci.2017.12.002](https://doi.org/10.1016/j.memsci.2017.12.002) **DMR-1420013**
52. Singh, S.; Katoch, J.; Zhu, T.; Wu, R.J.; Ahmed, A.S.; Amamou, W.; Wang, D.; **Mkhoyan, K.A.**; Kawakami, R.K. *Strontium Oxide Tunnel Barriers for High Quality Spin Transport and Large Spin Accumulation in Graphene.* *Nano Letters*, **2017**, *17* (12), 7578-7585. DOI: [10.1021/acs.nanolett.7b03543](https://doi.org/10.1021/acs.nanolett.7b03543) **DMR-1420013**
53. Wheeler, L.M.; Kramer, N.J.; **Kortshagen, U.R.** *Thermodynamic Driving Force in the Spontaneous Formation of Inorganic Nanoparticle Solutions.* *Nano Letters*, **2018**, *18* (3), 1888-1895. DOI: [10.1021/acs.nanolett.7b05187](https://doi.org/10.1021/acs.nanolett.7b05187) **DMR-1420013**
54. Xue, F.; Kumar, P.; Xu, W.; **Mkhoyan, K.A.**; Tsapatsis, M. *Direct Synthesis of 7 nm-Thick Zinc(II)-Benzimidazole-Acetate Metal-Organic Framework Nanosheets.* *Chemistry of Materials*, **2018**, *30* (1), 69-73. DOI: [10.1021/acs.chemmater.7b04083](https://doi.org/10.1021/acs.chemmater.7b04083)
55. Zhang, H.; Zhang, R.; Schramke, K.S.; Bedford, N.M.; Hunter, K.; **Kortshagen, U.R.**; Nordlander, P. *Doped Silicon Nanocrystal Plasmonics.* *ACS Photonics*, **2017**, *4* (4), 963-970. DOI: [10.1021/acsphotonics.7b00026](https://doi.org/10.1021/acsphotonics.7b00026) **DMR-1420013**
56. Zhi, B.; Gallagher, M.J.; Frank, B.P.; Lyons, T.Y.; Qiu, T.A.; Da, J.; Mensch, A.C.; Hamers, R.J.; Rosenzweig, Z.; Fairbrother, D.H.; **Haynes, C.L.** *Investigation of phosphorous doping effects on polymeric carbon dots.* *Carbon*, **2018**, *129*, 438-449. DOI: [10.1016/j.carbon.2017.12.004](https://doi.org/10.1016/j.carbon.2017.12.004)

### **IRG-3: Publications resulting from PRIMARY MRSEC Support**

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None

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None