

CURRICULUM VITAE

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B. S., Department of Physics (March 1997 ~ August 2001)

PROFESSIONAL CAREER **Associate Professor**, Jeonbuk National University (September 2021 ~ present)
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Principal Researcher, Samsung Advanced Institute of Technology (SAIT)
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Postdoctoral Fellow, The University of Texas at Austin
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SELECTED PUBLICATIONS (Since 2018)

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17. Mingi Cho, Sang Hoon Lee, Eunseo Yuk, Hyeonho Park, Seong Heon Kim*
"Nanoscale Electrical Characterization of Ambient-Induced Surface
Impurities on High-Nickel Cathode Materials for Lithium-Ion Batteries"
Journal of Alloys and Compounds 963, 171215 (2023)

16. Soyoung Choi, Weerawat Toaran, Seong Heon Kim*, Young Jae Song*,

- Young-Jun Kim* "Probing depth-dependent inhomogeneous lithium concentration in thick $\text{LiNi}_{0.88}\text{Co}_{0.09}\text{Al}_{0.03}\text{O}_2$ cathodes for lithium-ion batteries" *Journal of Alloys and Compounds* 943, 169029 (2023)
15. Yunmi Cha†, Hwi Je Woo†, Sang Hyun Yoon†, Young Jae Song*, Young Jin Choi*, Seong Heon Kim* "Degradation phenomena of quantum dot light-emitting diodes induced by high electric field" *Nanotechnology* 34, 265705 (2023)
 14. Min Seok Gu†, JiYeon Ku†, Won-Jun Jang, Chan Young Lee, Seong Heon Kim*, Hyo Won Kim* "Electric field-assisted patterning of few-layer MoTe_2 by scanning probe lithography" *Journal of the Korean Physical Society* 82, 274-279 (2023)
 13. Hyo Won Kim*, Won-Jae Joo, Won-Jun Jang, Seong Heon Kim* "Embedded pseudo graphene nanoribbons oriented via $\text{Ge}(110)$ surface reconstruction" *Physica E: Low-dimensional Systems and Nanostructures* 146, 115531 (2023)
 12. Sung Heo†, Do Yoon Lee†, Dongwook Lee†, Yonghui Lee, Kihong Kim, Hyun-Sung Yun, Min Jae Paik, Tae Joo Shin, Hyeon Seung Oh, Taeho Shin, Jaekyung Kim, Seong Heon Kim*, Sang Il Seok*, MohammadKhaja Nazeeruddin* "Enhancement of Piezoelectricity in Dimensionally Engineered Metal-Halide Perovskites Induced by Deep Level Defects" *Advanced Energy Materials* 12, 2200181 (2022)
 11. Qinke Wu, Taehwan Jeong, Seong Heon Kim*, Young Jae Song* "Synthesis of large area graphitic carbon nitride nanosheet by chemical vapor deposition" *Journal of Alloys and Compounds* 900, 163310 (2022)
 10. Hwi Je Woo, Seongchan Kim, Young-Jin Choi, Jeong Ho Cho, Seong Heon Kim*, Young Jae Song* "Inhomogeneous workfunction hysteresis in CVD-grown graphene field effect device" *Carbon* 173, 594-599 (2021)
 9. Hyo Won Kim, Insu Jeon, Wonhee Ko*, Seong Heon Kim* "Unidirectional Growth of Graphene Nano-islands from Carbon Cluster Seeds on $\text{Ge}(110)$ " *Applied Surface Science* 536, 147722 (2021)
 8. Ju-Sik Kim†, Hyunseok Kim†, Michael Badding, Zhen Song, KiHong Kim, Dongwook Lee, Jaemyuung Chang, Sewon Kim, Dongmin Im, Seongyong Park, Seong Heon Kim*, Sung Heo* "Origin of intergranular Li metal propagation in garnet-based solid electrolyte by direct electronic structure analysis and performance improvement by bandgap engineering" *Journal of Materials Chemistry A* 8, 16892-16901 (2020)
 7. Dong-Jin Yun*, Se Yun Kim, Dong-Su Ko, Sung Heo, KiHong Kim, Seong Heon Kim* "Simple and effective cleaning method of RuO_2 nanosheet films

for flexible transparent conducting electrodes” Applied Surface Science 529, 147154 (2020)

6. Taegeun Yoon†, Qinke Wu†, Dong-Jin Yun, Seong Heon Kim*, Young Jae Song* “Direct tuning of graphene work function via chemical vapor deposition control” Scientific Reports 10, 9870 (2020)
5. Seong Heon Kim, KiHong Kim, Hyungkook Choi, Dongmin Im, Sung Heo*, Hongsu Choi* “*In situ* observation of lithium metal plating in sulfur-based solid electrolyte for all-solid-state batteries” Journal of Materials Chemistry A 7, 13650–13657 (2019)
4. Seong Heon Kim†, Jooho Lee†, Eun Ae Cho, Junho Lee, Dong-Jin Yun, Dongwook Lee, Yongsung Kim, Takkyun Ro, Chul-Joon Heo, Gae Hwang Lee, Yong Wan Jin, Sunghan Kim, Kyung-Bae Park*, Sung Heo* “The role of defects in organic image sensors for green photodiode” Scientific Reports 9, 1745 (2019)
3. S.H. Kim*, Y.S. Kim, W.J. Baek, S. Heo, S. Han, H. Jung* “Nanoscale electrical resistance imaging of solid electrolyte interphases in lithium-ion battery anodes” Journal of Power Sources 407, 1-5 (2018)
2. S.H. Kim*, Y.S. Kim, W.J. Baek, S. Heo, D.-J. Yun, S. Han, H. Jung* “Nanoscale Electrical Degradation of Silicon-Carbon Composite Anode Materials for Lithium Ion Batteries” ACS Applied Materials & Interfaces 10, 24549–24553 (2018)
1. S.Y. Park, W.J. Baek, S.Y. Lee, J.A. Seo, Y.-S. Kang, M. Koh, S.H. Kim* “Probing electrical degradation of cathode materials for lithium-ion batteries with nanoscale resolution” Nano Energy 49, 1-6 (2018)