

Curricular Vitae

Bowen Li, PhD

Department of Material Science & Engineering
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931

Email: boli@mtu.edu
Phone: (906) 487-4325
Cell Phone: (906) 281-7082

EDUCATION

- ◆ PhD, Materials Science and Engineering, Michigan Technological University, USA, 2008
- ◆ PhD, Mineralogy and Industrial Petrology, China University of Geosciences, Beijing, China, 1998
- ◆ MS, Mineralogy and Industrial Petrology (emphasis on ceramics), China University of Geosciences, Beijing, China, 1992
- ◆ BS, Geology and Mineral Resources, Xian Geology Institute, China, 1983

RESEARCH EXPERIENCE

Michigan Technological University Dept. Materials Science & Engineering, Houghton, MI

Research Professor, 7/2016-present
Research Associate Professor, 7/2012-6/2016
Research Assistant Professor, 12/2008-6/2012

QTEK LLC, Chassell, MI

President and CTO, 9/2009-present

Wuhan Iron and Steel (Group) Corp. Center for Advanced Materials, Beijing, China

Senior Scientist/Project Leader (Adjunct), 11/2013-12/2016

Wyo-Ben, Inc. Billings, MT

Advisory-China Market Initiative, 11/2011-5/2015

Michigan Technological University Dept. Materials Science & Engineering, Houghton, MI

Research Assistant, 8/2004-12/2008

Michigan Technological University Dept. Geological and Mining Science and Engineering/Institute of Materials Processing, Houghton, MI

Research Assistant, 7/2002-8/2004

China University of Geosciences (Beijing) School of Materials Science, China

Associate Dean, 8/1995-3/2003 (Interim Dean, 11/2001-7/2002)
Associate Professor, 12/1995-3/2003
Assistant Professor, 6/1992-12/1995

UP Steel, Houghton, MI

Engineer (Adjunct), 2/2009-6/2009

State Key Laboratory for Fine Ceramics and Process/Tangshan Ceramics Group Tsinghua University, Beijing, China

Research Fellow (adjunct), 9/1999-5/2002

SELECTED PUBLICATIONS

a) Referred Publications/Proceedings

1. **B. Li**, M. He, C. Li. Characteristics of WISCO Steelmaking Slags. *Characterization of Minerals, Metals, and Materials 2018*. New York: Springer International Publishing AG, 2018 (In Press).
2. **B. Li**. Perlite. *Mining Engineering*, 2017, v69, No.7, pp75-76. (Invited).
3. **B. Li**, M. He, H. Wang. Phase Transformation of Andalusite-Mullite and Its Roles to Microstructure and Sinterability of Refractory Ceramic. *Metallurgical & Materials Transaction A*, 2017, 2017, 48(7), 3188-3192.
4. Y. Zhang, J.Y. Hwang, Z. Peng, M. Andriese, **B. Li**, X. Huang, X. Wang, X. Yan. Penetration depth of Microwave in Tire Rubber. *Proceedings of 8th International Symposium on High Temperature Metallurgical Processing*. Springer, New York, pp403-410.
5. H. Wang, **B. Li**, M. He, J.Y. Hwang. Mullitization Characteristics and Sinterability of Kyanite in Ceramic Preparation. *Characterization of Minerals, Metals, and Materials 2017*. New York: Springer, International Publishing AG, pp251-259.
6. **B. Li**, M. He, J.Y. Hwang, W. Gan. Characteristics of anorthite-pyroxene ceramics made from hot-poured steelmaking slag. *JOM*, 2017, 69(2): 173-177.
7. **B. Li**. Perlite. *Mining Engineering*, 2016, V68, No.7, pp62-63. (Invited)
8. Y. Zhang, J.Y. Hwang, Z. Peng, M. Andriese, **B. Li**, X. Huang, X. Wang, and L. Li. Microwave Heating of Waste Tires. *Proceedings of 7th International Symposium on High-Temperature Metallurgical Processing*. John Wiley & Sons, Inc. Hoboken, New Jersey, 2016, p551-558
9. **B. Li**, M. He, J. Y. Hwang, W. Gan. Synthesis and Characteristics of Anorthite Ceramics from Steelmaking Slag. *Characterization of Minerals, Metals, and Materials 2016*. John Wiley & Sons, Inc. New Jersey, 2016, p263-269.
10. Q. Lu, **B. Li**. Electrical Effect and Influence Factors of Tourmaline. *Characterization of Minerals, Metals, and Materials 2016*. John Wiley & Sons, Inc. New Jersey, 2016, p83-89.
11. **B. Li**. Perlite. *Mining Engineering*, 2015, V67, No.7, pp75-76.
12. M. Wang, **B. Li**. A Novel Technology of Vanadium Extraction from Stone Coal, *Rare Metal Technology*. John Wiley & Sons, Inc. New Jersey, 2015, p.187-192.
13. Y. Zhang, J.-Y. Hwang, Z. Peng, M. Andriese, **B. Li**, X. Huang, X. Wang, Microwave Absorption Characteristics of Tire. *Characterization of Minerals, Metals, and Materials 2015*. Published by John Wiley & Sons, Inc. New Jersey, 2015, p235-243.
14. M. Wang, P. Xian, X. Wang, and **B. Li**, Extraction of Vanadium from Stone Coal by Microwave Assisted Sulphation Roasting, *JOM*, 2015, v67, p369-374.
15. M. Ogwuegbu, G. Onyedika, K. Onwukamike, and **B. Li**. Differential Characterization of Ikperejere Iron Shale and Iron Sandstone. *Characterization of Minerals, Metals, and Materials 2014*. John Wiley & Sons, Inc. New Jersey, 2014, p401-411.
16. C. Vogt, Q. Xing, W. He, **B. Li**, M. Frost, F. Zhao. Nitric Oxide-Releasing Gelatin Nanofiber Matrix as a Potential Antibacterial Wound Dressing. *Biomacromolecules*, 2013, 14 (8), pp 2521–2530.
17. M. Andriese, J. Y. Hwang, Z. Peng, **B. Li**. Chemical Enrichment of Precious Metals in Iron Sulfides Using Microwave Energy. *4th International Symposium on High-Temperature Metallurgical Processing*, John Wiley & Sons, Inc., Hoboken, NJ, USA. Feb. 2013. p623-629.
18. J. Drelich, **B. Li**, B. Villeneuve, and P. Bowen. Inexpensive Mineral-Copper Materials with Antibacterial Surfaces. *Surface Innovations*, 2013, 1(1):15-26.
19. J. Drelich and **B. Li**. Inexpensive Mineral-based Antibacterial Materials with Infused Copper. *Proceedings of Annual International Conference on Materials Science, Metal & Manufacturing*, December 12-13, 2011, Singapore, p1-6 (Invited).

20. J. Drelich, **B. Li**, P. Bowen, J. Y. Hwang, O. Mills, D. Hoffman. Vermiculite decorated with copper nanoparticles: Novel antibacterial hybrid material, *Applied Surface Science*, 2011, 257 (22): 9435–9443.
21. **B. Li**, J. Y. Hwang, J. Drelich, D. Popko, and S. Bagley. Physical, Chemical and Antimicrobial Characterization of Copper-bearing Material. *JOM*, 2010, 12: 80-85.
22. P. Shang, R. Zhao, M. Ji, **B. Li**. Removal of Ammonia Nitrogen from Rainwater by Modified Fly Ash and Zeolite. *Proceedings of 2010 SME Annual Meeting*, p1-5.
23. X. Sun, J. Y. Hwang, X. Huang, and **B. Li**. Petroleum Coke Particle Size Effects on the Treatment of EAF Dust through Microwave Heating. *Journal of Minerals & Materials Characterization & Engineering*, 2009, 8 (4): 249-259
24. Z. Xu, J. Y. Hwang, **B. Li**, X. Huang, and H. Wang. The Characterization of Various ZnO Nanostructures Using Field Emission SEM. *JOM*, 2008, 60 (4):28-32
25. M. He, Jianbao Li, **B. Li**, *et al.* Preparation of porous wollastonite ceramics for filtration. *Key Engineering Materials*, 2007, 337: 1102-1104
26. L. Liao, Z. Bai, **B. Li**, Y. Song, Y. Cui. Models of Teaching Management for School and Department. *Higher Education of Sciences*, 2006(5): 136-138
27. X. Sun, J. Y. Hwang, X. Huang, **B. Li**, S. Shi. Effects of microwave on molten metals with low melting temperatures. *J. of Minerals & Materials Characterization & Engineering*, 2005, 4(2):107-112
28. **B. Li**, J. Y. Hwang, S. Yu. Storing capacity of copper ions in vermiculite and its relation to the preparation conditions. *JOM*, 2004, 56(11), 339.
29. S. Shi, J. Y. Hwang, **B. Li**, X. Huang. Investigation into the sintering of magnesium fluoride optical material by microwave. *J. of Minerals & Materials Characterization & Engineering*, 2004, 3(2):105-108
30. Y. Kang, A. Lu, P. Zhou, **B. Li**, J. Li. Mineralogical properties of clay in Liulitun Sanitary Landfill, Beijing and its absorption capability against benzene. *China Non-metallic Mining Industry Herald*, 2004,(1): 34-37.
31. Y. Kang, A. Lu, P. Zhou, **B. Li**, J. Li, Y. Wu, M. Li. Adsorptive results of clay minerals against organic compounds in Liulitun Sanitary Landfill. *China Non-metallic Mining Industry Herald*, 2003,(2): 42-44.
32. X. Wang, P. Zhou, **B. Li**, H. Yu. Preparation and characterization of polystyrene/kaolinite nanocomposites. *Journal of the Chinese Ceramic Society*, 2003, 31(10): 955-958, +964.
33. Y. Huang, **B. Li**, M. He, F. Du, J. Chen. Porous calcium silicate ceramics synthesized by perlite tailings. *Bulletin of Chinese Ceramic Society*, 2003, 22(3): 85-87.
34. **B. Li**, S. Yu, J. Y Hwang, S. Shi. Antibacterial vermiculite nano- material. *Journal of Minerals & Materials Characterization & Engineering*, 2002, (1): 61-68
35. D. Xu, G. Gai, **B. Li**. Processing and utilization of natural brucite. *China Powder Technology*, 2002, (8): 4-6
36. G. Song, T. Peng, P. Wan, **B. Li**. Study on colorimetry of TiO₂-Muscovite nanocomposite. *Acta Physica Sinica*, 2002,51(7): 1575-1580
37. G. Song, T. Peng, P. Wan, **B. Li**. Preparation of TiO₂-Muscovite nanocomposite and its surface chemical features. *Acta Mineralogica Sinica*, 2002, 22(1):1-8
38. G. Song, P. Wan, T. Peng, **B. Li**. Elementary introduction of nanosciences and nanotechnology. *Journal of Southwest China Institute of Technology*, 2002,17(1): 75-78
39. F. Hu, H. Cheng, F. Yang, G. Zheng, Z. Zheng, **B. Li**. Preparation of Ag-carried antibacterial agent by using palygorskite as carrier. *Modern Chemical Engineering*, (2001), 21(6): 35-37.
40. **B. Li**, Y. Song and L. Liao, Internet resources for mineralogy education, China geology education, 2002, (1): 80-82.
41. **B. Li**, S. Yu, A. Lu, and P. Wan. Modes of occurrence of Cu²⁺ in the Cu-vermiculite antimicrobial agent. *Acta Petrologica et Minerlogica*, 2001,20(4): 495-499, 503
42. **B. Li**, R. Wen, N. Wang, J. Li. Mullite Refractory Ceramic Made from Andalusite and α-Al₂O₃. *Journal of Wuhan University of Technology, Materials Science Edition*, 2001, 16(2): 44-46.
43. **B. Li**, M. He and J. Li. Prospect for mineral materials. *China Building Materials*, 2001, (6): 72-74.

44. Y. Fu, P. Wan, **B. Li**, T. Peng. Study on the disposing of waste water with Cr⁶⁺ using organized bentonite. *Journal of Southwest China Institute of Technology*, 2001,16(2): 65-69
45. W. Liu, **B. Li**, B. Pan, Y. Liu. Characteristics of deformation during Mesozonic Era in the Chaohu-Chuzhou Region, Anhui Province. *Geoscience*, 2001, 15(1): 13-20
46. G. Song, T. Peng, **B. Li**, P.Wan. Preparation and phase transformation of nanometer complex material of TiO₂-muscovite. *Bulletin of the Chinese Ceramic Society*, 2001, 20(Suppl.): 56-59.
47. Y. Kang and **B. Li**. Utilization of non-metallic minerals and solid waste in sanitary landfill. *China Non-metallic Mining Industry Herald*, 2001, (1): 15-17.
48. M. He, **B. Li**, J. Li. Application advance on porous ceramics. *Bulletin of the Chinese Ceramic Society*, 2001, 20 (Suppl): 1-3.
49. L. Yu, **B. Li**, Z. Jiang, X. Li. Admixing amount of magnesia in aerated concrete slabs. *Bulletin of the Chinese Ceramic Society*, 2001, 20(Suppl.): 81-83.
50. **B. Li**, Q. Xiao. Antibacterial properties of Ag-exchanged bentonite. *Non-metallic Mines*, 2001, 24(5): 17-18.
51. Z. Zheng, **B. Li**, F. Hu, G. Zheng, H. Cheng, Y. Yang. Existence state of Ag in Ag-palygorskite antibacterial agent. *Bulletin of the Chinese Ceramic Society*, 2001, 20(Suppl.): 67-69.
52. G. Song, **B. Li**, T. Peng, P. Wan. Present situation and prospecting perspective of muscovite resources in China. *Acta Geological Sichuan*, 2000, 20(3):198-201
53. N. Wang, **B. Li**, R. Weng. Application of feldspar in preparation of porcelain-fused-to-metal (PFM) powders. *J. Mineral Petrol*, 2000, 20(4):6-10.
54. G. Song, Y. Guo, N. Xiong, P. Wan, **B. Li**, T. Peng. Mineral resources of China muscovite and its mineralogy study and application. *J. of Southwest China Institute of Technology*, 2000, 15(2):73-77.
55. N. Wang, **B. Li**, H. Li, J. Feng. Application of non-metallic minerals in antibacterial materials. *Journal of China Universities*, 2000, 6(2): 306-309.
56. F. Hu, **B. Li**, Z. Zheng, W. Zhao. Application and prospect of metal ion antibacterial agents. *Multipurpose Utilization of Mineral Resources*, 2000,(4): 28-33.
57. Y. Kang, **B. Li**. Introduction of some Internet websites for mineralogy and mineral use. *China Non-metallic Mining Industry Herald*, 2000, (2): 45-46,48
58. G. Song; T. Peng, P. Wan; **B. Li**. Geological Characteristics of Museovite Ore Possession and its Discovery Prospect in China. *Journal of Southwest Institute of Technology*, 2000, 15(4), 47-51.
59. **B. Li**, R. Weng, X. Zhou. Aluminosilicate high-performance ceramic prepared from mineral micropowder. *Earth Science Frontiers*, 2000, 7(2):535-539.
60. **B. Li**, X. Zhou, R. Wang. Sinterability and sintering mechanism of kyanite micropowder. *Refractories*, 1999, 33 (6):320-322.
61. Q. Xiao, **B. Li** and N. Wang. Inorganic antibacterial agents: a review. *China Non-metallic Mining Industry Herald*, 1999, (6): 5-7.
62. **B. Li**, R. Wang and X. Zhou. Reinforcement effect of andalusite micropowder on refractory made from high-alumina bauxite clicker. *Bulltin of Mineralogy petrology and Geochemistry* 1999, 18 (4):217-220.
63. N. Wang, **B. Li**, H. Tao. Interstratified development of organo-bentonite and its application in modification of polypropylene. *Journal of Southwest Institute of Technology*, 1999,14 (Suppl.): 131-132,149
64. F. Hu, **B. Li**, Z. Yang, Z. Zheng, F. Yang. The research situation of the metal ion antibacterial—Categories and properties. *Shanxi Building Materials*, 2000, (1): 32-34.
65. **B. Li**, R. Weng, X. Zhou. Sinterability of andalusite micro powder. *Refractories*, 1999, 33(3): 130-132.
66. N. Wang, H. Tao, **B. Li**. Current situation of inorganic antibacterial agents and development of mineral materials. *Bulltin of Mineralogy Petrology and Geochemistry*, 1999, 18(1):61-65.
67. **B. Li**, Preparation of mullite-silica-rich glass composite material with kyanite micropowder. *Non-metallic Mines*, 1998, 21(6):21-23, 46.
68. **B. Li** and N. Wang, Mullite silica-rich glass composite material developed from andalusite micropowder, *Proceedings of The First China International Conference on High-Performance Ceramics*, Beijing: Tsinghua University Press, 1999, 438-441.

69. **B. Li** and N. Wang. From Industrial Petrology to Mineral Materials. *Geology History Letter*, China geology History Research Society, 1998 (Sppl.): 41-43
70. **B. Li**, R. Weng and X. Zhou. Present application situation and trend of kyanite-group minerals. *Geological Science and Technology Information*, 1997, 16(1): 59-63.
71. **B. Li**, R. Weng and J. Li. Experiment and research on the preparation of mullite fibre reinforced material with andalusite. *Refractories*, 1996, 30(6): 305-307,313
72. **B. Li**. The relationship between petrology, mineralogy and materials science. *Geological Science and Technology Information*, 1995, 14(3):56-60
73. **B. Li**, R. Weng. The high temperature feature and mullitization behavior of andalusite from Xixia, Hanan Province. *Journal of Mineralogy and Petrology*, 1993, 13(3): 36-41
74. **B. Li**. Giant regional shear movement in Southern Belt of Beishan, Gansu. *Northwest Geology*, 1990, (4): 25-28
75. **B. Li**. The theory of multiple stratigraphic classification and its application in Gansu. *Regional Geology of China*, 1990, 4(35), 379-384.
76. **B. Li**. Modern agriculture and geology. *Gansu Geological Science and Technology Information*, 1989, (4): 12-14
77. **B. Li**. Mudflow deposition in Jintar Beishan, Gansu. *Gansu Geological Science and Technology Information*, 1988, (4)

b) Other Publications

1. **B. Li** and J. Li. Characterization and processing of advanced porous materials, *JOM*, 69(4), 2017, 69(4), pp689-690 (DOI: 10.1007/s11837-017-2296-8)
2. **B. Li**. SBIR Phase I: Copper-based Antimicrobial Plastic Masterbatch Pellets. Published by National Science Foundation, <http://grantome.com/grant/NSF/IIP-1416064>, March 2015.
3. **B. Li**, X. Huang, J. Y. Hwang. Erosion of A Nickel-based Superalloy in Fluoride Electrolyte Melt. 2015 TMS Annual Meeting, Orlando, FL (Poster).
4. **B. Li**, Wyo-Ben, Hudong Baike (www.hudong.com), Feb. 26, 2012
5. A. Garkida, J. Y. Hwang, X. Huang, **B. Li**. Evaluating the Compressive Strength and Microstructure of Recycled Glass Compacts. EPD Congress 2010, Recycling, TMS Publications (CD-ROM).
6. **B. Li**, J.Y. Hwang, and S. Bagley, Quantitative Assessment of Antibacterial and Antifungal Activities of Copper Vermiculite, *JOM*, 2009, v61, No.2, p.232
7. A. Garkida, J. Y. Hwang, X. Huang, C. Okuofu, **B. Li**, A. Ahuwan. Shrinkage Behaviour of Recycled Glass Compacts. *Proceeding of 137th TMS Annual Meeting*, March 9-13, 2008.
8. **B. Li**, Ying Huang, J. Y. Hwang. Preparation of Alkali Porous Ceramic with Fibrous Wollastonite. *136th TMS Annual Meeting Extraction, Processing Structure and Properties Proceedings*. The Minerals, Metals & Materials Society, Warrendale, PA, 2007, 109-116.
9. J. Y. Hwang, X. Huang, A. Garkida, S. Shi and **B. Li**. Utilization of Waste Glass in Alumina-Glass Composite. *136th TMS Annual Meeting Extraction, Processing Structure and Properties Proceedings*. The Minerals, Metals & Materials Society, Warrendale, PA, 2007, 121-126.
10. **B. Li**, J. Y. Hwang, S. Shi. Fibrous reinforcement in clay-bonded silicon carbide refractory using andalusite powder. *Proceedings of EPD congress 2006*, The Minerals, Metals & Materials Society, Warrendale, PA, 2006, 255-261.
11. **B. Li**, J. Y. Hwang, A. M. Hein, Z. Xu. Phase transformation of andalusite and its impacts on refractory brick reinforcement. *Proceedings of EPD congress 2006*, The Minerals, Metals & Materials Society, Warrendale, PA, 2006, 295-302.
12. X. Sun, J. Y. Hwang, S. Shi, **B. Li**, X. Huang. Temperature Measurements in Microwave Heating. *EPD congress 2006*. The Minerals, Metals & Materials Society, Warrendale, PA, 2006, p1123-1132
13. J. Y. Hwang, S. Shi, **B. Li**, X. Sun. Storing hydrogen with metal perhydrides. *Proceedings of 2006 TMS Annual Meeting: Advanced Materials for energy Conversion III*, The Minerals, Metals & Materials Society, Warrendale, PA, 2006, 101-107.

14. **B. Li**, J. Y. Hwang, X. Huang. Effect of microwave irradiation on the characteristics of bentonite particles. *EPD congress 2005*, The Minerals, Metals & Materials Society, Warrendale, PA, 2005, 215-226.
15. **B. Li**, X. Huang, J. Y. Hwang. Acceleration of microwave irradiation on the melting of fluoride. *2004 AIChE Annual Meeting Proceedings*, 125-128
16. **B. Li**. 2003 SME annual meeting: Research achievements on application of nonmetallic minerals. *Proceedings of First China Conference on Nonmetallic Minerals Science & Technology*, Beijing, China, March, 2003
17. **B. Li**. Summary of 2nd Young Scientists Symposium of Chinese Ceramics Society. *Bulletin of the Chinese Ceramic Society*, 2000, 19(5): 63
18. N. Wang, J. Feng, **B. Li**, H. Li. Applications of Nonmetallic Minerals in Antibacterial Materials. Symposium for National Mineralogy of China at the Shifting of Centuries, 2000
19. G. Song, G. Ying; P. Wan; **B. Li**. Chemical composition characters of China muscovite, *Eos, Transactions, American Geophysical Union*, 2000, 81(48), Suppl., 1301-1302
20. **B. Li**, M. He. Prospect of mineral materials. Proceedings of 4th Congress of China Nonmetallic Minerals Industry Association, Guilin, China, April 2000.
21. R. Weng, H. Gao and **B. Li**. Development and applications of andalusite mineral material. *Proceedings of 6th Annual Meeting of Chinese Ceramic Society Technical Petrology Division*, 1996, 43-45
22. **B. Li**. Phase transformation of andalusite and its application in refractory. *Proceeding of '95 China Materials Science & Materials Engineering Meeting*, China Metallic Society, 1995.
23. **B. Li**, R. Weng. Characteristics of Xixia andalusite at high temperature. *Proceedings of Symposium on Processing and Utilization of Industrial Minerals*, Chunqin University Press, 1993, 53-55
24. **B. Li**. Agrogeology. *China Geology News*, April 27, 1987
25. **B. Li**. Recognition of agrogeology. *Gansu Daily*, March 28, 1987.

d) Books Authored and Edited

1. **B. Li**, J. Li, S. J. Ikhmayies, J. S. Carpenter, J.-Y. Hwang, S. N. Monteiro, D. Firrao, M. Zhang, Z. Peng, J. P. Escobedo-Diaz, C. Bai, Y. E. Kalay, R. Goswami, J. Kim. *Characterization of Minerals, Metals, and Materials 2018*. Cham, Switzerland: Springer International Publishing AG, Feb. 2018 (ISBN 978-3-319-72483-6. In press).
2. S. J. Ikhmayies, **B. Li**, J. S. Carpenter, J.-Y. Hwang, S. N. Monteiro, J. Li, D. Firrao, M. Zhang, Z. Peng, J. P. Escobedo-Diaz, C. Bai. *Characterization of Minerals, Metals, and Materials 2017* (ISBN 978-3-319-51381-2). New York: Springer International Publishing AG, Feb. 2017. 872 pages.
3. S. J. Ikhmayies, **B. Li**, J. S. Carpenter, J.-Y. Hwang, S. N. Monteiro, J. Li, D. Firrao, M. Zhang, Z. Peng, J. P. Escobedo-Diaz, C. Bai. *Characterization of Minerals, Metals, and Materials 2016*. John Wiley & Sons, Inc, Hoboken, NJ, 2016. (ISBN 978-1-119-26439-2). 837 pages
4. J.S. Carpenter, C. Bai, J.P. Escobedo, J.Y. Hwang, S. Ikhmayies, **B. Li**, J. Li, S. N. Monteiro, Z. Peng, and M. Zhang. *Characterization of Minerals, Metals, and Materials 2015* John Wiley & Sons, Inc, Hoboken, NJ, 2015. (ISBN 978-1-119-08246-0) .792 pages.
5. J.S. Carpenter, C. Bai, J.Y. Hwang, S. Ikhmayies, **B. Li**, S.N. Monteiro, Z. Peng, and M. Zhang. *Characterization of Minerals, Metals, and Materials 2014*, John Wiley & Sons, Inc, Hoboken, NJ, 2014. (ISBN 978-1-118-88786-8). 662 pages.
6. A. Wojcieszynski, **B. Li**, H. Kuhn, I. Anderson, R. K. Enneti, J. Sears. *Proceedings of Powder-based Processes and Products for Advanced Applications — Powder Consolidation (2013 MS&T Conference, CD-ROM)*.
7. J.Y. Hwang, C. Bai, J.S. Carpenter, S. Ikhmayies, **B. Li**, S.N. Monteiro, Z. Peng, and M. Zhang, *Characterization of Minerals, Metals, and Materials 2013*. John Wiley & Sons, Inc., Hoboken, NJ, 2013 (ISBN 978-1-11860-564-6). 574 pages.
8. **B. Li**, *Characteristics and Antimicrobial Activity of Copper-based Materials* Michigan Technological University, 2008. ISBN 0549960961, 9780549960966, 85 pages.

9. Y. Chen, **B. Li** (Co-editors), *Proceedings of 2nd Young Scientists Conference of Chinese Ceramics Society*, Beijing, China, 2001. (ISSN 1001-1625)
10. **B. Li**, H. Li. *Introduction to Inorganic Nonmetallic Materials*, Geological Publishing House, Beijing, 1997, (ISBN 7-116-02434-4) (2003 reprinted, more than 9 universities/colleges used as textbook).
11. B. Li. *Introduction to Inorganic Nonmetallic Materials*, China University of Geosciences, Beijing, 1995.
12. Gansu Province Bureau of Geology and Mineral Resources, K-47-97-A and K-47-97-C 1:50000 Final Report of Regional Geological Survey. Geological Publishing House, Beijing, 1988 (Co-Author).
13. Gansu Province Bureau of Geology and Mineral Resources, K-46-108-A 1:50,000 Regional Geology Survey Final Report, China, Geological Publishing House, Beijing, 1987 (Co-Author).

e) Book Chapters

1. Co-author, *Industrial Minerals and Rocks*, Geological Publishing House, Beijing, 2002. (authored 3 chapters: Refractory Ceramics, Cement and Concrete, and Industrial Solid Wastes and Reuse; and revised 2 chapters of co-authors) (ISBN 7-116-03640-7)

f) Patents

1. M. He, **B. Li**, J.-Y. Hwang, et al. Ceramic Composite Proppant and Method for Manufacturing Same. China Patent 201611172869.X (2016).
2. **B. Li**, M. He, J.-Y. Hwang, G. Xue, W. Gan, J. Liu, W. Zhou, M. Liu, H. Chen, L. Li, Proppant made from steelmaking slag and the method for manufacturing same. China Patent Bulletin, CN105331354A (2016).
3. **B. Li**, M. He, J. Hwang, *et al.* Method for producing ceramic proppant using steelmaking slag, China patent application 201510851285.4 (2015).
4. **B. Li**, J.-Y. Hwang, US patent application 14/855,446 (2015).
5. **B. Li**, J.-Y. Hwang, US patent application 14/855,432 (2015).
6. **B. Li**, J. Y. Hwang. Exfoliated vermiculite antimicrobial additives, US patent 9,150,453 (2015)
7. **B. Li**, R. Hodek, D. C. Popko, and J. Y. Hwang. Method for coating mineral granules to improve bonding to hydrocarbon-based substrate and coloring of same. US patent 8,568,524B2 (2013)
8. G. Liu, **B. Li**; X. Lan, *et al.* Manufacture of foamed ceramic granules. China Patent Bulletin (2001), CN1285335A
9. **B. Li**, S. Yu. Preparation of inorganic antibacterial agent. China Patent Bulletin (2000), CN1271523A
10. **B. Li**. Manufacture of sintered silicon carbide material. China Patent Bulletin (2000), CN1252397A
11. **B. Li**. Manufacture of self-strengthening refractory casting material. China Patent Bulletin (1999), CN1210098A
12. **B. Li**. Preparation of high-strength mullite ceramics. China Patent Bulletin (1999), CN1226536A
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14. **B. Li**. Preparation of mullite-vcyor glass from kyanite micropowder. China Patent Bulletin (1998), CN1184789A
15. **B. Li**; N. Wang; Y. Song. Preparation of mullite-vcyor glass material from andalusite micropowder. China Patent Bulletin (1998), CN1184788A
16. H. Ma; Z. Bai; W. Wang; **B. Li**; L. Liao. Manufacture of potash fertilizer from potassium salt rock, China Patent Bulletin (1998), CN1184091A
17. H. Ma; Z. Bai; W. Wang; **B. Li**; L. Liao. Manufacture of zeolite from potassium feldspar. China Patent Bulletin (1998), CN 1184076A

Michigan Tech Invention Disclosures

- **B. Li**, Developing Cost Effective Mineral Foam Material for Energy Absorbing. Michigan Tech ID #1526 (2015).
- X. Huang, J.-Y. Hwang, **B. Li**, Z. Peng, S. Kampe, "Carbothermic reduction for metal productions", Michigan Tech ID #1328.00 (2013).
- B. Li. Microwave Furnace System for Vermiculite Exfoliation. Michigan Tech file #: IP ID 1305.00, (2013).
- J. Drelich, **B. Li**, Antimicrobial copper-based aluminosilicate minerals. Michigan Tech File #1129.00 (2011)
- **B. Li**. Antimicrobial treatment of concrete surface by copper mine tailings. Michigan Tech ID #1008.00. (2010)
- **B. Li**, R. Hodek, D. C. Popko, "Method for coating mineral granules to improve bonding to hydrocarbon-based substrate and coloring of same" (2010), Michigan Technological University, ID #1004.00 (2010).
- **B. Li**, D. Popko. Use of Upper Peninsula of Michigan Mine Tailings and Mine Products for Agricultural Soil Mineralization. Michigan Tech ID #0930.00. (2009)
- **B. Li**, J. Y. Hwang. Exfoliated copper vermiculite antimicrobial additive, Michigan Tech File #0935.00 (2009)

Government and Industrial Sponsored Research Performed

- ♦ Song Shaoxian (PI), Fundamental Study on Hydrophobic Agglomeration of Colloidal Clay Minerals in Aqueous Suspensions based on Siloxane Structure and Surface Modification. China National Foundation of Natural Science, 1/2017-12/2020
- ♦ Bowen Li (PI), Jiann-Yang Hwang (Co-PI), and Paul Fraley (Co-PI), Optimization of Microwave Processing System for Vermiculite Exfoliation. The Michigan Translational Research and Commercialization Program (MTRAC), 10/2016-10/2017
- ♦ Bowen Li (PI), Jiann-Yang Hwang (Co-PI), and Paul Fraley (Co-PI), Optimization of Microwave Processing System for Vermiculite Exfoliation. Michigan Technological University Commercialization Milestones Grant (CMG). 10/2016-10/2017
- ♦ Bowen Li (PI), Mineral processing of tungsten tailings. Runcer Leasing, 8/2016-10/2016.
- ♦ Bowen Li (Team Leader), *et al.* EPA certification for Surfion, Michigan Small Business Development Center, 9/2015-8/2017
- ♦ Lianzhou Hua (PI), Jiann-Yang Hwang, Wangui Gan, Bowen Li (Technical Leader), Mingsheng He, *et al.* Process development of ceramic proppant for shale gas exploration”, WISCO Special S&T Project, 1/2015-12/2016
- ♦ Michael Morley (PI), Bowen Li (Co-PI), and Xiaodi Huang (Co-PI), “Microwave Process and Instrumental Prototype for Vermiculite Exfoliation”, The Michigan Initiative for Innovation and Entrepreneurship (MIIE) Technology Commercialization Fund, 7/2014-12/2015
- ♦ Bowen Li (PI), “Copper-based Antimicrobial Plastic Masterbatch Pellets”, National Science Foundation, 7/2014-12/2014
- ♦ Bowen Li, Field Review of Big Alex Gold Exploration Project in Yukon, Canada, Wolf Head Discovery and Mining, 7/2014
- ♦ Bowen Li (PI), “Developing a Cost Effective Mineral Form Material for Energy Absorbing”, Zodiac Aerospace, 6/2014-11/2015
- ♦ Bowen Li (PI), He Mingsheng, Hwang Jiann-Yang, *et al.* Design and Manufacturing of High-Performance Ceramic Proppant for Oil and Gas Hydraulic Fracturing. WISCO R&D Center, 6/2014-5/2017.
- ♦ Bowen Li (PI), “Bentonite processing technology and China market initiatives”, Wyo-Ben, Inc., 12/2011-6/2015.
- ♦ Bowen Li (PI), “Mineral materials for cellular concrete production”, Energy Arresting System Corp., 5/2012-12/2012.
- ♦ Bowen Li (PI), Air classification of Ti-6Al-4V alloy powder, NIST, 5/2012-8/2012.

- ♦ Jaroslaw Drelich (PI) and Bowen Li, “Bench Scale Synthesis of Antimicrobial Vermiculite and its Stability Characteristic Determination”, The Michigan Initiative for Innovation and Entrepreneurship (MIIE), 12/2011-5/2013.
- ♦ Jaroslaw Drelich (PI) and Bowen Li (Co-PI), “Economic Recovery of Alloying Elements from Grinding Swarf”, Casting Services Group, 8/2011-4/2012.
- ♦ Bowen Li, “Characteristics and analysis of nanoclays structure”, Nanocor, Inc, 2012.
- ♦ Bowen Li, “Beneficiation of Colombia beach sand and ilmenite concentrate”, Saucon Resources, LLC, Dearborn, MI and Lesktech Ltd., MI, 2011
- ♦ Bowen Li, “Utilization of Mexican Copper Slag”, Lesktech Ltd. 2011.
- ♦ Bowen Li, “High purity quartz sand processing”, Metallica Reclamation Anthem, AZ, 2011.
- ♦ Jaroslaw Drelich (PI) and Bowen Li, “Evaluation of Commercial Flocculants”, GoldCorp, Mina El Sauzal, Mexico, 2010-2011.
- ♦ Ralph J. Hodek (PI) and Bowen Li, “Development of a Hydrophobic Coating and Application to Stamp Sand”. The Michigan Initiative for Innovation and Entrepreneurship (MIIE) Technology Commercialization Fund. 2009-2010.
- ♦ Xiaodi Huang (PI), “Optimization of Microwave Steelmaking”, Michigan Public Service Commission, UP Steel, 2009.
- ♦ Domenic Popko (PI), Jaroslaw Drelich (Co-PI), Minerals Recovery of Copper Mine Tailing on Lake Superior Coastline for Use as Raw Material in the Manufacture of Roofing Shingles. US Environment Protection Agency SBIR Program Phase II, 2008-2010,
- ♦ Jiann-Yang Hwang (Co-PI), “Rare Earth Elements Separation”, Great Western Minerals, 2008.
- ♦ Jiann-Yang Hwang (PI), “Separation of Ni and Cu from Sulfide Ore”, Kennecott, 2008.
- ♦ Jiann-Yang Hwang (PI), “Sand Evaluation”, Cardinal Corp. 2006.
- ♦ Domenic Popko (PI), Jiann-Yang Hwang (Co-PI), Minerals Recovery of Copper Mine Tailing on Lake Superior Coastline for Use as Raw Material in the Manufacture of Roofing Shingles. US Environment Protection Agency, 2007.
- ♦ Xiaodi Huang (PI), Jiann-Yang Hwang (Co-PI), “Microwave Assisted Electrolyte Cell with Inert Anode and Wetted Cathode for Primary Aluminum Production,” U.S. Department of Energy, 2002-2006.
- ♦ Bowen Li (PI), “Release conditions of copper ions and antibacterial efficiency of Cu-vermiculite”. China Scholarship Council, 2002-2003.
- ♦ Bowen Li (PI), “Localizing mullitization of kyanite and its application in preparation of porous ceramics”. State Key Laboratory in Fine Ceramics and Process, 2000-2002.
- ♦ Bowen Li (PI), “Self-reinforcement and application of micronized kyanite powder at high temperature”. National Laboratory for Development and Application of Mineral Materials, 1999-2000.
- ♦ Anhuai Liu (PI), “Environmental mineralogy in Beijing Solid Waste Sanitary Landfill”. P. R. China Ministry of Geology and Mineral Resources, 1999-2001.
- ♦ Gongbao Song (PI) and Bowen Li, “Electron microscopy study of nano-films in pearlier mica”. China Academy of Science Electron Microscopy Laboratory, 1999-2000
- ♦ Zili Zheng (PI), Bowen Li (Co-PI), “Absorption mechanism and modification of Novel self-decontaminated antibacterial material”. Beijing Natural Science Foundation, 1998-2000
- ♦ Bowen Li (PI), “Optimization and practice of teaching administration system”, China University of Geosciences, Beijing. 2000-2003.
- ♦ Bowen Li (PI), “Development of porous ceramic for filtration”, Tangshan Ceramic Group, 1999-2002.
- ♦ Bowen Li, “Diagnosis and thermal expansion control of aerated concrete products”, Beijing Modern Building Materials Co., China, 1997~2000.
- ♦ Cun Gui (PI), Co-PI: Anhuai Lu, Bowen Li, Hanlong Ying, “Mineralization and geological conditions of golden deposits in Eastern Anhui- Northern Jiangsu”. P. R. China National Plans Committee and China Gold Association, 1997-2000.
- ♦ Bowen Li (PI), “Application feasibility of zeolite in Guyuan, Hebei”, Agricultural Bureau of Guyuan County, Hebei, China, 1996.

- Howen Ma (PI), Zhiming Bai, Wanjin Wang, Bowen Li, and Libing Liao, “Feasibility on potassium extraction and synthesis of zeolite molecular sieve from potassium volcanic rocks”, P. R. China National Education Commission, 1995~1996.
- Bowen Li (PI), “TEM study of decomposition of andalusite at high-temperature”, National Laboratory for Development and Application of Mineral Materials, 1994-1996.
- Bowen Li (PI), “Feasibility of industrial applications of turpentine rocks from Guyuan, Hebei”, Industrial Bureau of Guyuan County, Hebei, China, 1996.
- Bowen Li (PI), “Application of kaolin from kezuo, Liaoning”, Government of Kezuo County, Liaoning, China, 1995.
- Bowen Li (PI), Application of Wuqing clay rocks”, Third Geology Institute of Inner Mongolia, China, 1993.
- Ruisheng Weng (PI), Bowen Li, “Development of silicon carbide-andalusite refractory”, Tangshan Special Refractory Instrument Co., China, 1990-1992.
- Zhang Zhao (PI), Bowen Li (Team Leader), Exploration of Jinmiaogou Gold Deposit, Gansu Geology Bureau, China, 1989.
- Zhao, Fushou (PI), Bowen Li (Team Leader), K-47-125-D and K-47-126-C 1:50000 Regional geology survey, Gansu Geology Bureau, China, 1988.
- Bowen Li (Project Manager), K-46-108-A 1:50,000 Regional geology survey, Gansu Geology Bureau, China, 1986.
- Yang, Yu (PI), Bowen Li (Technical Manager), K-47-97-A and K-47-97-C 1:50000 Regional geology survey, Gansu Geology Bureau, China, 1984-1985.

SELECTED HONORS AND AWARDS

- Academic Advisory Committee member, Key Laboratory for Solid Waste Treatment and Recycling of Ministry of Education, China, 2017-2021
- Guest Professor, Southwest University of Science and Technology, China, 2016
- Best Paper in Characterization of Ceramics, TMS Materials Characterization Committee, 2016
- Accelerate Michigan Innovation Competition, Life Science, 1st Place, AMIC, 2015
- New Business Idea Award, The Great Lakes Entrepreneur’s Quest (GLEQ), 2013
- Science and Technology Award, China Gold Association, 2002
- Member, Advisory Committee for Materials Education Nonmetallic Material Division of P. R. China Education Ministry, 2001-2005
- Best Graduate Thesis (Advisor), Hubei Provincial Government, 2005
- Education Achievement Award, China University of Geosciences (Beijing), 2004
- Best Textbooks in Higher Education, Beijing Municipal Education Commission, 2004
- Education and Teaching Achievement Award on Higher Education, Government of Beijing Municipality, 2004
- Science and Technology Award, Tangshan Science & Technology Committee, China, 2002
- Best Academic Paper, *Shanxi Building Materials*, China, 2001
- Collective Contribution Award for National *211 Project*, China University of Geosciences, 2001
- Study Abroad Scholarship, China University of Geosciences, Beijing, 2000
- Outstanding Young Faculty Member, Beijing Municipal Education Commission, 1998
- Teaching Achievement Award, Provincial Government of Hubei, 1997
- Teaching Achievement Award, China University of Geosciences (Beijing), 1996
- Excellent Young Pioneer, Gansu Provincial Youth Leagues, China, 1986
- American Chemistry Society PEF Nanoparticle Materials Summer School, American Chemistry Society Petroleum Research Fund, 2004.

PROFESSIONAL SOCIETIES AND SERVICES

Memberships

- Member, Society for Mining, Metallurgy & Exploration (SME), 2009-present
- Member, The Minerals, Metals & Materials Society (TMS), 2005- present
- Member, Materials Research Society (MRS), 2005-present
- Member, American Ceramic Society, 2005- present
- Member, American Microbiology Society (AMS), 2007-2009
- Member, Sigma Xi, the honor scientific society, 2007- present
- Member, American Association of Petroleum Geologist (AAPG), 2003-2007
- Council Member, China Non-metallic Minerals Association, 2000-2008
- Chinese Association for Industrialization of New Materials, 2001- 2007

Committee Assignments

- The Minerals, Metals & Materials Society (TMS)
 - Chair, Materials Characterization Committee (Member 2005-present, Vice Chair, 2015-2017; Chair, 2017-2019)
 - Member, Powder Material Committee (2008-present)
 - Member, Biomaterials Committee (2011-present)
 - Member, EPD Nomination and Award Committee (2012-2015)
 - Member, EPD Council (2015-2019)
 - Committee Chair, Materials Characterization Committee Award Committee (2012-2015)
 - Symposium Co-organizer (2013~present)
 - Session Chairs (2013~present)
- MS&T Conference
 - Co-Organizer, Symposium on Powder Materials (2013)
- Society for Mining, Metallurgy & Exploration (SME)
 - SME Mineral Industry Education Award Committee, member, 2014-2016
 - SME Distinguish Award Committee, member (2015-2017)
 - SME Ivan B. Rahn Education Award Committee (2017)
 - SME Research Council, Vice Chair (2016-2018)
 - SME Program Committee, member, 2017-2018
 - SME Program Coordination Committee, member, 2016-2017
 - SME International Committee China Affairs Advisor, 2013-2014
 - SME IM&AD Executive Committee, Member, 2017-2018
 - SME IM&AD Program Committee, Chair, 2017-2018
 - SME IM&AD Young Scientist Award Committee, Chair, 2015-2016
 - SME IM&AD Technical Committee, Co-Chair of Chemical Minerals Group, 2014-2015
 - SME Accreditation & Curricular Issues Committee, 2013-2016
 - Session Organizer and Chair (2013~present)
- P. R. China Education Ministry
 - Member, Educational Advisory Committee for Materials Science Nonmetallic Material Division, 2001-2005
- Chinese Ceramics Society
 - Board Member, Nonmetallic Minerals Division, 2014-present
 - Board Member, Technical Petrology Committee, 1996-2007
 - Associate Secretary-general, Young Scientists Branch, 1998-2004
 - Co-Organizer and Co-Executive Chair of 2nd Young Scientists Symposium, 2000
- Chinese Association for Industrialization of New Materials
 - Associate Secretary-general, 2001- 2007
- China Non-metallic Minerals Association
 - Council Member, 2000-2008
- Beijing Ceramics Society
 - Member, Nonmetallic Materials Committee, 1997- 2002

Peer Reviewer

- ♦ *U.S. National Science Foundation, Review Panel, member*
- ♦ *Colloids and Surfaces A: Physicochemical and Engineering Aspects*
- ♦ *Metals*
- ♦ *International Journal of Mineral Processing*
- ♦ *Applied Clay Sciences*
- ♦ *Metallurgical and Materials Transactions A*
- ♦ *Journal of Electronic Materials*
- ♦ *Construction and Building Materials*
- ♦ *Minerals*
- ♦ *Rare Metals*
- ♦ *Hydrometallurgy*
- ♦ *Materials Science & Technology 2013 Proceedings*
- ♦ *Journal of The Minerals, Metals & Materials Society*
- ♦ *Clay and Clay Minerals*
- ♦ *Fuel*
- ♦ *Powder Technology*
- ♦ *Journal of Minerals & Materials Characterization & Engineering*
- ♦ *Bulletin of the Chinese Ceramic Society*
- ♦ *Earth Sciences*
- ♦ *Research & Application of Building Materials*
- ♦ *Journal of Materials Science*
- ♦ *SME Mineral Industry Education Award*
- ♦ *SME IM&AD Young Scientist Award*
- ♦ *SME IM&AD session papers (2012-present)*
- ♦ *TMS EPD Distinguished Lecturer Award*
- ♦ *TMS EPD Distinguished Service Award*
- ♦ *TMS EPD Science Award*
- ♦ *TMS EPD Technology Award*
- ♦ *TMS EPD/MPMD Luncheon Speaker*
- ♦ *TMS EPD Young Leader Professional Development Award*
- ♦ *TMS EPD Student Scholarship*
- ♦ *TMS EPD MCC Best Paper Award*
- ♦ *Characterization of Minerals, Metals and Materials 2017, Springer, NY, Feb. 2017. (ISBN 978-3-319-51381-2)*
- ♦ *Characterization of Minerals, Metals and Materials 2016, John Wiley & Sons, Inc, Hoboken, NJ, 2016. (ISBN 978-1-119-26439-2)*
- ♦ *Characterization of Minerals, Metals and Materials 2015, John Wiley & Sons, Inc, Hoboken, NJ, 2015. (ISBN 978-1-119-08246-0).*
- ♦ *Characterization of Minerals, Metals and Materials 2014, John Wiley & Sons, Inc, Hoboken, NJ, 2014. (ISBN 978-1-118-88786-8)*
- ♦ *Characterization of Minerals, Metals and Materials 2013, John Wiley & Sons, Inc., Hoboken, NJ, 2013. (ISBN 978-1-11860-564-6).*
- ♦ *Proceedings of Symposium on Powder-based Processes and Products for Advanced Applications — Powder Consolidation, 2013 MS&T Conference*
- ♦ *Proceedings of Bulk Processing of Nanostructured Powders and Nanopowders by Consolidation, 145th TMS Annual Meeting, 2016*
- ♦ *Innovation Fund for Small Business, P.R. China Ministry of Science and Technology*
- ♦ *Science Fund for Doctoral Discipline in Universities, Ministry of Education of P. R. China*
- ♦ *Research Award for Young Faculty in Universities, Ministry of Education of P. R. China*
- ♦ *Support Plan for Excellent Young Teacher, Ministry of Education of P. R. China*
- ♦ *Graduate Thesis, China University of Geosciences, Beijing*

- ◆ Graduate Thesis, University of Science and Technology Beijing

Editorial Board Member

- ◆ Editorial Board Member, *SciFed Journal of Metallurgical Science*(2017.5-)
- ◆ Editorial Board Member, *Journal of Minerals and Materials Characterization and Engineering* (2012-present)
- ◆ Editorial Board member, FUTO Journal Series, 2016-present
- ◆ Subject Advisor, *Journal of The Minerals, Metals & Materials Society* (2014-2015, 2017)
- ◆ Editorial Board Member for *Research & Application of Building Materials* (2001-2008)
- ◆ Guest Editor, *Bulletin of the Chinese Ceramic Society*, 2000