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APPOINTMENTS

- 2020 - Assistant Professor, Department of Physics, Sogang University
2019 - 2020 Research Associate, Department of Physics, Harvard University
2016 - 2019 Postdoctoral Fellow, Department of Physics, Harvard University

EDUCATION

- 2011 - 2016 Ph.D. in Materials Science and Engineering, Seoul National University
2005 - 2010 B.S. in Materials Science and Engineering, Seoul National University

HONORS & AWARDS

- POSCO Science Young Professor Fellow, POSCO TJ Park Foundation (2021)
International Scholarship Award, International Microscopy Congress (2014)
POSCO Science Doctoral Fellow, POSCO TJ Park Foundation (2013)
Fellowship for Fundamental Academic Fields, Seoul National University (2012-2014)

SELECTED PUBLICATIONS

1. S. Y. F. Zhao, X. Cui, P. A. Volkov, **H. Yoo**, S. Lee, J. A. Gardener, A. J. Akey, R. Engelke, Y. Rone n, R. Zhong, G. Gu, S. Plugge, T. Tummuru, M. Kim, M. Franz, J. H. Pixley, N. Poccia*, P. Kim*, Time-reversal symmetry breaking superconductivity between twisted cuprate superconductors, *Science* 382, 1422 (2023)
2. K. Ko⁺, A. Yuk⁺, R. Engelke⁺, S. Carr, J. Kim, D. Park, H. Heo, H.-M. Kim, S.-G. Kim, H. Kim, T. Taniguchi, K. Watanabe, H. Park, E. Kaxiras, S. M. Yang*, P. Kim*, **H. Yoo***, *Operando* electron microscopy investigation of polar domain dynamics in twisted van der Waals homobilayers, *Nat. Mater.* 22, 992 (2023)
3. E. H. Kim⁺, D. H. Lee⁺, T. J. Gu⁺, **H. Yoo***, Y. Jang, J. Jeong, H.-W. Kim, S.-G. Kang, H. Kim, H. Lee, K.-J. Jo, B. J. Kim, J. W. Kim, S. H. Im, C. S. Oh, C. Lee, K. K. Kim, C.-W. Yang, H. Kim, Y. Kim, P. Kim*, D. Whang*, J. R. Ahn*, Wafer-Scale Epitaxial Growth of an Atomically Thin Single-Crystal Insulator as a Substrate of Two-Dimensional Material Field-Effect Transistors, *Nano Lett.* 23, 3054 (2023)
4. R. Engelke, **H. Yoo**, S. Carr, K. Xu, P. Cazeaux, R. Allen, A. Mier Valdivia, M. Luskin, E. Kaxiras, M. Kim, J. H. Han, P. Kim*, Topological nature of dislocation networks in 2D moiré materials, *Phys. Rev. B* 107, 125413 (2023)
5. J. Kim⁺, E. Ko⁺, J. Jo, M. Kim, **H. Yoo***, Y.-W. Son*, and H. Cheong*, Anomalous optical excitations from arrays of whirlpooled lattice distortions in moire superlattices, *Nat. Mater.* 21, 890 (2022)

6. J. Sung, Y. Zhou, G. Scuri, V. Zolyomi, T. I. Andersen, **H. Yoo**, D. S. Wild, A. Y. Joe, R. J. Gelly, H. Heo, D. Berube, A. M. Valdivia, T. Taniguchi, K. Watanabe, M. D. Lukin, P. Kim, V. I. Falko*, H. Park*, Broken mirror symmetry in excitonic response of reconstructed domains in twisted MoSe₂/MoSe₂ bilayers, *Nat. Nanotech.* 15, 750 (2020)
7. X. Liu, Z. Hao, E. Khalaf, J. Y. Lee, Y. Ronen, **H. Yoo**, D. H. Najafabadi, K. Watanabe, T. Taniguchi, A. Vishwanath, P. Kim*, Spin-polarized Correlated Insulator in Tunable Moire Electron Bands of Twisted Double Bilayer Graphene, *Nature* 583, 221 (2020)
8. **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, P. Kim*, Atomic and electronic reconstruction at the van der Waals interface in twisted bilayer graphene, *Nat. Mater.* 18, 448 (2019)
9. S. S. Sunku, G. X. Ni, B. Y. Jiang, **H. Yoo**, A. Sternbach, A. S. McLeod, T. Stauber, L. Xiong, T. Taniguchi, K. Watanabe, P. Kim, M. M. Fogler, D. N. Basov*, Photonic crystals for nano-light in moiré graphene superlattices, *Science* 362, 1153 (2018)
10. D. K. Bediako⁺, M. Rezaee⁺, **H. Yoo**, D. T. Larson, S. Y. F. Zhao, T. Taniguchi, K. Watanabe, T. L. Brower-Thomas, E. Kaxiras, P. Kim*, Heterointerface effects in the electro-intercalation of van der Waals heterostructures, *Nature* 558, 425 (2018)
11. **H. Yoo**, S. Yoon, K. Chung, S.-H. Hong, Y.-K. Kwon, G.-C. Yi*, and M. Kim*, Understanding luminescence properties of grain boundaries in GaN thin films and their atomistic origin, *Appl. Phys. Lett.* 112, 131901 (2018)
12. **H. Yoo**, K. Chung, S. I. Park, M. Kim*, and G.-C. Yi*, Microstructural defects in GaN thin films grown on chemically vapor-deposited graphene layers, *Appl. Phys. Lett.* 102, 051908 (2013)
13. **H. Yoo**, K. Chung, Y. S. Choi, C. S. Kang, K. H. Oh, M. Kim*, and G.-C. Yi*, Microstructures of GaN thin films grown on graphene layers, *Adv. Mater.* 24, 515 (2012)

ACADEMIC & RESEARCH ADVISORS

Graduate student advisor: Miyoung Kim & Gyu-Chul Yi (Seoul National University)

Postgraduate-scholar advisor: Philip Kim (Harvard University)