Somin Park

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Professional appointments

Assistant Professor Aug 2024 – present
Department of Chemistry, National University of Singapore, Singapore

Postdoctoral Fellow, Northwestern University, US 2023 - 2024
Postdoctoral Fellow, University of Toronto, Canada 2021 - 2023
(Advisor: Prof. Edward H. Sargent)

Education

Ph.D. in Materials Science and Engineering 2020
M.S. in Chemistry (Advisor: Prof. Kenneth R. Graham) 2017
University of Kentucky, Lexington, KY, US

B.S. and M.S. in Materials Science and Engineering 2013
Gyeongsang National University, Jinju, South Korea

Awards and Honors

1. **Presidential Young Professorship,** National University of Singapore 2024
2. **GLOW 2024 Travel Award,** Nanyang Technological University 2024
   Global conference for women leaders and emerging researchers in materials science
3. **ACS PHYS Young Investigator Award** 2023
   American Chemical Society, Physical Chemistry division
4. **MIT ChemE Rising Stars** 2023
   Awarded to top early-stage academic career female researchers
5. **Rising Stars in MSE** (Stanford, MIT, CMU) 2023
6. **Polymer Society Korea-INNOX Young Investigator Award** 2023
7. **Viji Jeganathan Scholarship** 2019
   Cross-cultural understanding, International Student Center, University of Kentucky

Selected publications

Full list on Google Scholar

[†The authors contributed equally, *corresponding author]

1. D. Chandrashekhar, N, Gan, F. Aniés, **S. M. Park***. Functional Organic Room-Temperature Phosphorescent Materials. ***Journal of Materials Chemistry C*** 2026, DOI: 10.1039/D6TC00010J
2. B. Zhang, J. Luo*, H. Yin, Q. Li, S. Sun, N. Zhang, N. Gan, M. Azam, T. W. Park, J. Wan, C. Jia*, M. Wei*, **S. M. Park***. A Cross-linked Molecular Contact for Stable Operation of Perovskite/Silicon Tandem Solar Cells. ***Science*** 2025, 390, 6775, 837-842.

   Highlighted by *NUS News*, *Faculty of Science news*, *EurekAlert! AAAS*, *AZO Materials*, *Perovskite-info*, *Interesting Engineering*, *OpenGov*, *StatNano*, *Technology networks*, *Mirage News*, *MSN* etc.
3. J. Zhang, N. Gan, F. Liu, X. Xie, X. Zhang, C. Wu*, D. Shi, T. Xu, S. Cai, H. Guo, D. Li, G. Shi,

Y. Wei, J. Li, M. Wei, Y. Guan, Y. Zhang, S. Zheng, B. Li*, **S. M. Park***. Revealing Performance-Limiting Buried Interfaces in Layered Dion–Jacobson Lead–Iodide Perovskites. ***Journal of the American Chemical Society*** 2025, 147, 34, 30873-30884. *(Cover highlight)*

4. **S. M. Park**†, M. Wei†, N. Lempesis†, W. Yu, T. Hossain, L. Agosta, V. Carnevali, H. R. Atapattu, P. Serles, F. T. Eickemeyer, H. Shin, M. Vafaie, D. Choi, K. Darabi, E. D. Jung, Y. Yang, D. B. Kim, S. M. Zakeeruddin, B. Chen, A. Amassian, T. Filleter, M. G. Kanatzidis K. R. Graham, L. Xiao, U. Rothlisberger, M. Graetzel, E. H. Sargent. Low-loss contacts on textured substrates for inverted perovskite solar cells. ***Nature*** 2023, 624, 289-294.

   Highlighted by TechXplore, PV magazine, Perovskite-info, AZO Materials, my Science, Northwestern Engineering, EPFL news

5. **S. M. Park**†, M. Wei†, J. Xu†, H. R. Atapattu, F. T. Eickemeyer, K. Darabi, L. Grater, S. Teale, Y. Yang, C. Liu, B. Chen, H. Chen, T. Wang, L. Zeng, A. Maxwell, Z. Wang, K. R. Rao, Z. Cai, S. M. Zakeeruddin, J. T. Pham, C. M. Risko, A. Amassian, M. G. Kanatzidis, K. R. Graham, M. Graetzel, E. H. Sargent. Engineering ligand reactivity enables high-temperature-operating-stable perovskite solar cells. ***Science*** 2023, 381, 6654, 209-215.

   Highlighted by Chemistry World, Phys.org, Optica, University of Toronto Engineering, Northwestern Engineering, EPFL news

6. W. S. Shen†, Y. Liu†, L. Grater†, **S. M. Park**†, H. Wan, Y. J. Yu, J. L. Pan, F. C. Kong, Q. S. Tian, D. Y. Zhou, Z. Liu, W. Ma, B. Sun, Y. K. Wang, S. Hoogland, L. S. Liao. Thickness-variation-insensitive near-infrared quantum dot LEDs. ***Science Bulletin*** 2023, 68, 2954-2961.

7. **S. M. Park***, E. H. Sargent. Navigating pathways to increase stability in perovskite solar cells. ***Matter*** 2023, 6, 8, 2488-2490.

8. S. Lee†, **S. M. Park**†, E. D. Jung†, T. Zhu†, J. M. Pina, H. Anwar, F. Li, G. Chen, Y. Dong, T. Cui, M. Wei, K. Bertens, Y. Wang, B. Chen, T. Filleter, S. Hung, Y. Won, K. H. Kim, S. Hoogland, E. H. Sargent. Dipole engineering through the orientation of interface molecules for efficient InP quantum dot light-emitting diodes. ***Journal of the American Chemical Society*** 2022, 144, 20923-20930.

9. **S. M. Park**, A. Abtahi, A. Boehm, K. R. Graham. Surface ligands for methylammonium lead iodide films: surface coverage, energetics, and photovoltaic performance. ***ACS Energy Letters*** 2020, 5, 799-806.

10. **S. M. Park**, S. Mazza, Z. Liang, A. Abtahi, A. Boehm, S. Parkin, J. Anthony, K. R. Graham. Processing dependent influence of the hole transport layer ionization energy on methylammonium lead iodide perovskite photovoltaics. ***ACS Applied Materials & Interfaces*** 2018, 10, 15548-15557.

Teaching

CM3261 Environmental Chemistry, National University of Singapore 2026

CM4242 Advanced Analytical Techniques, National University of Singapore 2025

Pedagogical Training

Teaching in Higher Education THE500, University of Toronto 2022
Teaching Assistant Training Program ESL090, University of Kentucky 2014

Graduate Teaching Assistant, University of Kentucky

CHE111, CHE113 General Chemistry 2014, 2015, 2016, 2017
CHE226 Analytical Chemistry 2015, 2016
CHE446 Physical Chemistry 2019

Professional Academic Service

Independent Journal Reviewer

Science, Science Advances, Nature Energy, Nature Photonics, Nature Communications, Journal of Physical Chemistry, Chemistry of Materials, Journal of American Chemical Society, Chem Catalysis, ACS Materials Letters, *Organic Electronics, Journal of Materials Chemistry A, Energy & Environmental Science, Joule, Matter, Nanoscale, Chemical Engineering Journal, Communications Engineering, Nano Energy, Inorganic Chemistry*

Associate Editor *International Journal of Chemical Kinetics* 2024-2026

Session Chair Materials Research Society (MRS) meeting, Boston, US 2023

Vice President of Materials Research Society (MRS) University of Kentucky Chapter 2019

President of Korean Scholar Association at University of Kentucky 2018, 2019

Selected invited talks

1. American Chemical Society (ACS) Spring meeting, Atlanta, US 2026
2. Quantsol Winter Workshop, Rauris, Austria 2026
3. The 14th International Conference on Advanced Materials and Devices, Busan, South Korea 2025
4. World Laureates Forum, Shanghai, China 2025
5. KSIEC Spring Meeting and International Conference, Jeju, South Korea 2025
6. JSAP Autumn Meeting, The Japan Society of Applied Physics, Niigata, Japan 2024
7. GLOW, Nanyang Technological University, Singapore, Singapore 2024
8. Department of Materials, ETH Zurich, Zurich, Switzerland 2024
9. Institute of Chemical Sciences and Engineering, EPFL, Lausanne, Switzerland 2023

Service and Outreach

Committee Activities, National University of Singapore

- Ph.D. graduate school committee, Department of Chemistry 2024-present
- CMMAC committee, Department of Chemistry 2024-present

Chemistry in the Frontiers of Science 2025
Gave a lecture for a cohort of 80 high school and junior college students shortlisted for Chemistry Olympiad national team selection training

NUS Science Summer Institute 2025
Catalyst towards graduate studies in STEM fields, judge for oral presentations

Material Networking Day 2019
Wrote a proposal and received a grant from MRS, University of Kentucky Chapter
Invited keynote speakers and student talks, organized poster session and award ceremony
Engaged nearby universities, industries, and national laboratories in the Midwest local community

Sustainability Pitch Green planet renewables, University of Kentucky 2019

STEM Summer Camp 2017, 2018, 2019
Blackberry solar cell and lemon battery experiments for 5^{th} to 12^{th} grade students

Women in Engineering Explore Camp 2018
Shape memory polymers demonstration for high school female students