



**Instructor:** ME728 Advanced Electronic Materials, Wichita State University, Kansas, Fall 2014-Present.

## RESEARCH INTERESTS

Polymers and polymer nanocomposites.

Plant-protein based functional materials, composites and hydrogels.

Dielectric relaxation of polymer materials.

Applied polymer rheology.

## AWARDED GRANT PROPOSAL

1. Multi-Disciplinary Research Project (MURPA), PI: Yao Li; **Co-PI: Bin Li** ò Soy Protein-Based Composite Hydrogel for Neural Regenerationö, 05/2021 ó 08/31/2021, \$7,500.
2. USDA-AFRI Nanotechnology program, **PI: Bin Li** òEpi kpgg

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**Book 2: as the lead author for 7 chapters of the 12-chapter book “Nanotechnology: From Lab to Society**, DEStech publications, Inc., July, 2011. (ISBN: 978-1-60520-100-0)

**B. Li, W. H. Zhong, Chapter 1 Introduction**

**B. Li, W. H. Zhong, Chapter 2 Vapor-Phase Synthesis**

**B. Li, W. H. Zhong, Chapter 3 Liquid-Phase synthesis**

**B. Li, W. H. Zhong, Chapter 4 Solid-Phase Synthesis**

**B. Li, W. H. Zhong, Chapter 5 Biological System-Assisted Synthesis**

**B. Li, W. H. Zhong, Chapter 6 Synthesis of Nanocarbon**

**B. Li, W. H. Zhong, Chapter 7 Nanoscale Processing and Nanopatterning Techniques**

### **Special Issue of Research Journals**

1. **Leading guest editor** for Special Issue on Nanotechnology, *Journal of Nanoparticles*, Volume 2016, 2016.

### **Peer-reviewed Journal Papers**

#### **Published Papers (undergraduate students)**

1. S. P. Burugupally\*, B. Koppolu, N. Danesh, Y. K. Lee, Vidisha Indeewari and **B. Li**, Enhancing the performance of dielectric materials for energy storage applications, *Journal of Applied Physics*, 150, 044101 (2021).

10. Y. Wang; W.H. Katie Zhong, T. Schiff A. Eyler; **B. Li**; Particle-controlled high performance gum-

28. **B. Li** and W. H. Zhong, Effective Static Dissipation of Bi-layer Thermoplastic Composites with Low Carbon Nanofiber Loading, *Macromolecular and Materials Engineering*, 2010, 295, 1136.
29. J. Y. Ji, **B. Li** and W. H. Zhong, Simultaneously Enhancing Ionic Conductivity and Mechanical Properties of Solid Polymer Electrolytes via a Copolymer Multi-functional Filler, *Electrochimica Acta*, 2010, 55, 9075.
30. J. Y. Ji, **B. Li** and W. H. Zhong, Effects of a Block Copolymer as Multifunctional Fillers on Ionic Conductivity, Mechanical Properties and Dimensional Stability of Solid Polymer, *The Journal of Polymer Chemistry B*, 2010, 114, 13637.
31. S. Kumar, B. Lively, L. L. Sun, **B. Li** and W. H. Zhong, Highly dispersed and electrically conductive polycarbonate/oxidized carbon nanofiber composites for electrostatic dissipation applications, *Carbon*, 2010, 48, 3846.
32. L. L. Sun, **B. Li**, G. Mitchell, W. H. Zhong and Y. Zhao, Structure-induced High Dielectric Constant and Low Loss of CNF/PVDF Composites with Heterogeneous CNF Distribution, *Nanotechnology*, 2010, 10, 305702.
33. L. L. Sun, **B. Li**, Y. Zhao and W. H. Zhong, Suppression of AC Conductivity by Crystalline Transformation in Poly(vinylidene fluoride)/Carbon Nanofiber Composites, *Polymer*, 2010, 51, 3230.
34. **B. Li** and W.H. Zhong, Influence of Carbon Nanofiber Network Variability on the Pronounced AC Conductivity of the Polyetherimide Composite Films, *Macromolecules and Materials Engineering*, 2010, 295, 310.
35. **B. Li**, W. Wood, L. Baker, G. Sui, C. Leer and W. H. Zhong, Effectual Dispersion of Carbon Nanofibers in Polyetherimide Composites and Their Mechanical and Tribological Properties, *Polymer Engineering and Science*, 2010, 50, 1914. (**Featured on SPE research online, Society of Plastics Engineers, July 21<sup>st</sup>, 2010**)
36. W. Wood, **B. Li** and W. H. Zhong, Influence of Phase Morphology on the Sliding Wear of UHMWPE/HDPE Blends Filled with Carbon Nanofibers, *Polymer Engineering and Science*, 2010, 50, 613.
37. G. Gong, **B. Li**, B. H. Xie, W. Yang and M. B. Yang, Anomalous Melt Rheological Properties of Unimodal-MWD HDPE Blends, *Polymer-Plastics Technology and Engineering*, 2010, 49, 487.
38. S. Kumar, L. L. Sun, S. Caceres, **B. Li**, W. Wood, A. Perugini, R. G. Maguire and W. H. Zhong, Dynamic Synergy of Graphitic Nanoplatelets and Multi-walled Carbon Nanotubes in Polyetherimide Nanocomposites, *Nanotechnology*, 2010, 21, 105702.
39. **B. Li**, G. Sui and W. H. Zhong, Single Negative Metamaterials in Unstructured PolBT/F6

## Conference Papers / Presentations

1. P. Feikert and **B. Li\***, Tailoring interfacial properties of polyethylene oxide/boron nitride nanocomposites via polydopamine, ANTEC Conference 2020. San Antonio, TX, Apr., 2020. (Full paper accepted for oral presentation)
2. P. Feikert and **B. Li\***, Effects of Soy Proteins on Dynamic Relaxation of Polymer Materials toward Design and Fabrication of Functional Polymer/Plant Protein Composites, ACS MWRM Regional Meeting, Wichita, KS, Oct., 2019. (Oral presentation)
3. P. Feikert, W. Wang, Z. Zheng and **B. Li\***, Effects of Nanoscale Soy Protein on Dynamic Relaxation of Dielectric Polymer Nanocomposites, USDA-NIFA Grantee Meeting, Nashville, TN, May, 2019 (Oral presentation)
4. P. Feikert, W. Wang, Z. Zheng and **B. Li\***, Dielectric and Rheological Analysis of Soy Protein-Modified Polymer Nanocomposites ó Poster presentation, USDA-NIFA Grantee Meeting, Nashville, TN, May, 2019 (Poster presentation)
5. Z. Zheng, M. Cox and **B. Li\***; A Study of Soy Protein in Polymer Dielectric Film Applications, Gordon Research Conference on Nanoscale Science & Engineering for Agriculture & Food, South Hadley, MA, 2018
6. Z. Zheng and **B. Li\***, Structures and Dielectric Properties of Soy Protein Modified Poly(vinylidene fluoride) Films, ANTEC Conference 2018, Orlando, FL, May, 2018.
7. Z. Zheng and **B. Li\***, Effects of Protein Aggregation on the Structures and Dielectric Energy Storage Performances of Polymer Films, MRS Spring Meeting & Exhibition, Phoenix, AZ, April, 2018
8. O. Olayinka, Z. Zheng and **B. Li\***, Effects of Denaturation of Soy Protein on Electrical and Dielectric Properties of PVDF/Soy Protein Membranes, ANTEC Conference 2017, Anaheim, CA, May, 2017.
9. M. Cox, and Z. Zheng and **B. Li\***, Dielectric Properties of Soy Protein Isolate and Its Nanocomposites, 2017 ACS, Midwest Regional Meeting, Lawrence, KS, Oct.2017
10. Z. Zheng and **B. Li\***, Study of Soy Protein Isolate as a Functional Modifier for Polymer Materials, 2017 ACS, M01 s 0 0 1 96.624 370.37 Tmpf

20. **B. Li**, and W. H. Zhong, Bi-layer Thermoplastic Nanocomposites with High Static Dissipation Efficiency, *2010 NSF CMMI Grantee Conference*, January 4<sup>th</sup>-7<sup>th</sup>, Atlanta, GA. (**Full paper** and poster presentation)
21. **B. Li**





Journal of Applied Polymer Science  
Journal of Intelligent Material Systems and Structures  
Journal of Sandwich Structures and Materials  
New Journal of Chemistry  
Science and Engineering of Composite Materials  
Journal of Materials Science  
Materials Chemistry and Physics  
Composite Science and Technology  
Composites Part B  
Surface and Coatings Technology  
Journal of Thermal Engineering  
Proceedings of the Institution of Mechanical Engineers, Part J, Journal of Engineering Tribology  
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