

## LIST OF MRSEC-SUPPORTED PUBLICATIONS

2023–2024 [177]

March 1, 2023 – August 31, 2024

### IRG-1 [6]

#### a. Primary MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [6]

1. J.A. Mayer, T.M. **Pollock**, K.V. Vamsi, R. **Seshadri**, Antiphase boundaries in *B2* intermetallics: Proximate structures, formation energies, and chemical stability, *Phys. Rev. Mater.* **8** (2024) 13610. DOI: 10.1103/PhysRevMaterials.8.013610
2. S.A. Meynell, Y.M. Eggeler, J.D. Bocarsly, D.A. Kitchaev, B.E. Rhodes, T.M. **Pollock**, S.D. **Wilson**, A. **Van der Ven**, R. **Seshadri**, M. De Graef, A. Bleszynski **Jayich**, D.S. **Gianola**, Inducing skyrmion flop transitions in  $\text{Co}_8\text{Zn}_8\text{Mn}_4$  at room temperature, *Phys. Rev. Mater.* **7** (2023) 044401. DOI: 10.1103/PhysRevMaterials.7.044401
3. E.M. Mozur, R. **Seshadri**, Magnetic tunability in tetragonal Mn–Rh–Ir–Sn inverse Heusler compounds, *J. Phys.: Condens. Matter* **36** (2024) 195802. DOI: 10.1088/1361-648X/ad2585
4. E.M. Mozur, R. **Seshadri**, Methods and protocols: Practical magnetic measurement, *Chem. Mater.* **35** (2023) 3450–3463. DOI: 10.1021/acs.chemmater.3c00297
5. J. Plumb, I. Poudyal, R.L. Dally, S. **Daly**, S.D. **Wilson**, Z. Islam, Dark field X-ray microscopy below liquid-helium temperature: The case of  $\text{NaMnO}_2$ , *Mater. Charact.* **204** (2023) 113174. DOI: 10.1016/j.matchar.2023.113174
6. F. Wang, J-C. Stinville, M. Charpagne, M.P. Echlin, S.R. Agnew, T.M. **Pollock**, M. De Graef, D.S. **Gianola**, Dislocation cells in additively manufactured metallic alloys characterized by electron backscatter diffraction pattern sharpness, *Mater. Charact.* **197** (2023) 112673. DOI: 10.1016/j.matchar.2023.112673

#### b. Partial MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [0]

None

### IRG-2 [5]

#### a. Primary MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [2]

7. P.H. Nguyen, A.M. Scheuermann, A. Nikolaev, M.L. **Chabiny**, C.M. **Bates**, J. **Read de Alaniz**, Reversible modulation of conductivity in azobenzene polyelectrolytes using light, *ACS Appl. Polym. Mater.* **5** (2023) 4698–4703. DOI: 10.1021/acsapm.3c00265

8. S. Xie, K.M. Karnaukh, K-C. Yang, D. Sun, K.T. Delaney, J. **Read de Alaniz**, G.H. **Fredrickson**, R.A. **Segalman**, Compatibilization of polymer blends by ionic bonding, *Macromolecules* **56** (2023) 3617–3630. DOI: 10.1021/acs.macromol.3c00060

**b. Partial MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [3]**

9. H.M. Luong, S. Chae, A. Yi, K. Ding, J. Huang, B.M. Kim, C. Welton, J. Chen, H. Wakidi, Z. Du, H.J. Kim, H. Ade, G.N.M. Reddy, T-Q. **Nguyen**, Impact of thermal stress on device physics and morphology in organic photodetectors, *ACS Energy Lett.* **8** (2023) 2130–2140. DOI: 10.1021/acsenergylett.3c00272
10. N. Schopp, S. Sabury, T. Chaney, J. Zhang, H. Wakidi, B.M. Kim, R. Sankar, H.M. Luong, P. Therdkatanyuphong, V.V. Brus, S. Marder, M.F. Toney, J.R. Reynolds, T-Q. **Nguyen**, Organic photovoltaic performance resiliency: Role of molecular weight in a PM7 derivative, *ACS Energy Lett.* **8** (2023) 3307–3313. DOI: 10.1021/acsenergylett.3c01202
11. S. Yoon, N. Schopp, D.G. Choi, H. Wakidi, K. Ding, H. Ade, H. Vezin, G.N.M. Reddy, T-Q. **Nguyen**, Influences of metal electrodes on stability of non-Fullerene acceptor-based organic photovoltaics, *Adv. Funct. Mater. Early View* (2023) 2308618. DOI: 10.1002/adfm.202308618

**IRG-3 [11]**

**a. Primary MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [2]**

12. N.J. Sinha, K.C. Cunha, R. Murphy, C.J. **Hawker**, J-E. **Shea**, M.E. **Helgeson**, Competition between  $\beta$ -sheet and coacervate domains yields diverse morphologies in mixtures of oppositely charged homochiral polypeptides, *Biomacromolecules* **24** (2023) 3580–3588. DOI: 10.1021/acs.biomac.3c00361
13. W.R. Wonderly, D.G. DeMartini, S. Najafi, M. Areyano, J-E. **Shea**, J.H. **Waite**, Mechanical behavior of octopus egg tethers composed of topologically constrained, tandemly repeated EGF domains, *Biomacromolecules* **24** (2023) 3032–3042. DOI: 10.1021/acs.biomac.3c00088

**b. Partial MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [9]**

14. D.J. Atkins, A.L. Chau, J.M. Rosas, Y-T. Chen, S.T. Chan, J.M. Urueña, A.A. **Pitenis**, Silicone implant surface roughness, friction, and wear, *Surf. Topogr.: Metrol. Prop.* **11** (2023) 014010. DOI: 10.1088/2051-672X/ac9f5a
15. S.M. Fenton, P. Padmanabhan, B.K. Ryu, T.T.D. Nguyen, R.N. Zia, M.E. **Helgeson**, Minimal conditions for solidification and thermal processing of colloidal gels, *PNAS* **120** (2023) e2215922120. DOI: 10.1073/pnas.2215922120
16. R.V. Garcia, E.A. Murphy, N.J. Sinha, Y. Okayama, J.M. Urueña, M.E. **Helgeson**, C.M. **Bates**, C.J. **Hawker**, R.D. Murphy, J. **Read de Alaniz**, Tailoring writability and performance of star block copolypeptides hydrogels through side-chain design, *Small* **19**

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DOI: 10.1002/smll.202302794
17. M. Li, R. Mirshafian, J. Wang, H. Mohanram, K.A. Ahn, S. Hosseinzadeh, K.V. Pervushin, J.H. **Waite**, J. Yu, Compliant clients: Catechols exhibit enhanced solubility and stability in diverse complex coacervates, *Biomacromolecules* **24** (2023) 4190–4198.  
DOI: 10.1021/acs.biomac.3c00519
  18. Y. Luo, M. Gu, M. Park, X. Fang, Y. Kwon, J.M. Urueña, J. **Read de Alaniz**, M.E. **Helgeson**, C.M. Marchetti, M.T. **Valentine**, Molecular-scale substrate anisotropy, crowding and division drive collective behaviours in cell monolayers, *J. R. Soc. Interface* **20** (2023) 20230160. DOI: 10.1098/rsif.2023.0160
  19. J.M. Rosas, D.J. Atkins, A.L. Chau, Y-T. Chen, R. Bae, M.K. Cavanaugh, R.I. Espinosa Lima, A. Bordeos, M.G. Bryant, A.A. **Pitenis**, *In vitro* models of soft tissue damage by implant-associated frictional shear stresses, *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology* **237** (2023) 1264–1271. Special Issue: Hommage to Prof. Duncan Dowson. DOI: 10.1177/13506501221132897
  20. P. Salas-Ambrosio, C.I. Gupit, J.M. Urueña, Y. Luo, J.M. Hankett, R. Gupta, M.T. **Valentine**, H.D. Maynard, M.E. **Helgeson**, Evaluating polymerization kinetics using microrheology, *Polym. Chem.* **15** (2024) 1758–1766. DOI: 10.1039/D4PY00188E
  21. D.P. Shannon, J.D. Moon, C.W. Barney, N.J. Sinha, K-C. Yang, S.D. Jones, R.V. Garcia, M.E. **Helgeson**, R.A. **Segalman**, M.T. **Valentine**, C.J. **Hawker**, Modular synthesis and patterning of high-stiffness networks by postpolymerization functionalization with iron-catechol complexes, *Macromolecules* **56** (2023) 2268–2276.  
DOI: 10.1021/acs.macromol.2c02561
  22. C. Zhang, H. Peng, J.H. **Waite**, Q. Zhao, Coacervate phase evolution and membrane formation in natural seawater, *J. Am. Chem. Soc.* **146** (2024) 2219–2226.  
DOI: 10.1021/jacs.3c12539

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23. A.M. Potts, A.K. Nayak, M. Nagel, K. Kaj, B. Stamenic, D.D. John, R.D. Averitt, A.F. Young, On-chip time-domain terahertz spectroscopy of superconducting films below the diffraction limit, *Nano Lett.* **23** (2023) 3835–3841. DOI: 10.1021/acs.nanolett.3c00412

##### b. Partial MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [0]

None

#### iSUPERSEED [1]

##### a. Primary MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [0]

None

**b. Partial MRSEC Support that Acknowledge the MRSEC Award DMR-1720256 [1]**

24. D.J. Cislo, F. Yang, H. Qin, A. Pavlopoulos, M.J. Bowick, S.J. Streichan, Active cell divisions generate fourfold orientationally ordered phase in living tissue, *Nat. Phys.* **19** (2023) 1201–1210. DOI: 10.1038/s41567-023-02025-3

**SHARED FACILITIES [153]**

25. A. Agee, G. Pace, V. Yang, R. **Segalman**, A.L. Furst, Mixed conducting polymers alter electron transfer thermodynamics to boost current generation from electroactive microbes, *J. Am. Chem. Soc.* **146** (2024) 19728–19736. DOI: 10.1021/jacs.4c01288
26. B. Ahmadikia, O. Paraskevas, W. Van Hying, J.M. Hestroffer, I.J. Beyerlein, C. Thrampoulidis, Data-driven texture design for reducing elastic and plastic anisotropy in titanium alloys, *Acta Mater.* **265** (2024) 119585. DOI: 10.1016/j.actamat.2023.119585
27. J. Ahn, R. Giovine, V.C. Wu, K.P. Koirala, C. Wang, R.J. **Clément**, G. Chen, Ultrahigh-capacity rocksalt cathodes enabled by cycling-activated structural changes, *Adv. Energy Mater.* **13** (2023) 2300221. DOI: 10.1002/aenm.202300221
28. T. Åkesson, C. Bravo, L. Brennan, L.K. Bryngemark, P. Butti, E.C. Dukes, V. Dutta, B. Echenard, T. Eichlersmith, J. Eisch, E. Elén, R. Ehrlich, C. Froemming, A. Furmanski, N. Gogate, C. Grieco, C. Group, H. Herde, C. Herwig, D.G. Hitlin, T. Horoho, J. Incandela, W. Ketchum, G. Krnjaic, A. Li, J. Mans, P. Masterson, S. Middleton, O. Moreno, G. Mullier, J. Muse, T. Nelson, R. O'Dwyer, L. Östman, J. Oyang, J. Pascadlo, R. Pöttgen, L.G. Sarmiento, P. Schuster, M. Solt, C. Mantilla Suarez, L. Tompkins, N. Toro, N. Tran, E. Wallin, A. Whitbeck, D. Zhang, Photon-rejection power of the light dark matter experiment in an 8 GeV beam, *J. High Energ. Phys.* **2023** (2023) 92. DOI: 10.1007/JHEP12(2023)092
29. K.R. Albanese, J.R. Blankenship, T. Quah, A. Zhang, K.T. Delaney, G.H. **Fredrickson**, C.M. **Bates**, C.J. **Hawker**, Improved elastic recovery from ABC triblock terpolymers, *ACS Polymers Au* **3** (2023) 376–382. DOI: 10.1021/acspolymersau.3c00012
30. K.R. Albanese, Y. Okayama, P.T. Morris, M. Gerst, R. Gupta, J.C. Speros, C.J. **Hawker**, C. Choi, J. **Read de Alaniz**, C.M. **Bates**, Building tunable degradation into high-performance poly(acrylate) pressure-sensitive adhesives, *ACS Macro Lett.* **12** (2023) 787–793. DOI: 10.1021/acsmacrolett.3c00204
31. C. Albrecht, I.J. Beyerlein, M.R. Jones, Temperature dependent phase field dislocation dynamics model, *Eur. J. Mech. A Solids* **100** (2023) 104987. DOI: 10.1016/j.euromechsol.2023.104987
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34. A. Beck, J. Marlowe, M.J. Gordon, P. Christopher, Is there a discernible photochemical effect beyond heating for visible photon-mediated NH<sub>3</sub> decomposition over Ru/Al<sub>2</sub>O<sub>3</sub>? *J. Phys. Chem. C* **128** (2024) 8590–8600. DOI: 10.1021/acs.jpcc.4c00226
  35. M. Biswal, K.K. Sivakumar, T-L. Lin, K. Rose, Transform domain temporal prediction for dynamic point cloud compression, *2023 IEEE 25th International Workshop on Multimedia Signal Processing (MMSP)*, Poitiers, France, September 27–29, 2023, pp. 1–6. DOI: 10.1109/MMSP59012.2023.10337693
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  48. M.J. Crafton, T-Y. Huang, Y. Yue, R. Giovine, V.C. Wu, C. Dun, J.J. Urban, R.J. **Clément**, W. Tong, B.D. McCloskey, Tuning bulk redox and altering interfacial reactivity in highly fluorinated cation-disordered rocksalt cathodes, *ACS Appl. Mater. Interfaces* **15** (2023) 18747–18762. DOI: 10.1021/acsami.2c16974
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  50. A.J. DeStefano, M. Nguyen, G.H. **Fredrickson**, S. Han, R.A. **Segalman**, Design of soft material surfaces with rationally tuned water diffusivity, *ACS Cent. Sci.* **9** (2023) 1019–1024. DOI: 10.1021/acscentsci.3c00208
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