

SUK HYUN SUNG

The Rowland Institute at Harvard
60 Oxford St.
Cambridge, MA 02138

April 2025
+1 (734) 263-7715
ssung@g.harvard.edu
shsung.com

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: 16, LEAD AUTHOR: 10, [GOOGLE SCHOLAR](#))

30. Y. Zhang, **S. H. Sung**, C. B. Clement, S.-W. Cheong, and I. El Baggari “Inverse melting of polar order in a ferroelectric oxide”, **Under Review** (2024) [[10.48550/arXiv.2411.10445](#)]
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 “In-plane control of a charge density wave by means of shear stress”, **Advanced Materials** (2024) [[10.1002/adma.202410950](#)]
28. E. Rennich*, **S. H. Sung***, N. Agarwal, M. Gates, R. Kerns, R. Hovden, and I. El Baggari “Ultra-Cold Cryogenic TEM with Liquid Helium and High Stability”, **Under Review** (2024) [[10.48550/arXiv.2402.00636](#)]
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](#)]
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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](#)]

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+1 (734) 263-7715
ssung@g.harvard.edu
shsung.com

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](https://doi.org/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)]
17. **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 “Torsional periodic lattice distortions and diffraction of twisted 2D materials”, **Nature Communications** 13, 7826 (2022) [[10.1038/s41467-022-35477-x](https://doi.org/10.1038/s41467-022-35477-x)]
16. W. Liu, X. Guo, J. Schwartz, H. Xie, N. U. Dhale, **S. H. Sung**, A. L. N. Kondusamy, X. Wang, H. Zhao, D. Berman, R. Hovden, L. Zhao, and B. Lv “A three-stage magnetic phase transition revealed in ultrahigh-quality van der Waals bulk magnet CrSBr”, **ACS Nano** 16, 15917–15926 (2022) [[10.1021/acsnano.2c02896](https://doi.org/10.1021/acsnano.2c02896)]
15. **S. H. Sung**, N. Schnitzer, W. Millsaps, L. F. Kourkoutis, and R. Hovden “Ronchigram simulation and aberration correction training using ronchigram.com”, **Microscopy Today** 30, 5, 40–43 (2022) [[10.1017/S1551929522001043](https://doi.org/10.1017/S1551929522001043)]
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** 17, 361–366 (2022) [[10.1038/s41565-021-01061-5](https://doi.org/10.1038/s41565-021-01061-5)]
12. H. Xie, X. Luo, G. Ye, Z. Ye, H. Ge, **S. H. Sung**, E. Rennich, S. Yan, Y. Fu, S. Tian, H. Lei, R. Hovden, K. Sun, R. He, and L. Zhao “Twist engineering of the two-dimensional magnetism in double bilayer chromium triiodide homostructures”, **Nature Physics** 18, 30–36 (2022) [[10.1038/s41567-021-01408-8](https://doi.org/10.1038/s41567-021-01408-8)]
11. X. Luo, D. Obeysekera, C. Won, **S. H. Sung**, N. Schnitzer, R. Hovden, S.-W. Cheong, J. Yang, K. Sun, and L. Zhao “Ultrafast modulations and detection of a ferro-rotational charge density wave using time-resolved electric quadrupole second harmonic generation”, **Physical Review Letters** 127, 126401 (2021) [[10.1103/PhysRevLett.127.126401](https://doi.org/10.1103/PhysRevLett.127.126401)]
10. P. Meisenheimer, R. A. Steinhardt, **S. H. Sung**, L. D. Williams, S. Zhuang, M. E. Nowakowski, S. Novakov, M. M. Torunbalci, B. Prasad, C. J. Zollner, Z. Wang, N. M. Dawley, J. Schubert, A. H. Hunter, S. Manipatruni, D. E. Nikonov, I. A. Young, L. Q. Chen, J. Bokor, S. A. Bhave, R. Ramesh, J.-M. Hu, E. Kioupakis, R. Hovden, D. G. Schlom, and J. T. Heron “Engineering new limits to magnetostriction through metastability in iron-gallium alloys”, **Nature Communications** 12, 2757 (2021) [[10.1038/s41467-021-22793-x](https://doi.org/10.1038/s41467-021-22793-x)]
9. R. Yalisove*, **S. H. Sung***, P. Ercius, and R. Hovden “The limits of resolution and dose for aberration-corrected tomography”, **Physical Review Applied** 15, 014003 (2021) [[10.1103/PhysRevApplied.15.014003](https://doi.org/10.1103/PhysRevApplied.15.014003)] [Editors Choice]
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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+1 (734) 263-7715
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shsung.com

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)]

^{*} The first authors contributed equally

[†] Corresponding Author

Book

1. M. Shah, **S. H. Sung**, and R. Hovden “The Atlas of Fourier Transform”, **In Press** (2024)
 - Raised +\$24,000 from +190 backers for Kickstarter Campaign. [[Link](#)]

PRESENTATIONS: INVITED

3. **S. H. Sung** “Unveiling picoscale distortions in 2D materials with advanced electron microscopy”, **Precision in 2D: Quantum Materials Characterization, Harvard Center for Nanoscale Science** (2024) Cambridge, MA
2. **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
1. **S. H. Sung** “Periodic lattice distortions in low dimensional materials”, **Invited Talk, Harvard University** (2023) Cambridge, MA

PRESENTATIONS

23. **S. H. Sung**, E. Rennich, N. Agarwal, M. Gates, R. Kerns, B. H. Savitzky, R. Hovden, and I. El Baggari “Imaging electronic phase transitions with liquid helium temperature TEM”, **Materials Research Society** (2024) Boston, MA
22. **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
21. **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

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60 Oxford St.
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+1 (734) 263-7715
ssung@g.harvard.edu
[shsung.com](mailto:ssung@g.harvard.edu)

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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”, **Materials Research Society** (2024) Seattle, WA
18. **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
17. **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
16. **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
15. **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
14. **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
13. **S. H. Sung** and R. Hovden “The structure of charge density waves in TaS₂ across temperature and dimensionality”, **Microscopy and Microanalysis** (2023) Minneapolis, MN
12. **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
11. **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)
10. **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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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

SUK HYUN SUNG

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Cambridge, MA 02138

April 2025
+1 (734) 263-7715
ssung@g.harvard.edu
shsung.com

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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 distortion in twisted bilayer graphene”, **Microscopy and Microanalysis** (2020) Virtual Conference

CONFERENCE ABSTRACTS

41. **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** 30 (S1), ozae044.727 (2024)
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)
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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)
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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)
34. N. Agarwal, **S. H. Sung**, Z. Sun, L. Zhao, and R. Hovden “Unconventional lattice reconstruction in twisted multilayer CrI₃”, **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 TaS₂”, **Materials Research Society** (2024)
31. **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)

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shsung.com

30. E. Rennich, **S. H. Sung**, N. Agarwal, R. Hovden, and I. El Baggari “Liquid helium TEM sample holder with high stability and long hold times”, **Microscopy and Microanalysis** 29 (S1), 1696–1697 (2023)
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SUK HYUN SUNG

The Rowland Institute at Harvard
60 Oxford St.
Cambridge, MA 02138

April 2025
+1 (734) 263-7715
ssung@g.harvard.edu
shsung.com

14. H. Xie, X. Luo, G. Ye, Z. Ye, H. Ge, **S. H. Sung**, E. Rennich, S. Yan, Y. Fu, S. Tian, H. Lei, R. Hovden, K. Sun, R. He, and L. Zhao “Tuning two-dimensional magnetism in twisted CrI₃ double bilayers”, **Bulletin of the American Physical Society** 67, 3, Q55.4 (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**]
10. R. Engelke, H. Yoo, S. Carr, **S. H. Sung***, K. Zhang, A. M. Valdivia, E. B. Tadmor, R. Hovden, E. Kaxiras, and P. Kim “Imaging of 2-dimensional dislocation networks in twisted bilayer graphene and beyond”, **Microscopy and Microanalysis** 26 (S2), 854–855 (2020)
9. R. Yalisove*, **S. H. Sung***, J. Schwartz, C. Groschner, P. Pelz, H. Zheng, Y. Jiang, C. Ophus, M. Scott, P. Ercius, and R. Hovden “Achieving high-resolution of large specimens using aberration-corrected tomography”, **Microscopy and Microanalysis** 26 (S2), 1860–1862 (2020)
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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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4. N. Schnitzer*, **S. H. Sung***, and R. Hovden “Maximal resolution from the Ronchigram: Human vs. deep learning”, **Microscopy and Microanalysis** 25 (S2), 160–161 (2019)
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)
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*The authors contributed equally.

SUK HYUN SUNG

The Rowland Institute at Harvard
60 Oxford St.
Cambridge, MA 02138

April 2025
+1 (734) 263-7715
ssung@g.harvard.edu
shsung.com

AWARDS & GRANTS

Rowland Institute Internal Grant	Dec. 2024
• Received \$100,000 towards the development of novel TEM instrumentation	
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	June 2021
NVIDIA GPU Grant	Sept. 2018
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	July 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

Principal Investigator Ismail El Baggari
E-mail: ielbaggari-at-rowland.harvard.edu

The Rowland Institute at Harvard University, Cambridge, MA

Associate Professor Robert Hovden
E-mail: hovden-at-umich.edu

University of Michigan, Ann Arbor, MI

SUK HYUN SUNG

The Rowland Institute at Harvard
60 Oxford St.
Cambridge, MA 02138

April 2025
+1 (734) 263-7715
ssung@g.harvard.edu
shsung.com

Associate Professor Julia A. Mundy
E-mail: mundy-at-fas.harvard.edu

Associate Professor John T. Heron
E-mail: jtheron-at-umich.edu

Associate Professor Liuyan Zhao
E-mail: lyzhao-at-umich.edu

Professor Philip Kim
E-mail: pkim-at-physics.harvard.edu

Harvard University, Cambridge, MA

University of Michigan, Ann Arbor, MI

University of Michigan, Ann Arbor, MI

Harvard University, Cambridge, MA