

Somin Park

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Professional appointments

Assistant Professor Department of Chemistry, National University of Singapore, Singapore	Aug 2024 – present
Postdoctoral Fellow , Northwestern University, US	June 2023 - 2024
Postdoctoral Fellow , University of Toronto, Canada (Advisor: Prof. Edward H. Sargent)	2021 - June 2023

Education

Ph.D. in Materials Science and Engineering	2020
M.S. in Chemistry (Advisor: Prof. Kenneth R. Graham) University of Kentucky, Lexington, KY, US	2017
B.S. and M.S. in Materials Science and Engineering Gyeongsang National University, Jinju, South Korea	2013

Awards and Honors

- GLOW 2024 Travel Award**, Nanyang Technological University
Global conference for women leaders and emerging researchers in materials science 2024
- Presidential Young Professorship**, National University of Singapore 2024
- [ACS PHYS Young Investigator Award](#)**
American Chemical Society, physical chemistry division 2023
- [MIT ChemE Rising Stars](#)**
Awarded to top early-stage academic career female researchers 2023
- [Rising Stars in MSE](#)** (MIT, Stanford, CMU) 2023
Workshop for early-career scholars aiming for academic teaching and research positions
- PSK-INNOX Young Investigator Award** Polymer Society Korea 2023
- Viji Jeganathan Scholarship** 2019
Cross-cultural understanding, International Student Center, University of Kentucky

Selected publications

[†The authors contributed equally, *corresponding author]

- 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](#) media coverage

2. **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](#) media coverage
3. 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.
4. **S. M. Park**^{*}, E. H. Sargent. Navigating pathways to increase stability in perovskite solar cells. *Matter* 2023, 6, 8, 2488-2490.
5. 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.
6. **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.
7. **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.
8. **S. M. Park**, Y. Yoon, C. W. Jeon, H. Kim, M. J. Kim, D. K. Lee, J. Y. Kim, H. J. Son, S. K. Kwon, Y. H. Kim, B. S. Kim. Synthesis of phenanthro[1,10,9,8-cdefg]carbazole-based conjugated polymers for organic solar cell applications. *Journal of Polymer Science, Part A: Polymer Chemistry* 2014, 52, 796-803. *Selected as front cover*

Teaching Experience

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 Fall 2014, Spring 2015, Fall 2016, Spring 2017, Fall 2017
 4-6 hours class teaching per week, 3 hours office hour per week
 Course registered for all Arts & Sciences and Engineering majors

CHE226 Analytical Chemistry Fall 2015, Spring 2016
CHE446 Physical Chemistry Fall 2019

Professional Academic Service

Independent Journal Reviewer

Nature Energy, Nature Communications, The Journal of Physical Chemistry, Chem Catalysis, Organic Electronics, Journal of Materials Chemistry A, Journal of American Chemical Society, Energy & Environmental Science, Joule

Associate Editor *International Journal of Chemical Kinetics*

Session Chair Materials Research Society (MRS) meeting, Boston, US	2023
Vice President of Materials Research Society (MRS) University of Kentucky Chapter	2019
Event Chair of Korean-American Scientists and Engineers Association, Kentucky Chapter	2019
President of Korean Scholar Association at University of Kentucky	2018, 2019
Government Scholar of Teach and Learn in Korea (TaLK) program	2009

Selected presentations

Invited Talks

1. JSAP Autumn Meeting, The Japan Society of Applied Physics, Niigata, Japan	2024
2. GLOW, Nanyang Technological University, Singapore, Singapore	2024
3. Department of Materials, ETH Zurich, Zurich, Switzerland	2024
4. Institute of Chemical Sciences and Engineering, EPFL, Lausanne, Switzerland	2023
5. Solution Processed Optoelectronics, University of Michigan, US (Guest lecture)	2023
6. Global Photovoltaic Conference, Gwangju, South Korea	2023

Contributed Presentations

1. Materials Research Society Fall meeting, Boston, US	2022, 2023
2. Materials Research Society Spring meeting, Phoenix, US	2019
3. Materials Research Society meeting, US (poster)	Spring 2018, Fall 2018, Fall 2019

Service and Outreach

Kentucky Material Networking Day 2019

Wrote a proposal and received a thousand-dollar grant from Materials Research Society (MRS)

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 2019

Green planet renewables, University of Kentucky

STEM Summer Camp 2017, 2018, 2019

Blackberry solar cell and lemon battery experiments for 5th to 12th grade students

Women in Engineering Explore Camp 2018

Shape memory polymers demonstration for high school female student