

Ke LI

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EDUCATION

- **Visiting Ph. D student in Materials Science and Engineering** Sept. 2017-present
Drexel University, Philadelphia, USA
Research Topic: “Mxene-based nanocomposites for energy storage”
 - **Ph. D student in Polymer Chemistry and Physics** Sept. 2015-present
Fudan University, Shanghai, China
Research Topic: “Three-dimensional graphene-based nanocomposites for energy storage”
 - **M. S. in Materials Processing Engineering** Jun, 2014
Southwest University of Science and Technology (SWUST), Mianyang, Sichuan, China
Thesis Topic: “Thermal catalytic degradation of organic dyes and polyethylene films”
 - **B. E. in Physics** Jun, 2011
Hubei University of Science and Technology (HBUST), Xianning, Hubei, China
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RESEARCH

- Visiting PhD student, Drexel University in Prof. Yury Gogotsi group** Sept. 2017-present
 - Develop Mxene-based nanocomposites for flexible/stretchable energy storage devices, such as supercapacitors, Li-sulfur batteries etc.
- Ph. D student, Fudan University** Sept. 2015-present
 - Develop three-dimensional graphene-based nanocomposites including graphene@polyaniline, graphene@MOFs and their derivatives for flexible energy storage devices, such as supercapacitors, Li/Na-ion batteries, Li-sulfur batteries etc.
- Research assistant, Fudan University** 2014- 2015
 - Transformed solid carbon black powders into nanographene films by plasma-enhanced chemical

vapor deposition at low temperatures (600°C) for highly sensitive temperature detectors.

Master, Southwest University of Science and Technology

2011-2014

- “Postgraduate Innovation Fund Project” (in charge, Grant No. 13ycjj12, funded by Southwest University of Science and Technology)
- Developed a new avenue for degradation of organic dyes and polyethylene by thermocatalysis at near room temperatures (50°C) in darkness.

Undergraduate, Hubei University of Science and Technology

2011-2014

- Designed several electronic products, such as intelligent street lighting control system, solar charger, *etc.*

EXPERIMENTAL SKILLS

- Synthesis and functionalization of three-dimensional graphene-based electrode materials
- Device fabrication (flexible solid-state supercapacitor, Li/Na-ion battery).
- Measurements trained: SEM, TEM, AFM, TGA, DSC, FT-IR, UV-vis, Raman, BET
- Good hands-on skills

RRSEARCH INTERESTS

- Nanomaterials synthesis and modification
- Energy storage and conversion materials and device
- Electrocatalysis and photocatalysis
- Device fabrication (flexible energy storage devices, sensors, solar cells, field-effect transistor, photodetector, *etc.*)

PAPERS AND PATENTS

- **K. Li**, Yuxi Xu*. 3D Graphene Frameworks-Based Asymmetric Stretchable Supercapacitors, submitted.
- **R. Zhao**⁺, **K. Li**⁺, R. Liu, M. Sarfraz, I. Shakir and Yuxi Xu*. Reversible Reversible 3D self-assembly of graphene oxide and stimuli-responsive polymers for high-performance graphene-based supercapacitors, *Journal of Materials Chemistry A*, **2017**, 5, 19098-19106. (Contributed equally)
- **K. Li**, J. Liu, Y. Huang, F. Bu and Y. Xu*. Integration of ultrathin graphene/polyaniline composite nanosheets with a robust 3D graphene framework for highly flexible all-solid-state

supercapacitors with superior energy density and exceptional cycling stability, *Journal of Materials Chemistry A*, **2017**, 5, 5466-5474.

- **K. Li**, Z. Cai, M. Li, D. Liu, M. Cao, D. Xia, Z. Jin, Z. Wang, L. Dong, X. Xu and D. Wei*. Direct growth of nanographene at low temperature from carbon black for highly sensitive temperature detectors. *Nanotechnology*, **2016**, 27, 505603-505610.
 - **K. Li**, J. Zhao, Y. Zhang*, P. Wu and Z. Zhang. Near room-temperature thermocatalysis: a promising avenue for the degradation of polyethylene using NiCoMnO₄ powders. *RSC Advances*, **2016**, 6, 11829-11839.
 - **K. Li**, X. Luo*, X. Lin, F. Qi and P. Wu. Novel NiCoMnO₄ thermocatalyst for low-temperature catalytic degradation of methylene blue. *Journal of Molecular Catalysis A: Chemical*, **2014**, 383, 1-9.
 - Patent: A method of fabrication of nanographene (2015106987308)
 - Patent: A method of controlled degradation of polymer composites (201310575268.3)
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• **AWARDS**

- 2017 Outstanding Ph. D student (Fudan University)
- 2014 Outstanding Master's Thesis (Top 10%) (SWUST)
- 2013 Second Prize in "Challenge Cup" National Science and Technology College of Extra-curricular Academic Competition Works (SWUST)
- 2010 First Prize in the 1st Hubei college physics experiment Innovative Design Competition (Hubei province)
- 2008-2010 Outstanding Achievement Scholarship, Outstanding Student Leader in every single year (HBUST)