

Ryo Mori

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1. Academic Appointments

Assistant Professor (Alford L. Ward Assistant Professor) 2025 – Present
Quantum Materials Center and Department of Physics, University of Maryland

Research Associate 2022 – 2025
The Institute for Solid State Physics, The University of Tokyo, Japan

Postdoctoral Researcher 2021 – 2022
Materials Sciences Division, Lawrence Berkeley National Laboratory
Department of Physics, University of California Berkeley

Graduate Research Assistant 2014 – 2020
Materials Sciences Division, Lawrence Berkeley National Laboratory
Department of Physics, University of California Berkeley

Graduate Research Assistant 2012 – 2014
College of Chemistry, University of California, Berkeley

Research Assistant 2012
Department of Applied Physics, Keio University, Japan

2. Education

University of California, Berkeley
Ph.D. in Applied Science and Technology (Applied Physics) 20201

Keio University, Tokyo, Japan
B.E. in Department of Applied Physics 2012

3. Grants, Fellowships, Awards, and Honors

3.1 Research Grants

- JST PRESTO, Grant No. JPMJPR24LA (PI) 2024 – 2028
- UTEC-UTokyo FSI Research Grant, Type A (PI) 2024 – 2026
- JSPS Grant-in-aid, Grant No. 23K13041 (PI) 2023 – 2025
- JSPS Grant-in-aid, Grant No. 23K17351 (Co-Investigator) 2023 – 2025

3.2 Fellowships, Awards, and Honors

- Alford L. Ward Professorship, University of Maryland 2025 – 2030
- Funai Fellowship for Postdoctoral Research (Funai Foundation) 2021 – 2022
- Applied Science and Technology Summer Research Fellowship, UC Berkeley 2017
- Funai Overseas Scholarship (Funai Foundation) 2012 – 2015
- Graduate Division Block Grant Award, UC Berkeley 2012 – 2013

4. Publications

4.1 Preprints/Submitted

(+ *correspondence*; * *equal contribution*)

1. **R. Mori***, **Y. Lin*+**, **Y. Chan***, **W. Lee* (co-firsts)**, L-S. Lu, Z. Li, K. Kawaguchi, W-H. Chang, C-K. Shin, S.G. Louie, A. Lanzara+, *Tracking ultrafast Mott-crossover of electron-hole many-body states*

2. Y. Fukushima, H. S. Suzuki, M. Ochi, T. Nishida, T. Ikenobe, Y. Kinoshita, K. Kawaguchi, H. Tanaka, A. Harasawa, T. Iimori, K. Yaji, M. Tokunaga, K. Tanaka, T. Morimoto, **R. Mori**, T. Kondo+, *Direct observation of a spin-polarized surface Dirac gap in the antiferromagnetic topological insulator NdBi*
3. H. Fujiwara+, T. Higashikawa, X. Enda, T. Tadano, L. Xie, D. Kan, Y. Shimakawa, K. Kawaguchi, **R. Mori**, A. Harasawa, T. Kondo, T. Yokoya+, *Direct observation of Nonquasiparticle States in a Type I_B Half-Metal by Spin-Resolved Photoemission*

4.2 **Published/Accepted**

4. F. Guo+, D. Usanov, E. B. Guedes, M. Fanciulli, K. Kawaguchi, **R. Mori**, T. Kondo, A. Magrez, M. Puppin, J. H. Dil+, *Dependency of quantum timescales on symmetry*, *Newton* **2**, 100374 (2026)
5. **R. Mori**+, K. Takasan, P. Ai, S. Ciocys, K. Kawaguchi, T. Kondo, T. Morimoto, A. Lanzara+, *Possible evidence of excitonic condensation in a topological insulator*, *Proceedings of the National Academy of Sciences (PNAS)* **122**, e2422667122 (2025)
6. T. Nakamura, Y. Chen, R. Nemoto, W. Qian, Y. Fukushima, K. Kawaguchi, **R. Mori**, T. Kondo, Y. Yamaji, S. Tsuda, K. Yaji, T. Uchihashi+, *Moire superlattices of antimonene on a Bi(111) substrate with van Hove singularity and Rashba-type spin polarization*, *Communications Materials* **5**, 167 (2024)
7. H. Luo, K. Currier, C.Y. Lin, K. Gotlieb, **R. Mori**, H. Eisaki, A. Fedorov, Z. Hussain, A. Lanzara+, *Doping dependence of spin-momentum locking in bismuth-based high-temperature cuprate superconductors*, *Communications Materials* **5**, 140 (2024)
8. Y. Fukushima, K. Kawaguchi, K. Kuroda, M. Ochi, M. Hirayama, **R. Mori**, H. Tanaka, A. Harasawa, T. Iimori, Z. Zhao, S. Tani, K. Yaji, S. Shik, F. Komori, Y. Kobayashi, T. Kondo+, *Spin-polarized saddle points in the topological surface states of the elemental Bismuth revealed by a pump-probe spin-resolved ARPES*, *Phys. Rev. B* **110**, L041401 (2024)
9. H. Tanaka, S. Okazaki, Y. Fukushima, K. Kawaguchi, A. Harasawa, T. Iimori, F. Komori, M. Arita, **R. Mori**, K. Kuroda+, T. Sasagawa+, T. Kondo+, *Photoemission angular distribution beyond the single wavevector description of photoelectron final states*, *Phys. Rev. B* **109**, L241114 (2024)
10. **R. Mori**+, S. Ciocys, K. Takasan, P. Ai, K. Currier, T. Morimoto, J. E. Moore, A. Lanzara+, *Spin-polarized spatially indirect excitons in a topological insulator*, *Nature* **614**, 249-255 (2023)
11. P. Ai, L. Moreschini, **R. Mori**, D. W. Latzke, J. D. Denlinger, A. Zettl, C. O. Aristizabal, A. Lanzara+, *Linearly dispersive bands at the onset of correlations in K_xC_{60} films*, *Phys. Rev. Research* **5**, L022042 (2023)
12. **R. Mori**, K. Wang, T. Morimoto, S. Ciocys, J. D. Denlinger, J. Paglione, A. Lanzara+, *Observation of a flat and extended surface state in a topological semimetal*, *Materials* **15**, 2744 (2022)
13. N. Dale, **R. Mori**, I. Utama, J. D. Denlinger, C. Stansbury, C. G. Fatuzzo, S. Zhao, K. Lee, T. Taniguchi, K. Watanabe, C. Jozwiak, A. Bostwick, E. Rotenberg, R. Koch, F. Wang, A. Lanzara+, *Correlation-Driven Electron-Hole Asymmetry in Graphene Field Effect Devices*, *npj Quantum Materials* **7**, 9 (2022)
14. **K. Wang***, **R. Mori*** (co-first), Z. Wang, L. Wang, J. H. S. Ma, D. W. Latzke, D. E. Graf, J. D. Denlinger, D. Campbell, B. A. Bernevig, A. Lanzara+, J. Paglione+, *Crystalline symmetry-protected non-trivial topology in prototype compound $BaAl_4$* , *npj Quantum Materials* **6**, 28 (2021)
15. S. Ciocys, T. Morimoto, **R. Mori**, K. Gotlieb, Z. Hussain, J. Analytis, J. E. Moore, A. Lanzara+, *Manipulating long-lived topological surface photovoltage in bulk-insulating topological insulators Bi_2Se_3 and Bi_2Te_3* , *npj Quantum Materials* **5**, 16 (2020)
16. **R. Mori**, P. B. Marshall, K. Ahadi, J. D. Denlinger, S. Stemmer, A. Lanzara+, *Controlling a Van Hove singularity and Fermi surface topology at a complex oxide heterostructure interface*, *Nature Communications* **10**, 5534 (2019)
17. G. Autes*, A. Isaeva*, L. Moreschini*, A. Pisoni, **R. Mori**, W. Zhang, T. G. Filatova, A. N. Kuznetsov, L. Forro, W. V. Broek, Y. Kim, K. S. Kim, A. Lanzara, J. D. Denlinger, E. Rotenberg, A. Bostwick, M. Grioni, O. V. Yazyev+, *A novel quasi-one-dimensional topological insulator in bismuth iodide β - Bi_4I_4* ,

Nature Materials **15**, 154-158 (2016)

18. T. Sekiguchi, A. M. Tyryshkin, S. Tojo, E. Abe, **R. Mori**, H. Riemann, N. V. Abrosimov, P. Becker, H.-J. Pohl, J. W. Ager, E. E. Haller, M. L. W. Thewalt, J. J. L. Morton, S. A. Lyon, K. M. Itoh+, *Host isotope mass effects on hyperfine interaction of group V donor in silicon*, *Phys. Rev. B* **90**, 121203(R) (2014)

5. Invited Talks and Conferences

1. MRS Fall Meeting, Boston, December 2024
2. Physics and Applied Physics Seminars, Nanyang Technological University, Singapore, April 2024
3. Physics & Astronomy Colloquium, University of Notre Dame, Notre Dame, March 2024
4. Quantum Materials Colloquium, University of Maryland, College Park, March 2024
5. Panofsky Seminar, SLAC/Stanford University, Stanford, February 2024
6. Materials Science Seminar, University of Pennsylvania, Pennsylvania, February 2024
7. Physics Colloquium, University of Houston, Houston, February 2024
8. Faculty of Engineering Seminars, The University of Tokyo, Japan, May 2023
9. EPiQS Postdoctoral Symposium, Boston, June 2019