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Current	Stevens Institute of Technology, Hoboken, NJ Department of Chemical Engineering & Materials Science	
	Assistant Professor	07/2018-Present
	Associate Department Chair for Graduate Studies	09/2023-Present
	Coordinator of Graduate Studies	01/2020-08/2023
Education	Massachusetts Institute of Technology, Cambridge, MA PhD, Department of Materials Science & Engineering (Advisor: Gerbrand Ceder)	02/2014
	Korea University, Seoul, Korea ME, Department of Materials Science & Engineering (Advisor: Sahn Nahm)	02/2007
	BE, Department of Materials Science & Engineering	02/2005
Experience	Korea University, Seoul, Korea Visiting Professor, Department of Materials Science & Engineering	02/2020-Present
	Lawrence Berkeley National Laboratory, Berkeley, CA Postdoctoral Fellow, Materials Sciences Division	10/2015-07/2018
	Massachusetts Institute of Technology, Cambridge, MA Postdoctoral Associate, Department of Materials Science & Engineering	12/2013-10/2015
Awards	Early Career Research Program Award Department of Energy, Office of Science, Basic Energy Sciences	2022
	Doctoral New Investigator Award American Chemical Society, Petroleum Research Fund	2021
Research	Solid-State Chemistry and Electrochemistry for Energy Storage Materials Lithium/Sodium/Potassium-ion battery Cathode Materials Oxide/Thiophosphate/Halide-Based Solid Electrolyte Materials Lithium Metal/Silicon Anodes	
	Microstructural and Interfacial Characterization of All-Solid-State Batteries Micro X-ray Computed Tomography Cryogenic Electron Microscopy	
	Advanced Manufacturing for Next-Generation Batteries Electrospraying of nanopowders, Electrospinning of nanofibers, Electropainting of nanosheets, and Electrowriting of nanostructures	

**Selected
Publication**

<https://scholar.google.com/citations?user=I7VUCawAAAAJ&hl=en>

H. Kim* and J. C. Kim*, Opportunities and challenges in cathode development for non-lithium-ion batteries, *eScience*, in press, (2024)

H.-A Cha, S.-J. Ha, H.-J. Jang, B.-M. Ahn, Y. K. Moon, J.-H. Kim, J.-J. Choi, B.-D. Hahn, S.-H. Han, J. Lim, D.-C. Ahn, I. C. Jung, K.-H. Cho*, D. K. Kim*, J. C. Kim, C.-W. Ahn*, Nanocrystalline composite layer realized by simple sintering without surface treatment, reducing hydrophilicity and increasing thermal conductivity, *Small Methods*, in press, (2023), 2300969

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Y. Zhang, J. C. Kim, H. W. Song, and S. Lee, Recent achievements toward the development of Ni-based layered oxide cathodes for fast-charging Li-ion batteries, *Nanoscale*, 15, (2023), 4195-4218

J. Han and J. C. Kim*, A solid-state route to stabilize cubic Li₇La₃Zr₂O₁₂ at low temperature for all-solid-state-battery applications, *Chem. Commun.*, 56, (2020), 15197-15200

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J. C. Kim, D.-H. Kwon, J. Yang, H. Kim, S. H. Bo, L. Wu, H. Kim, D.-H. Seo, T. Shi, J. Wang, Y. Zhu, and G. Ceder*, Direct observation of alternating octahedral and prismatic sodium layers in O₃-type transition metal oxides, *Adv. Energy Mater.*, 10, (2020), 2001151

J. Han, J. S. Chae, J. C. Kim*, and K. C. Roh*, Facile preparation of composite electrodes for supercapacitors by CNT entrapment into carbon matrix derived from pitch at a softening point, *Carbon*, 163, (2020), 402-407

Y. Xiao, Y. Wang, S.-H. Bo, J. C. Kim, L. J. Miara, and G. Ceder*, Understanding interface stability in solid-state batteries, *Nat. Rev. Mater.*, 5, (2019), 105-126

H. Kim, D.-H. Seo, M. Bianchini, R. J. Clément, H. Kim, J. C. Kim, W. S. Yoon, and G. Ceder*, A new strategy for high voltage cathodes for K-ion batteries: stoichiometric KVPO₄F, *Adv. Energy Mater.*, 8, (2018) 1801591

H. Kim[†], J. C. Kim[†], M. Bianchini[†], D.-H. Seo, J. Rodriguez, and G. Ceder*, Recent progress and perspective in electrode materials for K-ion batteries, *Adv. Energy Mater.*, 8, (2018) 1702384 ([†] equal contribution)

P. Vassilaras, S. T. Dacek, H. Kim, T. T. Fister, S. Kim, G. Ceder, and J. C. Kim*, O₃-type layered oxide with a quaternary transition metal composition for Na-ion battery cathodes: NaTi_{0.25}Fe_{0.25}Co_{0.25}Ni_{0.25}O₂, *J. Electrochem. Soc.*, 164, (2017) A3484

H. Kim, J. C. Kim, S. H. Bo, T. Shi, and G. Ceder*, Potassium ion batteries based on a P2-type $K_{0.6}CoO_2$ cathode, *Adv. Energy Mater.*, 7, (2017) 1700098

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M. Moradi, J. C. Kim[†], J. Qi[†], K. Xu, X. Li, G. Ceder, and A. M. Belcher*, A bio-facilitated synthetic route for nano-structured complex electrode materials, *Green Chem.*, 18, (2016) 2619 ([†] equal contribution)

Y. Wang, W. D. Richards, S. P. Ong, L. J. Miara, J. C. Kim, Y. Mo, and G. Ceder*, Design principles for solid-state lithium superionic conductors, *Nat. Mater.*, 14, (2015) 1026

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J. C. Kim, D.-H. Seo, H. Chen, and G. Ceder*, The effect of antisite disorder and particle size on Li intercalation kinetics in monoclinic $LiMnBO_3$, *Adv. Energy Mater.*, 5, (2015) 1401916

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J. C. Kim, Y. H. Jeong, J. B. Lim, K. P. Hong, S. Nahm*, H. J. Sun, and H. J. Lee, High capacitance metal-insulator-metal capacitors using amorphous $Sm_2Ti_2O_7$ thin film, *J. Electrochem. Soc.*, 154, (2007) G220

J. C. Kim, M. H. Kim, J. B. Lim, S. Nahm*, J. H. Paik, J. H. Kim, and H. J. Lee, Synthesis and microwave dielectric properties of $Re_3Ga_5O_{12}$ (Re: Nd, Sm, Eu, Dy, Yb, and Y) ceramics, *J. Am. Ceram. Soc.*, 90, (2007) 641