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EDUCATION

Ph.D. Materials Science and Engineering	2023, University of Michigan
B.Sc. Engineering Physics	2016, Cornell University

APPOINTMENT

2023–	Postdoctoral Fellow (Advisor: Ismail El Baggari)	Rowland Institute at Harvard University
2017–2023	Research Assistant (Advisor: Robert Hovden)	University of Michigan
2019	Teaching Assistant	University of Michigan
2014–2016	Undergraduate Researcher (Advisor: Lena F. Kourkoutis)	Cornell University
2015	Teaching Assistant	Cornell University

PUBLICATIONS (H-INDEX: 14, [GOOGLE SCHOLAR](#))

29. W. Qi, S. Ponzoni, G. Huitric, R. Gasset, Y. Laplace, L. Cario, M. Marsi, E. Papalazarou, A. Alekhin, Y. Gallais, A. Bendounan, **S. H. Sung**, N. Schnitzer, B. H. Goodge, R. Hovden, and R. Perfetti “Torque induced, reversible switching of Ferro-Rotational Order in bulk 1T-TaS₂ crystals”, **Under Review** (2024)
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27. X. Guo, W. Liu, J. Schwartz, **S. H. Sung**, D. Zhang, M. Shimizu, A. L. N. Kondusamy, L. Li, K. Sun, H. Deng, H. O. Jeschke, I. I. Mazin, R. Hovden, B. Lv, and L. Zhao “Extraordinary Phase Transition Revealed in a van der Waals Antiferromagnet”, **Nature Communications** **15**, 6472 (2024) [[10.1038/s41467-024-50900-1](#)]
26. M.-K. Choi, **S. H. Sung**, R. Hovden, and E. B. Tadmor “Elastic plate basis for the deformation and electron diffraction of twisted bilayer graphene on a substrate”, **Physical Review B** **110**, 024116 (2024) [[10.1103/PhysRevB.110.024116](#)]
25. S. Li, Z. Sun, N. J. McLaughlin, A. Sharmin, N. Agarwal, M. Huang, **S. H. Sung**, H. Lu, S. Yan, H. Lei, R. Hovden, H. Wang, H. Chen, L. Zhao, and C. R. Du “Observation of stacking engineered magnetic phase transitions within moiré supercells of twisted van der Waals magnets”, **Nature Communications** **15**, 5712 (2024) [[10.1038/s41467-024-49942-2](#)]
24. **S. H. Sung**, N. Agarwal, I. El Baggari, Y. M. Goh, P. Kezer, N. Schnitzer, Y. Liu, W. Lu, Y. P. Sun, L. F. Kourkoutis, J. T. Heron, K. Sun, and R. Hovden “Endotaxial Stabilization of 2D Charge Density Waves with Long-range Order”, **Nature Communications** **15**, 1403 (2023) [[10.1038/s41467-024-45711-3](#)]
23. M. Huang, Z. Sun, G. Yan, H. Xie, N. Agarwal, G. Ye, **S. H. Sung**, H. Lu, J. Zhou, S. Yan, S.-J. Tian, H. Lei, R. Hovden, R. He, H. Wang, L. Zhao, and C. R. Du “Revealing intrinsic domains and fluctuations of moiré magnetism by a wide-field quantum microscope”, **Nature Communications** **14**, 5259 (2023) [[10.1038/s41467-023-40543-z](#)]
22. H. Xie, X. Luo, Z. Ye, Z. Sun, G. Ye, **S. H. Sung**, H. Ge, S. Yan, Y. Fu, S. Tian, H. Lei, K. Sun, R. Hovden, R. Hui, and L. Zhao “Evidence of Noncollinear Spin Texture in Magnetic Moiré Superlattices”, **Nature Physics** **19**, 1150–1155 (2023) [[10.1038/s41567-023-02061-z](#)]
21. X. Guo, R. Owen, A. Kaczmarek, X. Fang, C. De, Y. Ahn, W. Hu, N. Agarwal, **S. H. Sung**, R. Hovden, S.-W. Cheong, and L. Zhao “Ferro-rotational domain walls revealed by electric quadrupole second harmonic generation microscopy”, **Physical Review B** **107**, L180102 (2023) [[10.1103/PhysRevB.107.L180102](#)]
20. E. Ahn, B. Kim, S. Park, A. L. Erwin, **S. H. Sung**, R. Hovden, S. Mosalaganti, and U.-S. Cho “Batch Production of High-Quality Graphene Grids for Cryo-EM: Cryo-EM Structure of *Methylococcus capsulatus* Soluble Methane Monooxygenase Hydroxylase”, **ACS Nano** **17**, 6011–6022 (2023) [[10.1021/acsnano.3c00463](#)]

19. **S. H. Sung** and R. Hovden “On Infinite Series of Bessel functions of the First Kind: $\sum_{\nu} J_{N\nu+p}(x)$, $\sum_{\nu} (-1)^{\nu} J_{N\nu+p}(x)$ ”, **arXiv** (2022) [[10.48550/arXiv.2211.01148](https://arxiv.org/abs/10.48550/arXiv.2211.01148)]
18. B. Yang, Y. M. Goh, **S. H. Sung**, G. Ye, S. Biswas, D. A. S. Kaib, R. Dhaka, S. Yan, C. Li, S. Jiang, F. Chen, H. Lei, R. Valent, S. M. Winter, R. Hovden, and A. W. Tsen “Magnetic anisotropy reversal driven by structural symmetry-breaking in monolayer α -RuCl₃”, **Nature Materials** **22**, 50–57 (2023) [[10.1038/s41563-022-01401-3](https://doi.org/10.1038/s41563-022-01401-3)]
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14. **S. H. Sung**, N. Schnitzer, S. Novakov, I. El Baggari, X. Luo, J. Gim, N. M. Vu, Z. Li, T. H. Brintlinger, Y. Liu, W. Lu, Y. P. Sun, P. Deotare, K. Sun, L. Zhao, L. F. Kourkoutis, J. T. Heron, and R. Hovden “Two-dimensional charge order stabilized in clean polytype heterostructures”, **Nature Communications** **13**, 413 (2022) [[10.1038/s41467-021-27947-5](https://doi.org/10.1038/s41467-021-27947-5)]
13. A. J. Mannix, A. Ye, **S. H. Sung**, A. Ray, F. Mujid, C. Park, M. Lee, J.-H. Kang, R. Shreiner, A. A. High, D. A. Muller, R. Hovden, and J. Park “Robotic Four-Dimensional Pixel Assembly of van der Waals Solids”, **Nature Nanotechnology** (2022) [[10.1038/s41565-021-01061-5](https://doi.org/10.1038/s41565-021-01061-5)]
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8. N. Schnitzer*, **S. H. Sung***, and R. Hovden “Optimal STEM Convergence Angle Selection using a Convolutional Neural Network and Strehl Ratio”, **Microscopy and Microanalysis** **26**, 52, 160–161 (2020) [[10.1017/S1431927620001841](https://doi.org/10.1017/S1431927620001841)]
7. P. B. Meisenheimer, L. D. Williams, **S. H. Sung**, J. Gim, P. Shafer, G. N. Kotsonis, J.-P. Maria, M. Trassin, R. Hovden, E. Kioupakis, and J. T. Heron “Magnetic frustration control through tunable stereochemically driven disorder in entropy-stabilized oxides”, **Physical Review Materials** **3**, 10, 104420 (2019) [[10.1103/PhysRevMaterials.3.104420](https://doi.org/10.1103/PhysRevMaterials.3.104420)]

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6. Y. Wang, Y. Wu, J. Schwartz, **S. H. Sung**, R. Hovden, and Z. Mi "A Single-Junction Cathodic Approach for Stable Unassisted Solar Water Splitting", **Joule** **3**, 10, 2444–2456 (2019) [[10.1016/j.joule.2019.07.022](https://doi.org/10.1016/j.joule.2019.07.022)]
5. **S. H. Sung**^{*}, N. Schnitzer^{*}, L. Brown, J. Park, and R. Hovden "Stacking, strain, and twist in 2D materials quantified by 3D electron diffraction", **Physical Review Materials** **3**, 6, 064003 (2019) [[10.1103/PhysRevMaterials.3.064003](https://doi.org/10.1103/PhysRevMaterials.3.064003)]
4. N. Schnitzer, **S. H. Sung**[†], and R. Hovden "Introduction to the Ronchigram and its Calculation with Ronchigram.com", **Microscopy Today** **27**, 3, 12–15 (2019) [[10.1017/S1551929519000427](https://doi.org/10.1017/S1551929519000427)]
3. H. Yoo, R. Engelke, S. Carr, S. Fang, K. Zhang, P. Cazeaux, **S. H. Sung**, R. Hovden, A. W. Tsen, T. Taniguchi, K. Watanabe, G.-C. Yi, M. Kim, M. Luskin, E. B. Tadmor, E. Kaxiras, and P. Kim "Atomic and electronic reconstruction at the van der Waals interface in twisted bilayer graphene", **Nature Materials** **18**, 448–453 (2019) [[10.1038/s41563-019-0346-z](https://doi.org/10.1038/s41563-019-0346-z)]
2. S. Chatterjee, **S. H. Sung**, D. J. Baek, L. F. Kourkoutis, D. G. Schlom, and K. M. Shen "Epitaxial growth and electronic properties of mixed valence YbAl₃ thin films", **Journal of Applied Physics** **120**, 035105 (2016) [[10.1063/1.4958336](https://doi.org/10.1063/1.4958336)]
1. Y. F. Nie, Y. Zhu, C.-H. Lee, L. F. Kourkoutis, J. A. Mundy, J. Junquera, P. Ghosez, D. J. Baek, **S. Sung**, X. X. Xi, K. M. Shen, D. A. Muller, and D. G. Schlom "Atomically precise interfaces from non-stoichiometric deposition", **Nature Communications** **5**, 4530 (2014) [[10.1038/ncomms5530](https://doi.org/10.1038/ncomms5530)]

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Book

1. M. Shah, **S. H. Sung**, and R. Hovden "The Atlas of Fourier Transform", **In Press** (2024)
 - Raised +\$19,000 from 159 backers for Kickstarter Campaign [[Link](#)]

CONFERENCE ABSTRACTS

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40. **S. H. Sung**, N. Agarwal, I. El Baggari, P. Kezer, Y. M. Goh, N. Schnitzer, J. M. Shen, T. Chiang, Y. Liu, W. Lu, Y. P. Sun, L. F. Kourkoutis, J. T. Heron, K. Sun, and R. Hovden "Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS₂", **Microscopy and Microanalysis** **30 (S1)**, ozae044.692 (2024)
39. Y. Zhang, **S. H. Sung**, S.-W. Cheong, and I. El Baggari "Inverse Transition of Correlated Disorder Revealed by Atomic-Resolution Cryogenic Electron Microscopy", **Microscopy and Microanalysis** **30 (S1)**, ozae044.754 (2024)
38. M. Gates, E. Rennich, **S. H. Sung**, N. Agarwal, R. Kerns, R. Hovden, and I. El Baggari "Ultra-Cold Cryogenic TEM Sample Holder with Liquid Helium and High Stability", **Microscopy and Microanalysis** **30 (S1)**, ozae044.688 (2024)
37. I. El Baggari, **S. H. Sung**, Y. Zhang, R. Hovden, M. Gates, E. Rennich, and N. Agarwal "Cryogenic Electron Microscopy of Quantum Matter", **Microscopy and Microanalysis** **30 (S1)**, ozae044.671 (2024)
36. J. M. Shen, **S. H. Sung**, N. Agarwal, A. Stangel, and R. Hovden "Evolution of Incommensurate Charge Density Waves Quantified with In Situ TEM", **Microscopy and Microanalysis** **30 (S1)**, ozae044.797 (2024)
35. M. Shah, **S. H. Sung**, and R. Hovden "The Atlas of Fourier Transforms: A Guide to Reciprocal Space for Biologists and Materials Scientists", **Microscopy and Microanalysis** **30 (S1)**, ozae044.437 (2024)

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34. N. Agarwal, **S. H. Sung**, Z. Sun, L. Zhao, and R. Hovden “Unconventional Lattice Reconstruction in Twisted Multilayer CrI_3 ”, **Microscopy and Microanalysis 30 (S1)**, ozae044.544 (2024)
33. R. Hovden, J. Schwartz, **S. H. Sung**, Z. W. Di, Y. Jiang, J. Manassa, J. Pietryga, Y. Qian, M. G. Cho, J. L. Rowell, H. Zheng, R. D. Robinson, J. Gu, A. Kirilin, S. Rozeveld, P. Ercius, and M. Scott “Chemical Electron Tomography at Lower Dose and Higher Resolution”, **Microscopy and Microanalysis 30 (S1)**, ozae044.890 (2024)
32. **S. H. Sung**, N. Agarwal, I. El Baggari, Y. M. Goh, P. Kezer, N. Schnitzer, Y. Liu, W. Lu, Y. P. Sun, L. F. Kourkoutis, K. Sun, J. T. Heron, and R. Hovden “Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS_2 ”, **Materials Research Society** (2024)
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28. **S. H. Sung**, P. Kezer, N. Agarwal, Y. M. Goh, N. Schnitzer, I. El Baggari, K. Sun, L. F. Kourkoutis, J. T. Heron, and R. Hovden “Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS_2 ”, **Microscopy and Microanalysis 29 (S1)**, 1646–1647 (2023)
27. **S. H. Sung** and R. Hovden “The Structure of Charge Density Waves in TaS_2 across Temperature and Dimensionality”, **Microscopy and Microanalysis 29 (S1)**, 1694 (2023)
26. N. Agarwal, **S. H. Sung**, J. Schwartz, N. Schnitzer, Z. Xi, J. Hung, I. El Baggari, L. F. Kourkoutis, L. Qi, A. Van der Ven, and R. Hovden “Native Intercalant Order in TaS_2 Achieved Through in situ Thermal Heating”, **Microscopy and Microanalysis 29 (S1)**, 1583–1584 (2023)
25. M. Shah, **S. H. Sung**, and R. Hovden “An Atlas of Fourier Transforms”, **Microscopy and Microanalysis 29 (S1)**, 1404–1405 (2023)
24. **S. H. Sung**, N. Schnitzer, A. Dabak-Wakankar, I. El Baggari, L. F. Kourkoutis, and R. Hovden “Moiré Magnification of Charge Density Wave Dislocations using 4D-STEM”, **Microscopy and Microanalysis 29 (S1)**, 260–261 (2023)
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22. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, H. Xie, Z. Li, A. Ye, P. B. Deotare, A. J. Mannix, J. Park, L. Zhao, P. Kim, and R. Hovden “Universal Torsional Periodic Lattice Distortion in Twisted 2D Materials”, **Materials Research Society** (2022)
21. **S. H. Sung**, Y. M. Goh, N. Agarwal, N. Schnitzer, I. El Baggari, K. Sun, L. F. Kourkoutis, and R. Hovden “Engineering Charge Density Waves using Interleaved Polytype Heterostructures”, **Materials Research Society** (2022)
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19. **S. H. Sung**, Y. M. Goh, N. Agarwal, N. Schnitzer, I. El Baggari, K. Sun, L. F. Kourkoutis, and R. Hovden “Engineering Charge Density Waves using Interleaved Polytype Heterostructures”, **Microscopy and Microanalysis 28 (S1)**, 2362–2364 (2022)

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17. N. Agarwal*, **S. H. Sung***, J. Schwartz, and R. Hovden "Accessing Chemically Ordered Phases in TaS₂ via High Temperature In-situ TEM", **Microscopy and Microanalysis 28 (S1)**, 1926–1927 (2022) [**M&M Student Scholar Awards**]
16. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, P. Kim, and R. Hovden "Torsional Periodic Lattice Distortion in Twisted Bilayer Graphene", **Bulletin of the American Physical Society 67**, 3, K56.2 (2022)
15. A. Ye, A. J. Mannix, **S. H. Sung**, A. Ray, F. Mujid, C. Park, M. Lee, J.-H. Kang, R. T. Shreiner, A. A. High, D. A. Muller, R. Hovden, and J. Park "Robotically Manufactured Complex van der Waals Heterostructures for Interlayer-Angle-Controlled Combinatorial Solids", **Bulletin of the American Physical Society 67**, 3, M71.9 (2022)
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11. **S. H. Sung**, Y. M. Goh, I. El Baggari, K. Sun, and R. Hovden "Recovery of long-range order in two-dimensional charge density waves at high temperatures", **Microscopy and Microanalysis 27 (S1)**, 852–854 (2021) [**M&M Student Scholar Awards**]
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8. R. Hovden, R. Yalisove, J. Schwartz, **S. H. Sung**, Y. Jiang, and P. Ercius "Achieving High-resolution of Large Specimens Using Aberration-corrected Tomography", **Microscopy and Microanalysis 26 (S2)**, 924–925 (2020)
7. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, P. Kim, and R. Hovden "Torsional Periodic Lattice Distortion in Twisted Bilayer Graphene", **Microscopy and Microanalysis 26 (S2)**, 864–866 (2020)
6. R. Hovden, **S. H. Sung**, N. Schnitzer, S. Novakov, I. El Baggari, B. Savitzky, J. T. Heron, and L. F. Kourkoutis "The Structure of Charge Density Wave Phase Transitions in Atomically Thin Materials", **Microscopy and Microanalysis 26 (S2)**, 864–866 (2020)
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3. N. Schnitzer*, **S. H. Sung***, and R. Hovden "Stacking, Strain, & Stiffness of 2D Transition Metal Dichalcogenides Quantified through Reciprocal Space", **Microscopy and Microanalysis 24 (S1)**, 1586–1587 (2018) [**M&M Student Scholar Awards**]
2. H. Yoo, K. Zhang, R. Engelke, P. Cazeaux, **S. H. Sung**, R. Hovden, A. Tsen, T. Taniguchi, K. Watanabe, G.-C. Yi, M. Kim, M. Luskin, E. Tadmor, and P. Kim "Atomic Scale Relaxation at the van der Waals Interface in Twisted Bilayer Graphene", **Bulletin of the American Physical Society 63**, 1, V37.10 (2018)
1. R. Engelke, H. Yoo, K. Zhang, P. Cazeaux, **S. H. Sung**, R. Hovden, A. Tsen, T. Taniguchi, K. Watanabe, G.-C. Yi, M. Kim, M. Luskin, E. Tadmor, and P. Kim "Structural study of atomic relaxation and commensurate transition in twisted bilayer graphene", **Bulletin of the American Physical Society 63**, 1, V37.9 (2018)

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PRESENTATIONS

25. **S. H. Sung**, M. Liu, T. Dinh, C. Broyles, J. Gardener, A. Akey, S. Ran, P. Kim, J. Hoffman, and I. El Baggari "Unveiling a Large Supermodulation Underlying Electronic Anisotropy in Uranium Chalcogenide", **Microscopy and Microanalysis** (2024) Cleveland, OH
24. **S. H. Sung**, N. Agarwal, I. El Baggari, P. Kezer, Y. M. Goh, N. Schnitzer, J. M. Shen, T. Chiang, Y. Liu, W. Lu, Y. P. Sun, L. F. Kourkoutis, J. T. Heron, K. Sun, and R. Hovden "Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS₂", **Microscopy and Microanalysis** (2024) Cleveland, OH
23. **S. H. Sung**, N. Agarwal, I. El Baggari, Y. M. Goh, P. Kezer, N. Schnitzer, Y. Liu, W. Lu, Y. P. Sun, L. F. Kourkoutis, K. Sun, J. T. Heron, and R. Hovden "Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS₂", **Gordon Research Conference: Strongly Correlated Matters** (2024) Mount Holyoke University, MA
22. **S. H. Sung** "Endotaxial stabilization of 2D charge density waves with long-range order", **Invited Talk, Max Planck Institute for Chemical Physics of Solids** (2024) Dresden, Germany
21. **S. H. Sung**, N. Agarwal, I. El Baggari, Y. M. Goh, P. Kezer, N. Schnitzer, Y. Liu, W. Lu, Y. P. Sun, L. F. Kourkoutis, K. Sun, J. T. Heron, and R. Hovden "Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS₂", **Materials Research Society** (2024) Seattle, WA
20. **S. H. Sung**, N. Schnitzer, J. L. Hart, A. Dabak-Wakankar, I. El Baggari, J. J. Cha, L. F. Kourkoutis, and R. Hovden "Imaging Mobility of Charge Order Topology via Charge Density Wave Interferometry", **Materials Research Society** (2024) Seattle, WA
19. **S. H. Sung**, N. Agarwal, I. El Baggari, Y. M. Goh, P. Kezer, N. Schnitzer, Y. Liu, W. Lu, Y. P. Sun, L. F. Kourkoutis, K. Sun, J. T. Heron, and R. Hovden "Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS₂", **The 20th International Microscopy Congress** (2023) Busan, South Korea
18. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, H. Xie, K. Zhang, Z. Li, A. Ye, P. B. Deotare, E. B. Tadmor, A. J. Mannix, J. Park, L. Zhao, P. Kim, and R. Hovden "Universal Torsional Periodic Lattice Distortion in Twisted 2D Materials", **The 20th International Microscopy Congress** (2023) Busan, South Korea
17. **S. H. Sung**, R. Yalisove, J. Schwartz, Y. Jiang, C. Ophus, M. C. Scott, P. Ercius, and R. Hovden "Achieving High-Resolution of Large Specimens Using Aberration-Corrected Tomography", **The 20th International Microscopy Congress** (2023) Busan, South Korea
16. **S. H. Sung**, P. Kezer, N. Agarwal, Y. M. Goh, N. Schnitzer, I. El Baggari, K. Sun, L. F. Kourkoutis, J. T. Heron, and R. Hovden "Endotaxial Polytype Engineering: Enhancement of Incommensurate Charge Density Waves in TaS₂", **Microscopy and Microanalysis** (2023) Minneapolis, MN

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15. **S. H. Sung** and R. Hovden “The Structure of Charge Density Waves in TaS₂ across Temperature and Dimensionality”, **Microscopy and Microanalysis** (2023) Minneapolis, MN
14. M. Shah, **S. H. Sung**, and R. Hovden “An Atlas of Fourier Transforms”, **Microscopy and Microanalysis** (2023) Minneapolis, MN
13. **S. H. Sung**, N. Schnitzer, A. Dabak-Wakankar, I. El Baggari, L. F. Kourkoutis, and R. Hovden “Moiré Magnification of Charge Density Wave Dislocations using 4D-STEM”, **Microscopy and Microanalysis** (2023) Minneapolis, MN
12. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, H. Xie, Z. Li, A. Ye, P. B. Deotare, A. J. Mannix, J. Park, L. Zhao, P. Kim, and R. Hovden “Universal Torsional Periodic Lattice Distortion in Twisted 2D Materials”, **Materials Research Society** (2022)
11. **S. H. Sung**, Y. M. Goh, N. Agarwal, N. Schnitzer, I. El Baggari, K. Sun, L. F. Kourkoutis, and R. Hovden “Engineering Charge Density Waves using Interleaved Polytype Heterostructures”, **Materials Research Society** (2022)
10. **S. H. Sung** “Periodic Lattice Distortions in Low Dimensional Materials”, **Invited Talk, Harvard University** (2023) Cambridge, MA
9. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, H. Xie, Z. Li, A. Ye, P. B. Deotare, A. J. Mannix, J. Park, L. Zhao, P. Kim, and R. Hovden “Universal Torsional Periodic Lattice Distortion in Twisted 2D Materials”, **Microscopy and Microanalysis** (2022) Portland, OR
8. **S. H. Sung**, Y. M. Goh, N. Agarwal, N. Schnitzer, I. El Baggari, K. Sun, L. F. Kourkoutis, and R. Hovden “Engineering Charge Density Waves using Interleaved Polytype Heterostructures”, **Microscopy and Microanalysis** (2022) Portland, OR
7. **S. H. Sung**, Y. M. Goh, N. Agarwal, N. Schnitzer, I. El Baggari, K. Sun, L. F. Kourkoutis, and R. Hovden “Two-dimensional charge order stabilized in clean polytype heterostructures”, **PARADIM** (2022) Baltimore, MD [**Invited Presentation**]
6. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, P. Kim, and R. Hovden “Torsional Periodic Lattice Distortion in Twisted Bilayer Graphene”, **APS March Meeting** (2022) Chicago, IL
5. **S. H. Sung**, N. Schnitzer, S. Novakov, I. El Baggari, X. Luo, J. Gim, N. Vu, Z. Li, T. Brintlinger, Y. Liu, W. Lu, Y. P. Sun, P. Deotare, K. Sun, L. Zhao, L. F. Kourkoutis, J. T. Heron, and R. Hovden “Two-dimensional charge order stabilized in clean polytype heterostructures”, **Materials Research Society** (2021)
4. **S. H. Sung**, N. Schnitzer, S. Novakov, I. El Baggari, X. Luo, J. Gim, N. Vu, Z. Li, T. Brintlinger, Y. Liu, W. Lu, Y. P. Sun, P. Deotare, K. Sun, L. Zhao, L. F. Kourkoutis, J. T. Heron, and R. Hovden “Two-dimensional charge order stabilized in clean polytype heterostructures”, **Microscopy and Microanalysis** (2021) Virtual Conference
3. **S. H. Sung**, Y. M. Goh, I. El Baggari, K. Sun, and R. Hovden “Recovery of long-range order in two-dimensional charge density waves at high temperatures”, **Microscopy and Microanalysis** (2021) Virtual Conference
2. **S. H. Sung**, N. Schnitzer, and R. Hovden “Maximal Resolution from the Ronchigram: Human vs. Deep Learning”, **AI for Atoms: How to Machine Learn STEM** (2020) ORNL/CNMS Virtual Workshop
1. **S. H. Sung**, Y. M. Goh, H. Yoo, R. Engelke, P. Kim, and H. Robert “Torsional Periodic Lattice Distrtion in Twisted Bilayer Graphene”, **Microscopy and Microanalysis** (2020) Virtual Conference

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AWARDS

Microscopy & Microanalysis 2024 Postdoctoral Scholar Award	July 2024
Best Presentation Award: The 20th International Microscopy Congress	Sept. 2023
Rackham Predoctoral Fellowship	2022–2023
Rackham Conference Travel Grant	2021, 2022, 2023
Molecular Foundry User Proposal	May 2022
Microscopy & Microanalysis 2021 Student Scholar Award	Aug. 2021
Rackham Graduate Student Research Grant	Jun. 2021
PARADIM User Proposal	Aug. 2018
Dorothy & Fred Chau Award: Excellence in Undergraduate Research	May 2016
Engineering Learning Initiatives Undergraduate Research Award	Apr. 2014 & Sept. 2014

TEACHING EXPERIENCES, OUTREACH & ACADEMIC SERVICES

Cornell NSF-PARADIM Summer School Instructor on Scanning Transmission Electron Microscopy	June. 2024
• Designed a tutorial module for PARADIM 2024 Summer school supported under NSF Grant No. DMR-2039380.	
MSE 593 – Design, Data, & Visualization for High Impact Sciences	Fall. 2023
• Designed and taught a new course at University of Michigan.	
• Maximum enrollment reached	
Cornell NSF-PARADIM Summer School Instructor on Scanning Transmission Electron Microscopy	June. 2021
• Designed a tutorial module for PARADIM 2021 Summer school supported under NSF Grant No. DMR-2039380.	
Ronchigram.com : Open-source education tool for advanced Electron Microscopy	Jul. 2018 – Current
• Built and maintains ' ronchigram.com ', an open-source, cross-platform electron microscopy training tool.	
Peer Review : Peer Reviewer for <i>Science</i> and <i>Nature Communications</i>	
Graduate Student Instructor , University of Michigan	Aug. 2019 – Dec. 2019
• Teaching assistant for 'Introduction to Electron Microscopy (MSE 562)'	
Undergraduate Teaching Assistant , Cornell University	Aug. 2015 – Dec. 2015
• Assisted graduate TA for 'Physics I: Mechanics and Heat (PHYS 1112)'	

REFERENCES

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