Xianglin Li, Ph.D.

Department of Mechanical Engineering University of Kansas, Lawrence, KS 66045 Office: (785) 864 8165; Email: xianglinli@ku.edu

Professional e	experience	
2014- Present	Assistant and Associate Professor	
	University of Kansas	Lawrence, KS
2019 Summer	Visiting Scholar	
	Carnegie Mellon University	Pittsburgh, PA
2012-2014	Senior Scientific Engineering Associate	
	Lawrence Berkeley National Laboratory	Berkeley, CA
Education		
Ph.D., 2012	Mechanical Engineering (Energy and Thermal Sciences)	
	University of Connecticut	Storrs, CT
M.S., 2008	Mechanical Engineering (Engineering Thermophysics)	
	Xi'an Jiaotong University	Xi'an, China
B.S., 2005	Mechanical Engineering (Mechanical Engineering and Automation)	
	Xi'an Jiaotong University	Xi'an, China

Awards as Independent Investigator (since 2014)

- Bellows Scholar Award, 2021, School of Engineering, University of Kansas
- NSF CAREER, 2020
- Bellows Scholar Award, 2019, School of Engineering, University of Kansas
- Cramer Award, 2018, Department of Mechanical Engineering, University of Kansas

Research interests

- 1) Li-O₂ batteries
- 2) Direct methanol fuel cells
- 3) Proton exchange membrane fuel cell
- 4) Transport phenomena in porous media
- 5) Multi-phase heat and mass transfer
- 6) Battery thermal management
- 7) Characterization of additively manufactured materials
- 8) Greenhouse gas emissions and full fuel cycle analysis of fossil fuels
- 9) Life cycle assessment and economic analysis of advanced energy technologies

Journal publications

- [1] Andre Adam, Fangzhou Wang, Xianglin Li, Efficient Reconstruction and Validation of Heterogeneous Microstructures, *Frontiers in Energy*, **Under Review**.
- [2] Archana Sekar, Nathaniel Metzger, Sabari Rajendran, Ayyappan Elangovan, Yonghai Cao, Feng Peng, Xianglin Li, Jun Li, Enhancing Methanol Oxidation Reaction of Precious Metal Catalysts on Nitrogen-doped Carbon Nanotubes using Ultrathin Conformal Hydrogenated TiO₂ Shells, *ACS Catalysis*, **Under Review**.
- [3] Nathaniel Metzger, Samuel Hong, Sangwon Kang, Jianan Zheng, Tylor Bachet, Kelvin Feuerborn, Thomas DeAgostino, Xianglin Li. "Technical and Economic Analysis of Fuel

Cells for Material Handling Applications", Int. J. Hydrogen Energy, Under Review.

- [4] Fangzhou Wang, Xianglin Li, Jianyu Tan, Xiaowen Hao, Bo Xiong, "Pore-Scale Prediction of the oxygen effective diffusivity in porous battery electrodes using the random walk theory" *International Journal of Heat and Mass Transfer*, 183 (**2022**) 122085.
- [5] Nathaniel Metzger, Archana Sekar, Jun Li, Xianglin Li, "Understanding Carbon Dioxide Transfer in Direct Methanol Fuel Cells Using a Pore-Scale Model", *Journal of Electrochemical Energy Conversion and Storage*, 19 (**2021**) 010904.
- [6] Fangzhou Wang, Huan Jiang, Yanyu Chen, Xianglin Li, "Architected Foams with Enhanced Thermal Conductivity and Mechanical Performance", *International Journal of Heat and Mass Transfer*, 171 (**2021**) 121139.
- [7] Zheng Miao, Zihang Li, Ya-Ling He, Jinliang Xu, Xianglin Li, "A Liquid-Vapor Two-Phase Model of Direct Methanol Fuel Cells with PGM-Free Cathode Catalyst", *Journal of Electrochemical Energy Conversion and Storage*, 18 (2021) 040904.
- [8] Xianglin Li, Zheng Miao, Lauren Marten, Isaac Blankenau, "Fuel and Water Management Strategies in an Active DMFC", *Int. J. Hydrogen Energy*, 46 (**2021**) 4437-4446.
- [9] Fangzhou Wang, Gennifer A. Riley, Munonyedi Egbo, Melanie M. Derby, Gisuk Hwang, Xianglin Li. "Integrated Micro X-ray Tomography and Pore-Scale Simulations for Accurate Permeability Predictions of Porous Media", *Frontiers in Heat and Mass Transfer* 15 (2020) 1-8.
- [10] Fangzhou Wang, Xianglin Li, Xiaowen Hao, Jianyu Tan. "A Modeling Study of Mass Transfer in Positive Electrode of Li-O₂ Batteries with Various Electrolyte Concentrations", *Journal of Electrochemical Energy Conversion and Storage* (2020) JEECS-19-1172.
- [11] Fangzhou Wang, Xianglin Li, Xiaowen Hao, Jianyu Tan. "Review and Recent Advances in Mass Transfer in Positive Electrodes of Discharging Aprotic Li–O₂ Batteries", ACS Applied Energy Materials 3 (2020) 2258-2270.
- [12] Christopher Depcik, Truman Cassady, Bradley Collicott, Sindhu Preetham Burugupally, Xianglin Li, Shah Saud Alam, Jose Rocha Arandia, Jared Hobeck. "Comparison of Hydrogen Fueled Power Plants for a Small Unmanned Aerial Vehicle", *Energy Conversion & Management* 207 (2020) 112514.
- [13] Derek Barnes, Xianglin Li. "Battery Thermal Management Using Phase Change Material-Metal Foam Composite Materials at Various Environmental Temperatures", ASME Journal of Electrochemical Energy Conversion and Storage 17 (2020) 021106.
- [14] Jonghyun Choi, Camila Zequine, Sanket Bhoyate, Xianglin Li, Pawan Kahol, Ram Gupta. "Waste Coffee Management: Deriving High-Performance Supercapacitors using Nitrogen-Doped Coffee Derived Carbon", *Journal of Carbon Research* 5 (2019) 44.
- [15] Jinghui Jiang, Yinshi Li, Weiwei Yang, Jiarong Liang, Xianglin Li. "A two-dimensional two-phase model to study the order-structured cathode catalyst layer in direct methanol fuel cells", *Applied Energy* 252 (2019) 113431.
- [16] Camila Zequine, Sanket Bhoyate, Fangzhou Wang, Xianglin Li, Khamis Siam, Pawan K. Kahol, Ram Gupta. "Effect of solvent for tailoring the nanomorphology of multinary CuCo2S4 for overall water splitting and energy storage", *Journal of Alloys and Compounds* 784 (2019) 1-7.
- [17] Camila Zequine, Fangzhou Wang, Xianglin Li, Deepa Guragain, S.R. Mishra, Khamis Siam, Pawan K. Kahol, Ram Gupta. "Nanosheets of CuCo₂O₄ As a High-Performance Electrocatalyst in Urea Oxidation", *Applied Sciences* 9 (2019), 793.
- [18] Fangzhou Wang, Paul K. Kahol, Ram Gupta, Xianglin Li. "Experimental Studies of

Carbon Electrodes with Various Surface Area for Li–O₂ Batteries", *ASME Journal of Electrochemical Energy Conversion and Storage* 16 (**2019**) 041007.

- [19] Camila Zequine, Sanket Bhoyate, Khamis Siam, Pawan K Kahol, Nikolaos Kostoglou, Christian Mitterer, Steven J Hinder, Mark A Baker, Georgios Constantinides, Claus Rebholz, Gautam Gupta, Xianglin Li, Ram K Gupta. "Needle grass array of nanostructured nickel cobalt sulfide electrode for clean energy generation", *Surface and Coatings Technology* 354 (2018) 306-312.
- [20] Wanqi Chen, Wei Yin, Yue Shen, Zhaoming Huang, Xianglin Li, Fangzhou Wang, Wang Zhang, Zhe Deng, Zhuoran Zhang, Yunhui Huang. "High Areal Capacity, Long Cycle Life Li-O₂ Cathode Based on Highly Elastic Gel Granules", *Nano Energy* 47 (2018) 353-360.
- [21] Fangzhou Wang, Xianglin Li. "Pore Scale Simulations of Porous Electrodes of Li-O₂ Batteries at Different Saturation Levels", ACS Applied Materials & Interfaces 10 (2018) 26222-26232.
- [22] Fangzhou Wang, Xianglin Li. "Discharge Li-O₂ Batteries at Intermittent Current", *Journal of Power Sources* 394 (2018) 50-56.
- [23] Fangzhou Wang, Xianglin Li. "Effects of the Electrode Wettability on the Deep Discharge Capacity of Li-O₂ Batteries", ACS OMEGA 6 (2018) 6006-6012.
- [24] Soham Neupane, Morteza Alipanah, Derek Barnes, Xianglin Li. "Heat Generation Characteristics of LiFePO₄ Pouch Cells with Passive Thermal Management", *Energies* 11 (2018) 1243.
- [25] Farhad Mohazabrad, Fangzhou Wang, and Xianglin Li. "Influence of the Oxygen Electrode Open Ratio and Electrolyte Evaporation on the Performance of Li-O₂ Batteries", ACS Applied Materials & Interfaces, 9 (2017) 15459–15469.
- [26] Fangzhou Wang and Xianglin Li. "The Stagnant Thermal Conductivity of Porous Media Predicted by the Random Walk Theory", *International Journal of Heat and Mass Transfer* 107 (2017) 520-533.
- [27] Xianglin Li, Jing Huang, and Amir Faghri. "A Critical Review of Macroscopic Modeling Studies on Li–O₂ and Li–Air Batteries Using Organic Electrolyte: Challenges and Opportunities", *Journal of Power Sources* 332 (2016) 420-446.
- [28] Farhad Mohazabrad, Fangzhou Wang, and Xianglin Li. "Experimental Studies of Salt Concentration in Electrolyte on the Performance of Li-O₂ Batteries at Various Current Densities", *Journal of Electrochemical society* 163 (2016) A2623-A2627.
- [29] Morteza Alipanah and Xianglin Li. "Numerical Studies of Lithium-ion Battery Thermal Management Systems Using Phase Change Materials and Metal Foams", *International Journal of Heat and Mass Transfer* 102 (2016) 1159-1168.
- [30] Will Libeer, Francisco Ramos, Chad Newton, Morteza Alipanahrostami, Chris Depcik, and Xianglin Li. "Two-Phase Heat and Mass Transfer of Phase Change Materials in Thermal Management Systems", *International Journal of Heat and Mass Transfer* 100 (2016) 215– 223.
- [31] Xianglin Li. "A Modeling Study of the Pore Size Evolution in Lithium-Oxygen Battery Electrodes", *Journal of Electrochemical Society* 162 (**2015**) A1636-A1645.
- [32] Xing Ju, Chao Xu, Xianglin Li, and Xiaoze Du. "Numerical Analysis of Thermal Storage Performance with High-Temperature Phase Change Materials Operated by Condensing Steam", *Solar Energy* 117 (2015) 213-223.
- [33] Xianglin Li, Jing Huang, and Amir Faghri. "Modeling Study of a Li-O₂ Battery with an Active Cathode", *Energy* 81 (2015) 489-500.

Publications before KU Appointment

- [34] Xianglin Li, Amir Faghri. "Review and Advances of Direct Methanol Fuel Cells (DMFCs) Part I: Design, Fabrication, and Testing with High Concentration Methanol Solutions", *Journal of Power Sources* 226 (2013) 223-240.
- [35] Xianglin Li, Amir Faghri. "A Two-Dimensional, Transient, Non-Isothermal Model of Lithium-Air Batteries and Optimization of the Cathode Structure", *Journal of Electrochemical Society* 159 (2012) A1747-A1754.
- [36] Xianglin Li, Amir Faghri. "Development of a Direct Methanol Fuel Cell Stack Fed with Pure Methanol", *Int. J. Hydrogen Energy* 37 (2012) 14549-14556.
- [37] Amir Faghri, Xianglin Li, Hafez Bahrami. "Recent Advances in Passive and Semi-Passive Direct Methanol Fuel Cells", *International Journal of Thermal Sciences* 62 (**2012**) 12-18.
- [38] Xianglin Li, Amir Faghri. "Effect of the Cathode Open Ratios on the Water Management of a Passive Vapor-feed Direct Methanol Fuel Cell Fed with Neat Methanol", *Journal of Power Sources* 196 (2011) 6318-6324.
- [39] Xianglin Li, Amir Faghri. "Local Entropy Generation Analysis on Passive Highconcentration DMFCs (Direct Methanol Fuel Cells) with Different Cell Structures", *Energy* 36 (2011) 403-414.
- [40] Travis Ward, Xianglin Li, Amir Faghri. "Performance Characteristics of a Novel Tubular-Shaped Passive Direct Methanol Fuel Cell", *Journal of Power Sources* 196 (2011) 6264-6273.
- [41] Chao Xu, Amir Faghri, Xianglin Li. "Improving the Water Management and Cell Performance for the Passive Vapor-feed DMFC Fed with Neat Methanol", *Int. J. Hydrogen Energy* 36 (2011) 8468-8477.
- [42] Xianglin Li, Amir Faghri, Chao Xu. "Structural Optimization of the Direct Methanol Fuel Cell Passively Fed with a High-concentration Methanol Solution", *Journal of Power Sources* 195 (2010) 8202-8208.
- [43] Xianglin Li, Amir Faghri, Chao Xu. "Water Management of the DMFC Passively Fed with a High-concentration Methanol Solution", *Int. J. Hydrogen Energy* 35 (2010) 8690-8698.
- [44] Chao Xu, Amir Faghri, Xianglin Li. "Development of a High Performance Passive Vaporfeed DMFC Fed with Neat Methanol", *Journal of Electrochemical Society* 157 (2010) B1109-B1117.
- [45] Chao Xu, Amir Faghri, Xianglin Li, Travis Ward. "Methanol and Water Crossover in a Passive Liquid-feed Direct Methanol Fuel Cell", *Int. J. Hydrogen Energy* 35 (2010) 1769-1777.
- [46] Yaling He, J.Q. Zou, Z. Miao, Z. Liu, Li, Xianglin. "Numerical Simulation of Heat Transport in a Direct Methanol Fuel Cell", *Journal of Engineering Thermophysics* 31 (2010) 2001-2004.
- [47] Yaling He, Xianglin Li, Zheng Miao, Yingwen Liu. "Two-phase Modeling of Mass Transfer Characteristics of a Direct Methanol Fuel Cell", *Applied Thermal Engineering* 29 (2009) 1998-2008.
- [48] Zheng Miao, Yaling He, Xianglin Li, Jinqiang Zou. "A Two-Phase Non-Isothermal Mass Transport Model for Direct Methanol Fuel Cells", *Journal of Engineering Thermophysics* 30 (2009) 2034-2038.
- [49] Xianglin Li, Yaling He, Benhao Yin, Zheng Miao, Xiaoyao Li. "Exergy Flow and Energy Utilization of Direct Methanol Fuel Cells Based on a Mathematic Model", *Journal of Power Sources* 178 (2008) 344-352.

- [50] Xianglin Li, Yaling He, Z. Miao, Xiaoyao Li. "Simulation of Gas-Liquid Flow in Direct Methanol Fuel Cells", *Journal of Engineering Thermophysics* 29 (2008) 451-455.
- [51] Xianglin Li, Yaling He, Benhao Yin, Zheng Miao. "Characteristics of Exergy Transport and Energy Utilization in Direct Methanol Fuel Cell", *Acta Energiae Solaris Sinica* 29 (2008) 234-240.
- [52] Zheng Miao, Yaling He, Xianglin Li, Jinqiang Zou. "A Two-Dimensional Two-Phase Mass Transport Model for Direct Methanol Fuel Cells Adopting a Modified Agglomerate Approach", *Journal of Power Sources* 185 (**2008**) 1233-1246.
- [53] Zheng Miao, Yaling He, Xianglin Li, Xiaoyao Li. "Modeling of Electrochemical Reactions and Species Transfer Processes in a Direct Methanol Fuel Cell", *Journal of Engineering Thermophysics* 29 (2008) 1879-1884.
- [54] Benhao Yin, Yaling He, Xianglin Li, Zheng Miao. "Study on the Characteristics of Flowing Organization in DMFC. Part I: Model Development of Cell with Conventional Symmetrical Plates", Acta Energiae Solaris Sinica 29 (2008) 1155-1160
- [55] Benhao Yin, Yaling He, Li, Xianglin, Zheng Miao. "Study on the Characteristics of Flowing Organization in DMFC. Part II: A New Scheme with Plates Staggered Installed", *Acta Energiae Solaris Sinica* 29 (2008) 1247-1251.
- [56] Zheng Miao, Yaling He, Xianglin Li, Xiaoyao Li. "Modeling Investigation into Effects of Diffusion and Catalyst Layers on Performance of Direct Methanol Fuel Cell", *Journal of Xi'an Jiaotong University* 42 (2008) 925-930.

U.S. Department of Energy Reports before KU Appointment

- [1] U.S. Department of Energy, "Energy Conservation Standards Rulemaking Framework Document for Commercial and Industrial Pumps." Jan. 25, 2013
- [2] U.S. Department of Energy, "Energy Conservation Standards Rulemaking Preliminary Technical Support Document for Residential Boilers." Sep. 16, 2013
- [3] U.S. Department of Energy, "Energy Conservation Standards Rulemaking Preliminary Technical Support Document for Commercial Warm Air Furnaces." Dec. 13, 2013

Papers Published in Proceedings or Records of Conferences & Symposia

- [1] Amir Faghri, Xianglin Li, Hafez Bahrami. "Recent Advances in Passive and Semi-passive Direct Methanol Fuel Cells", (2011) *ICHMT symposium on Thermal and Materials Nanoscience and Nanotechnology*, Antalya, Turkey.
- [2] Travis Ward, Xianglin Li, Amir Faghri. "Analysis of A Passive Tubular Direct Methanol Fuel Cell", (**2011**) *ASME Fuel Cell* 54697, Washington DC, USA.
- [3] Chao Xu, Amir Faghri, Xianglin Li. "Effect of the Structure Design on the Performance of a Passive Vapor-feed DMFC fed with concentrated methanol", (2010) *ASME Fuel Cell* 33094, New York City, NY, USA.
- [4] Xianglin Li, Yaling He, Zheng Miao, Xiaoyao Li. "Modeling of Two-phase Mass Transfer Characteristic of A DMFC", (2007) 1st Asian Symposium on Computational Heat Transfer and Fluid Flow conference, Xi'an, China.
- [5] Zheng Miao, Yaling He, Xianglin Li, Xiaoyao. Li. "Modeling of Electrochemical Reactionrate and Species Transport in A DMFC", (2007) 1st Asian Symposium on Computational Heat Transfer and Fluid Flow conference, Xi'an, China.

Professional Service - Conference Organization

[1] **229th ECS Meeting**

A01: Joint General Session: Batteries and Energy Storage -and- Fuel Cells, Electrolytes,

and Energy, Session Chair, San Diego, CA, USA. (May 29, 2016 - June 29, 2016)

- [2] ASME 2015 13th Fuel Cell Science, Engineering, and Technology Conference
 3-1-1 Low Temperature Fuel Cell Technologies I, Session Chair, San Diego, CA, USA. (June 28, 2015 - July 2, 2015)
- [3] ASME 2015 13th Fuel Cell Science, Engineering, and Technology Conference
 3-1-1 Low Temperature Fuel Cell Technologies II, Session Chair, San Diego, CA, USA. (June 28, 2015 - July 2, 2015)
- [4] ASME 2015 13th Fuel Cell Science, Engineering, and Technology Conference
 3-1-1 Low Temperature Fuel Cell Technologies III, Session Co-Chair, San Diego, CA, USA. (June 28, 2015 July 2, 2015)

Invited Presentations

- Stationary Direct Methanol Fuel Cells Using Pure Methanol, 2020 ARPA-E REFUEL Virtual Annual Program Meeting, 12/2020.
- Design Considerations for High-Power Li-O₂ Batteries, NSF CBET 2020 Workshop, University of Texas, Austin, TX, 08/2020.
- Estimation of Thermal and Transport Properties of Porous Materials Using Micro-Tomography, University of Illinois, Urbana-Champaign, IL, 12/2019.
- Liquid-Vapor Two-Phase Mass Transfer in Li-O2 Batteries, Carnegie Mellon University, Pittsburgh, PA, 6/2019.
- Pore-Scale Heat Transfer in Porous Materials, Kansas State University, Manhattan, KS, 12/2018.
- Pore-Scale Simulations of Effective Transport Properties of Porous Materials, Wichita State University, Wichita, KS, 11/2018
- Pore-scale Heat and Mass Transfer in Porous Media, School of Mechanical Engineering, Xi'an Jiaotong University, Xi'an, Shannxi, China, P.R, 6/2017
- Multi-phase Transport Phenomena in Li-O₂ Batteries, School of Energy and Power Engineering, Xi'an Jiaotong University, Xi'an, Shannxi, China, P.R., 5/2017
- Multiscale Modeling of Li-O₂ Batteries, Department of Chemical and Petroleum Engineering, University of Kansas, Lawrence, KS, 10/2016
- A Brief Introduction to Computational Fluid Dynamics, Department of Mechanical Engineering, University of Kansas, Lawrence, KS, 02/2016
- Computational Fluid Dynamics Based on Finite Volume Method, Department of Mathematics, University of Kansas, Lawrence, KS, 09/2015

Professional Service - Panel Reviews

- U.S. Department of Energy EERE/FCTO Annual Merit Review
- NIST Center for Neutron Research
- NSF/ENG/CBET Energy for Sustainability
- NSF/ENG/CBET Thermal Transport Processes
- University of Wisconsin-Milwaukee, Office of Research

Professional Service - Editorial Board

• Youth Editorial Board, Frontiers in Energy, Aug 2021 - present

Professional Service - Academic Journal Reviews (>500 manuscripts since 2014)

ACS Applied Materials & Interfaces, ACS Applied Energy Materials, ACS Applied Energy Materials, ACS Sustainable Chemistry & Engineering, Advanced Energy Materials, Advanced

Functional Materials, Applied Sciences, Applied Thermal Engineering, ASME Journal of Fuel Cell Science and Technology, Case Studies in Thermal Engineering, Canadian Journal of Chemical Engineering, Chemical Engineering Journal, Chemical Society Reviews, ChemSusChem, Chinese Science Bulletin, Composite Structures, Electrochimica Acta, Energies, Energy, Energy Conversion and Management, Energy & Environmental Science, Engineering Computations, European Journal of Environmental and Civil Engineering, Frontiers in Heat and Mass Transfer, Industrial & Engineering Chemistry Research, International Journal of Ambient Energy, International Journal of Energy Research, International Journal of Heat and Mass Transfer, International Journal of Hydrogen Energy, International Journal of Photoenergy, International Journal of Energy Storage, Journal of Alloys and Compounds, Journal of Energy Engineering, Journal of Materials Research and Technology, Journal of Power Sources, Journal of Electrochemical Society, Journal of Solid State Electrochemistry, Progress in Nuclear Energy, RSC Advances, Science of Advanced Materials, Solar Energy, The Journal of Physical Chemistry, and World Electric Vehicle Journal.

Active Projects Funded by External Funding Agencies (> \$2M as PI)

- [1] Li, Xianglin (Principal). CAREER: Pore-Scale Multiphase Mass Transfer in Porous Electrodes. National Science Foundation \$500,000 (September 2020 - August 2025).
- [2] Li, Xianglin (Co-PI). Design and Development of Flexible Self-Powered Energy Conversion and Storage Devices, NASA EPSCoR Seed Research Initiation Grant, \$40,000, (May 1, 2021 – Apr 30, 2022)
- [3] Li, Xianglin (Intra-KBOR Member, Consultant). *Smart-Fusion Material Research Cluster*, Wichita State University, \$9,000, (October 1, 2020 September 30, 2022)
- [4] Li, Xianglin (Principal). Transport Phenomena in Li-O₂ Battery Electrodes Characterized by X-ray Nanotomography. Kansas Board of Regents \$100,000 (October 2019 - September 2024).
- [5] Li, Xianglin (Principal). Stationary Direct Methanol Fuel Cells Using Pure Methanol. DE-EE0008440, U.S. Department of Energy \$999,399 (December 1, 2018 - Mar 31, 2022).
- [6] Li, Xianglin (Co-Principal, KU Sole-Principle). Efficient and Compact Thermal and Water Management Systems for Novel Space Technology. NASA Total funding: \$750,000; KU's share: \$144,885 (December 1, 2017 - November 30, 2021).
- [7] Li, Xianglin (Principal). RII Track-4: Pore-Scale Transport Phenomena in Li-O₂ Battery Electrodes Characterized by Nano-Tomography. National Science Foundation \$219,312 (October 1, 2018 - September 30, 2022).

Awarded Beam Time at National User Facilities

- [8] Li, Xianglin (Principal). Water Transfer in Direct Methanol Fuel Cells Driven by Highly Concentrated Methanol Solutions. Center for High Resolution Neutron Scattering -National Institute of Standards and Technology, BT-2 - Neutron Imaging Facility (Sep 2018 – Jan 2019)
- [9] Li, Xianglin (Principal). The Measurement of 3D Pore-Scale Structures of Li-O2 Battery Electrodes. The Advanced Photon Source (APS) - Argonne National Laboratory, Beamline 32-ID (Sep 2017 – May 2019)
- [10] Li, Xianglin (PI). Reconstruction of 3D Digital Battery Electrodes from 2D SEM Images, NSF Extreme Science and Engineering Discovery Environment, (May 1, 2021 - Apr 30, 2022)

Major Pending Supports

- [11] Li, Xianglin (PI). Low-Cost and High-Power Direct Methanol Fuel Cells Using Pure Methanol, **ARPA-E OPEN 2021**, \$2.92 million (Apr 2022 Mar 2025)
- [12] Li, Xianglin (PI). Collaborative Research: Collaborative Research: Generative Design of Thermal Structures Using Multi-Fidelity Supervised Deep Learning. NSF, \$500,000 (Jan 1, 2022 - Dec 31, 2024)