CURRICULUM VITAE

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EDUCATION

2006 – 2009 **Ph. D.** in Materials Chemistry, University of Waterloo
Supervisor: *Professor Linda F. Nazar*

2004 – 2006 **M. Sc.** in Materials Chemistry, University of Waterloo
Supervisor: *Professor Linda F. Nazar*

1999 – 2003 **B. Sc.** in Chemistry, Jilin University
Supervisor: *Professor Bai Yang*

PROFESSIONAL EXPERIENCE

2012 – Assistant Professor, Department of Chemistry, Oregon State University
(Promoted to Associate Professor after Sep. 2017)

2010 – 2012 NSERC Postdoctoral Fellow, University of California, Santa Barbara
Supervisor: *Professor Galen D. Stucky*

2009 – 2010 Postdoctoral Fellow, University of Waterloo
Supervisor: *Professor Linda F. Nazar*

AWARDS AND HONORS

- Scialog Fellow, Research Corporation for Science Advancement
- CAREER Award, National Science Foundation (2016)
- Innovation Challenge Award, Natural Sciences and Engineering Research Council of Canada (2010)
- Postdoctoral Fellowship, Natural Sciences and Engineering Research Council of Canada (2010 to 2012)
- Government Award for Outstanding Self-Financed Students Abroad (2008)

ACADEMIC SERVICE

- **Panelist** and ***ad hoc*** **Reviewer,** National Science Foundation, ACS Petroleum Research Foundation
- **Editorial Board Member** for *Scientific Reports* (2013 -)
- **Co-Organizer** for symposiums in ACS Meetings (three times)
- **Co-Guest Editor** for a focus issue in *Journal of Solid State Science and Technology*
- **Referee** for journals, including *J. Am. Chem. Soc., Angew. Chem. Int. Ed., Adv. Mater., Nature Nanotech.,* and so on.

PUBLICATIONS (Google Scholar H-index: 32, Total Citations > 8200)

*** Corresponding author**

73. Wu, X., Leonard, D., Ji*, X. "**Emerging Non-Aqueous Potassium-Ion Batteries: Challenges and Opportunities**" *Chemistry of Materials*, an invited perspective, (2017) DOI: 10.1021/acs.chemmater.7b01764

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71. Li, Z., Bommier, C., Chong, Z. S., Jian, Z., Surta T. W., Wang, X., Xing, Z., Neuefeind, J. C., Stickle[d], W. F., Dolgos*, M., Greaney*, P. A., and Ji*, X., "**Mechanism of Na-Ion Storage in Hard Carbon Anodes Revealed by Heteroatom Doping**" *Advanced Energy Materials* (2017) DOI: 10.1002/aenm.201602894

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68. Wu, X., Jian, Z., Li, Z., Ji*, X. "**Prussian White Analogues as Promising Cathode for Non-Aqueous Potassium-Ion Batteries**" *Electrochemistry Communications* 77, (2017): 54-57 https://doi.org/10.1016/j.elecom.2017.02.012

67. Li, Z., Jian, Z., Wang, X., Rodríguez-Pérez, I. A., Bommier, C., Ji*, X. "Hard Carbon Anode of Sodium-Ion Batteries: Undervalued Rate Capability" *Chemical Communications* 53, (2017): 2610-2613 DOI: 10.1039/c7cc00301c

66. Wang, X., Bommier, C., Jian, Z., Li, Z., Chandrabose, R. S., Rodríguez Pérez, I., Ji*, X. "**Hydronium-Ion Batteries with Perylenetetracarboxylic Dianhydride Crystals as an Electrode**" *Angew. Chem. Int. Ed.* 56, (2017): 2909-2913 DOI:10.1002/ange.201700148

65. Zhu, H., Shen, F., Luo, W., Zhu, S., Zhao, M., Natarajan, B., Dai, J., Zhou, L., Ji, X., Yassar, R. S., Li, T., Hu*, L. "**Low Temperature Carbonization of Cellulose Nanocrystals for High Performance Carbon Anode of Sodium-Ion Batteries**" *Nano Energy* 33, (2017): 37-44 http://dx.doi.org/10.1016/j.nanoen.2017.01.021

64. Xing, Z., Gao, N., Qi, Y., Ji*, X., Liu*, H. "**Influence of Enhanced Carbon Crystallinity of Nanoporous Graphite on the Cathode Performance of Microbial Fuel Cells**" *Carbon* 115, (2017):271-278 http://dx.doi.org/10.1016/j.carbon.2017.01.014

63. Jian, Z., Hu, Y., Ji*, X., Chen*, W. "**NASICON Structure Materials for Energy Storage**" *Advanced Materials* DOI: 10.1002/adma.201601925

62. Eftekhari*, A., Jiang, Z., Ji*, X. **"Secondary Potassium Batteries"** *ACS Applied Materials and Interfaces* 9, no. 5, (2017): 4404-4419 doi: 10.1021/acsami.6b07989

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29. Bommier, C., Luo, W., Gao, W.-Y., Greaney, A., Ma, S., and Ji*, X. "**Predicting Capacity of Hard Carbon Anodes in Sodium-Ion Batteries Using Porosity Measurements**" *Carbon* 76, (2014): 165–174. doi:10.1016/j.carbon.2014.04.064

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26. Luo, W., Lorger, S., Wang, B., Bommier, C., and Ji*, X. "**Facile Synthesis of One-Dimensional Peapod-like Sb@C Submicron-Structures**" *Chemical Communications* 50, no. 41 (2014): 5435. doi:10.1039/c4cc01326c

25. Raju, V., Wang, X., Luo, W., and Ji*, X. "**Multiple Ambient Hydrolysis Deposition of Tin Oxide into Nanoporous Carbon To Give a Stable Anode for Lithium-Ion Batteries**" *Chemistry – A European Journal* 20, no. 25 (2014): 7686–7691. doi:10.1002/chem.201402280

24. Wang, X., Raju, V., Luo, W., Wang, B., Stickle, W. F., and Ji*, X. "**Ambient Hydrolysis Deposition of TiO_2 in Nanoporous Carbon and the Converted TiN–carbon Capacitive Electrode**" *Journal of Materials Chemistry A* 2, no. 9 (2014): 2901. doi:10.1039/c3ta14278g

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16. Zhang, Y., Day, T., Snedaker, M. L., Wang, H., Krämer, S., Birkel, C. S., Ji, X., Liu, D., Snyder, G. J., and Stucky, G. D. "**A Mesoporous Anisotropic N-Type Bi_2Te_3 Monolith with Low Thermal Conductivity as an Efficient Thermoelectric Material**" *Advanced Materials* 24, no. 37 (2012): 5065–5070. doi:10.1002/adma.201201974

15. Lee, K. T., Black, R., Yim, T., Ji, X., and Nazar, L. F. "**Surface-Initiated Growth of Thin Oxide Coatings for Li–Sulfur Battery Cathodes**" *Advanced Energy Materials* 2, no. 12 (2012): 1490–1496. doi:10.1002/aenm.201200006

14. Ji, X., Liu, D.-Y., Prendiville, D. G., Zhang, Y., Liu, X., and Stucky, G. D. "**Spatially Heterogeneous Carbon-Fiber Papers as Surface Dendrite-Free Current Collectors for Lithium Deposition**" *Nano Today* 7, no. 1 (2012): 10–20. doi:10.1016/j.nantod.2011.11.002

13. Zhang, Y., Snedaker, M. L., Birkel, C. S., Mubeen, S., Ji, X., Shi, Y., Liu, D., Liu, X., Moskovits, M., and Stucky, G. D. "**Silver-Based Intermetallic Heterostructures in Sb_2Te_3 Thick Films with Enhanced Thermoelectric Power Factors**" *Nano Letters* 12, no. 2 (2012): 1075–1080. doi:10.1021/nl204346g

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9. Ji, X., Lee, K. T., Holden, R., Zhang, L., Zhang, J., Botton, G. A., Couillard, M., and Nazar, L. F. "**Nanocrystalline Intermetallics on Mesoporous Carbon for Direct Formic Acid Fuel Cell Anodes**" *Nature Chemistry* 2, no. 4 (2010): 286–293. doi:10.1038/nchem.553

8. Ji, X., Evers, S., Lee, K. T., and Nazar, L. F. "**Agitation Induced Loading of Sulfur into Carbon CMK-3 Nanotubes: Efficient Scavenging of Noble Metals from Aqueous Solution**" *Chemical Communications* 46, no. 10 (2010): 1658. doi:10.1039/b918442b

7. Ji, X., Lee, K. T., and Nazar, L. F. "**A Highly Ordered Nanostructured Carbon–sulphur Cathode for Lithium–sulphur Batteries**" *Nature Materials* 8, no. 6 (2009): 500–506. doi:10.1038/nmat2460

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4. Ji, X., Herle, P. S., Rho, Y., and Nazar, L. F. "**Carbon/MoO_2 Composite Based on Porous Semi-Graphitized Nanorod Assemblies from In Situ Reaction of Tri-Block Polymers**" *Chemistry of Materials* 19, no. 3 (2007): 374–383. doi:10.1021/cm060961y

3. Zhang, H., Wang, C., Li, M., Ji, X., Zhang, J., and Yang, B. "**Fluorescent Nanocrystal–Polymer Composites from Aqueous Nanocrystals: Methods without Ligand Exchange**" *Chemistry of Materials* 17, no. 19 (2005): 4783–4788. doi:10.1021/cm050260l

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BOOK CHAPTER

- Bommier, C., and Ji, X. "**Nanoporous Carbon for Capacitive Energy Storage**. "**Mesoporous Materials For Advanced Energy Storage and Conversion Technologies**" Science Publishers An Imprint of CRC Press/Taylor & Francis group. ISBN 9781498747998 - CAT# K27073

PATENTS AND PATENT APPLICATIONS

10. Ji, X., Wang, X., Raghu, C. Aqueous Supercapacitor with a Bipolar Assembly of Ion-Exchange Membranes as the Separator, US Provisional Patent Application, No. 62/344,227, pending
9. Ji, X., Jian Z., K-Ion Energy Storage Devices. US Provisional Patent Application, No. 62/149,208, Pending
8. Stucky, G. D., Evanco, B., Boettcher, S., Chun, S., Ji, X., Wang, B., High Voltage Redox Electrolyte for Enhanced Electrochemical Capacitor Performance, US Provisional Patent Application, Pending.
7. Boettcher, S.; Chun, S.; Ji, X.; Wang, B.; Stucky, G. D.; Evanco, B. "High voltage redox electrolyte for enhanced electrochemical capacitor performance" *US Provisional Patent Application*, Pending.
6. Ji, X.; Luo, W.; Bommier, C.; Lu, Y.; Vail, S.; Lee, J.-J. "Low surface area hard carbon." US Provisional Patent Application, No.62009069, pending.
5. Ji, X.; Wang, X.; Raju, V. "Hydrolysis deposition". Patent Application, No. PCT/US2014/052274, pending.
4. Stucky, G. D.; **Ji, X.** "High energy capacitors boosted by both anolyte and catholyte." US Provisional Patent Application, 61/656672, filed on June 7th, 2012, *pending*.
3. Stucky, G. D. **Ji, X.** "Surface insulated porous current collectors as a dendrite-free lithium plating electrode." WO 2013003846, Filed July 2nd, 2012.
2. Nazar, L. F.; **Ji, X.** "Curbing polysulfides in sulphur electrode by porous polar insulators." PCT/CA2011/050370, filed on June 17th, 2011, *pending*.
1. Nazar, L. F.; **Ji, X.** Lee, K. T. "Sulfur-carbon material." US Patent, No. 8173302.