

Mun Sek Kim

Ph.D. Student in Chemical Engineering, admitted Autumn 2019

Publications

PUBLICATIONS

- **Suspension electrolyte with modified Li⁺ solvation environment for lithium metal batteries.** *Nature materials*
Kim, M. S., Zhang, Z., Rudnicki, P. E., Yu, Z., Wang, J., Wang, H., Oyakhire, S. T., Chen, Y., Kim, S. C., Zhang, W., Boyle, D. T., Kong, X., Xu, et al
1800
- **Rational solvent molecule tuning for high-performance lithium metal battery electrolytes** *NATURE ENERGY*
Yu, Z., Rudnicki, P. E., Zhang, Z., Huang, Z., Celik, H., Oyakhire, S. T., Chen, Y., Kong, X., Kim, S., Xiao, X., Wang, H., Zheng, Y., Kamat, et al
2022
- **Enabling reversible redox reactions in electrochemical cells using protected LiAl intermetallics as lithium metal anodes** *Science Advances*
Kim, M., et al
2019; 5 (10)
- **Langmuir-Blodgett artificial solid-electrolyte interphases for practical lithium metal batteries** *NATURE ENERGY*
Kim, M., Ryu, J., Deepika, Lim, Y., Nah, I., Lee, K., Archer, L. A., Cho, W.
2018; 3 (10): 889–98
- **Designing solid-electrolyte interphases for lithium sulfur electrodes using ionic shields** *NANO ENERGY*
Kim, M., Kim, M., Do, V., Lim, Y., Nah, I., Archer, L. A., Cho, W.
2017; 41: 573–82
- **Multifunctional Separator Coatings for High-Performance Lithium-Sulfur Batteries** *ADVANCED MATERIALS INTERFACES*
Kim, M., Ma, L., Choudhury, S., Archer, L. A.
2016; 3 (22)
- **Fabricating multifunctional nanoparticle membranes by a fast layer-by-layer Langmuir-Blodgett process: application in lithium-sulfur batteries** *JOURNAL OF MATERIALS CHEMISTRY A*
Kim, M. S., Ma, L., Choudhury, S., Moganty, S. S., Wei, S., Archer, L. A.
2016; 4 (38): 14709–19
- **Templated 3D Ultrathin CVD Graphite Networks with Controllable Geometry: Synthesis and Application As Supercapacitor Electrodes** *ACS APPLIED MATERIALS & INTERFACES*
Hsia, B., Kim, M., Luna, L. E., Mair, N. R., Kim, Y., Carraro, C., Maboudian, R.
2014; 6 (21): 18413–17
- **Flexible micro-supercapacitors with high energy density from simple transfer of photoresist-derived porous carbon electrodes** *CARBON*
Kim, M., Hsia, B., Carraro, C., Maboudian, R.
2014; 74: 163–69
- **FLEXIBLE MICRO-SUPERCAPACITORS FROM PHOTORESIST-DERIVED CARBON ELECTRODES ON FLEXIBLE SUBSTRATES**
Kim, M., Hsia, B., Carraro, C., Maboudian, R., IEEE
IEEE.2014: 389–92
- **Regulating electrodeposition morphology of lithium: towards commercially relevant secondary Li metal batteries.** *Chemical Society reviews*
Zheng, J., Kim, M. S., Tu, Z., Choudhury, S., Tang, T., Archer, L. A.
2020

- **Facile and scalable fabrication of high-energy-density sulfur cathodes for pragmatic lithium-sulfur batteries** *JOURNAL OF POWER SOURCES*
Kim, M., Kim, M., Do, V., Xia, Y., Kim, W., Cho, W.
2019; 422: 104–12
- **Carbon Nitride Phosphorus as an Effective Lithium Polysulfide Adsorbent for Lithium-Sulfur Batteries** *ACS APPLIED MATERIALS & INTERFACES*
Do, V., Deepika, Kim, M., Kim, M., Lee, K., Cho, W.
2019; 11 (12): 11431–41
- **alpha-Fe₂O₃ anchored on porous N doped carbon derived from green microalgae via spray pyrolysis as anode materials for lithium ion batteries** *JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY*
Kwon, K., Kim, I., Lee, K., Kim, H., Kim, M., Cho, W., Choi, J., Nah, I.
2019; 69: 39–47
- **Stable Artificial Solid Electrolyte Interphases for Lithium Batteries** *CHEMISTRY OF MATERIALS*
Ma, L., Kim, M., Archer, L. A.
2017; 29 (10): 4181–89
- **Enhanced Li-S Batteries Using Amine-Functionalized Carbon Nanotubes in the Cathode** *ACS NANO*
Ma, L., Zhuang, H. L., Wei, S., Hendrickson, K. E., Kim, M., Cohn, G., Hennig, R. G., Archer, L. A.
2016; 10 (1): 1050–59
- **Photoresist-derived porous carbon for on-chip micro-supercapacitors** *CARBON*
Hsia, B., Kim, M., Vincent, M., Carraro, C., Maboudian, R.
2013; 57: 395–400
- **Silicon carbide nanowires as highly robust electrodes for micro-supercapacitors** *JOURNAL OF POWER SOURCES*
Alper, J. P., Kim, M., Vincent, M., Hsia, B., Radmilovic, V., Carraro, C., Maboudian, R.
2013; 230: 298–302
- **Cycling characteristics of high energy density, electrochemically activated porous-carbon supercapacitor electrodes in aqueous electrolytes** *JOURNAL OF MATERIALS CHEMISTRY A*
Hsia, B., Kim, M., Carraro, C., Maboudian, R.
2013; 1 (35): 10518–23