Chunmei Ban, Ph.D.

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CURRENT POSITION

Associate Professor, Department of Mechanical Engineering, University of Colorado, Boulder, CO.

EDUCATION

Ph. D., **Chemistry**, December (2008) State University of New York (SUNY) at Binghamton, Binghamton, NY, USA, *Advisor: Prof. M. Stanley Whittingham*

Ph.D. dissertation research: Synthesis of transitional metal oxides and phosphates via solid-state, wet-chemistry and electrospinning; Investigation of lithium intercalation mechanism for cathode electrode materials.

Master, **Electrochemistry**, (2003) Tianjin University, Tianjin, China

Master thesis research: Template-assisted electrochemical synthesis of ultrathin metal and sulfide films; Study of heterogeneous nucleation and growth of ultrathin metal and sulfide films.

Bachelor, **Chemical Engineering**, (2000) Tianjin University, Tianjin, China

PROFESSIONAL EXPERIENCE

Associate Professor, Associate Professor, Department of Mechanical Engineering, Virginia Tech, Blacksburg, VA. (2018-2019)

Senior Scientist (V), Principal Investigator, Chemistry and Nanoscience Center, National Renewable Energy Laboratory (NREL), Golden, CO, USA, (2017-2019)

Joint Appointment, Renewable and Sustainable Energy Institute, University of Colorado Boulder, Boulder, CO. (2018-2019)
Senior Scientist (IV), National Renewable Energy Laboratory
Golden, CO, USA, (2014–2017)
Scientist (III), National Renewable Energy Laboratory
Golden, CO, USA, (2011– 2014)
Postdoctoral Researcher, National Renewable Energy Laboratory
Golden, CO, USA, (2008– 2011)

AWARDS AND HONORS

- **Hold** 4 US Patents and 4 patents under review, published over 50 peer-reviewed journal papers
- **General Chair** of 2018 Beyond Lithium-ion Conference at NASA Glen Research Center, Cleveland OH USA;
- **Editor and Board member** of the Institute of energy technology (IET);

- **Editorial Advisory Board Member** for Sustainable Energy & Fuels;
- **Volunteer, Role model in Girls and Science,** Denver Nature Museum of Science & Nature, 2015-2018;
- **NREL President's Award on research of Operando X-ray Photoelectron Spectroscopy,** 2018;
- **NREL Innovation and Technology Transfer Award** 2016;
- **FLC Mid-Continent regional award and NREL Innovation and Technology Transfer Awards,** 2014**;**
- **NREL Award for Outstanding Contribution** 2015, 2012 and 2010**;**
- **Research achievements reported in phys.org, "NREL bolsters batteries with nanotubes",** 2014.

SELECTED PUBLICATIONS (Corresponding author *)

1. D. P. Finegan, A. Vamvakeros, L. Cao, C. Tan, T. M.M. Heenan, S. Demi, M. D. Michiel, K. Smith, P. R. Shearing, C. Ban*, "Spatially Resolving Lithiation Using X-ray Diffraction Computed Tomography", 2019, ***Nano Letter,*** Accepted. DOI/10.1021/acs.nanolett.9b00955
2. J. M. Wallas, B. C. Welch, Y. Wang, J. Liu, S. E. Hafner, R. Qiao, T. Yoon, Y-T Cheng, S. M. George, C. Ban*, "Spatial Molecular Layer Deposition of Ultrathin Polyamide to Stabilize Silicon Anodes in Lithium-Ion Batteries", ***ACS Applied Energy Materials***, 2019, Accepted. DOI/10.1021/acsaem.9b00326
3. S. Hafner; H. Guthrey; S-H Lee, C. Ban*, "Synchronized electrospinning and electrospraying technique for manufacturing of all-solid-state lithium-ion batteries" ***Journal of Power Sources,*** 2019, 431, 17. DOI/10.1016/j.jpowsour.2019.05.008
4. T. Yoon, C. Xiao, J. Liu, Y.Wang, S-B. Son, A. Burrell, C. Ban*, "Electrochemically Induced Fractures in Crystalline Silicon Anodes", ***Journal of Power Sources,*** 2019, 425(15), 44. DOI:/10.1016/j.jpowsour.2019.03.105. DOI/10.1016/j.jpowsour.2019.03.105
5. C. Stetson, T. Yoon, J. Coyle, W. Nemeth, M. Young, A. Norman, S. Pylypenko, C. Ban, C.S. Jiang, M. Al-Jassim, A. Burrell, "Three-Dimensional Electronic Resistivity Mapping of Solid Electrolyte Interphase on Si Anode Materials", ***Nano Energy,*** 2019, 55, 477. DOI/10.1016/j.nanoen.2018.11.007
6. S-B. Son, C. Lei, T. Yoon, A. Cresce, M. Groner, J. Liu, S. E. Hafner, K. Xu, and **C. Ban***, "Interfacially Induced Cascading Failure in Graphite-Silicon Composite Anodes", ***Advanced Science,*** 2018, 1801007. DOI/10.1002/advs.201801007
7. S-B. Son, T. Gao, S. Harvey, K. Steirer, A. Stokes, C. Wang, K. Xu, and **C. Ban***, "Reversible Magnesium Chemistry in Oxidation-Stable Electrolytes", ***Nature Chemistry***, 2018, 10, 532. DOI/10.1038/s41557-018-0019-6
8. K. Wood, K.X. Steirer, S. Hafner, **C. Ban**, S. Santhanagopalan, S.H. Lee, G. Teeter, "Operando X-ray Photoelectron Spectroscopy of Solid Electrolyte Interphase Formation and Evolution in Li_2S-P_2S_5 Solid-state Electrolytes***", Nature Communications,*** 9 (1), 2018, 2490.
9. S-B. Son, Y. Wang, J. Xu, X. Li, M. Groner, A. Stokes, Y. Yang, Y.-T. Yang, **C. Ban***, "Systematic Investigation of the Alucone-Coating Enhancement on Silicon Anodes", ***ACS Applied Materials Interfaces***, 2017, 9(46), 40143, DOI/10.1021/acsami.7b08960

10. J. Whitely, S. Hafner, S. Han, S. Kim, V. Le, ***C. Ban***, Y. Kim, K. Oh and S. Lee, "All-Solid-State Disordered $LiTiS_2$ Pseudocapacitor", ***Journal Materials Chemistry A***, 2017, 5, 15661
11. T. Evans, D.M. Piper, H. Sun, T. Porcell, S.C. Kim, S.S. Han, Y.S. Choi, C. Tian, D. Nordlund, M. Doeff, **C. Ban**, S.J. Cho, K.H. Oh, S.H. Lee, "In Situ Engineering of the Electrode-Electrolyte Interface for Stabilized Overlithiated Cathodes", ***Advanced Materials,*** 2017, 1604549, DOI/10.1002/adma.201604549
12. **C. Ban*,** S. M. George, "Molecular Layer Deposition for Surface Modification in Li-ion Batteries", Review, ***Advanced Materials Interface***, 2016, 29(10), 1600762, DOI/10.1002/admi.201600762
13. D. M. Piper, Y. Lee, S-B. Son, T. Evans, F. Lin, D. Nordlund, X Xiao, S. M. George, S.H. Lee, **C. Ban*,** "Cross-linked aluminum dioxybenxene coating for stabilization of silicon electrodes", ***Nano Energy,*** 2016, 22, 202, DOI/10.1016/j.nanoen.2016.02.021.
14. D. Asakura, E. Hosono, Y. Nanba, H. Zhou, J. Okabayashi, **C. Ban**, P. Glans, J. Guo, T. Mizokawa, G. Chen, A. J. Achkar, D. G. Hawthron, T. Z. Regier, and H. Wadati, "Material/element-dependent fluorescence-yield modes on soft X-ray absorption spectroscopy of cathode materials for Li-ion batteries" ***AIP Advances*** 2016, 6, 035105.
15. X. Li, C. A. Wolden, **C. Ban**, Y. Yang, "Facial synthesis of lithium sulfide nanocrytals for use in advanced rechargeable batteries" ***ACS Applied Materials Interfaces***, 2015, 7(51):28444-51 DOI/10.1021/acsami.5b09367
16. A. M.Wise, **C. Ban*,** J. N. Weker, S. Misra1, A. S. Cavanagh, Z. Wu, Z. Li, M. S. Whittingham, K. Xu, S. M. George, and M. F. Toney "The effect of Al2O3 coating on stabilizing LiNi0.4Mn0.4Co0.2O2 cathodes" ***Chemistry Materials,*** 2015, 27 (17), 6146, DOI/10.1021/acs.chemmater.5b02952
17. Y. Ma, J. M. Martinez De La Hoz, I. Angarita, J. M. Berrio-Sanchez, L. Benitez, J. M. Seminario, S-B Son, S-H. Lee, S. M. George, **C. Ban** and P. Balbuena, "structure and Reactivity of Alucone-Coated Films on Si and LixSiy Surface", ***ACS Applied Materials Interfaces***, 2015, 7 (22), pp 11948–11955, DOI/10.1021/acsami.5b01917
18. L. Luo, H. Yang, P. Yang, J. Travis, Y. Lee, N. Liu, D. M. Piper, S. H. Lee, P. Zhao, S. M. George, J.G. Zhang, Y. Cui, S. Zhang, **C. Ban*** and C. Wang, "Surface-Coating Regulated Lithiation Kinetics and Degradation in Silicon Nanowires for Lithium Ion Battery", ***ACS Nano***, 2015, 9 (5), pp 5559-5566, DOI/10.1021/acsnano.5b01681
19. S.-B. Son, B. Kappes and **C. Ban***, "Surface Modification of Silicon Anodes for Durable and High Energy Lithium-Ion Batteries" ***Israel Journal Chemistry Materials*** 2015, DOI/10.1002/ijch.201400173
20. Y. He; D. Piper; M. Gu; J. Travis; S. George; S. Lee; A. Genc; L. Pullan; J. Liu; S. Mao; J. Zhang; **C. Ban***; C. Wang, "In-Situ TEM Investigation of the Effect of Native Oxide and Molecular Layer Deposited Coating on Silicon Nanoparticles for Lithium Ion Battery Anodes" ***ACS Nano***, 2014 8 (11), 11816, DOI/10.1021/nn505523c.
21. D. M. Piper, S-B. Son, J. J. Travis, Y. Lee, S. S. Han, S. C. Kim, K. H. Oh, S. George, S.H. Lee, **C. Ban*,** "Mitigating Irreversible Capacity Losses from Carbon Agents via Surface Modification", ***Journal of Power Sources***, 2014, DOI/10.1016/j.jpowsour.2014.11.032

22. Z. Li, **C. Ban (co-first author)**, N. A. Chernova, Z. Wu, S. Upretia, A. Dillon, M. Stanley Whittingham, "Towards understanding the rate capability of layered transition metal oxides LiNiyMnyCo1−2yO2", ***Journal of Power Sources***, 268 106 2014
23. F. Lin, D. Nordlund, T-C Weng, Y. Zhu, **C. Ban**, R. M. Richards, H.L. Xin "Phase evolution for conversion reaction electrodes in lithium-ion batteries" ***Nature Communications,*** 5:3358 2014
24. D. M. Piper, J. J. Travis, M. Young, S-B. Son, S. C. Kim, K. H. Oh, S. George, **C. Ban*,** S.H. Lee, "Reversible High Capacity Si Nanocomposite Anodes for Lithium-ion Batteries enabled by Molecular Layer Deposition" ***Advanced Materials,*** 26 (10) 1596 2013
25. D. M. Piper, T. A. Yersak, S-B. Son, S. C. Kim, C. S. Kang, K. H. Oh, **C. Ban**, A. C. Dillon, and S.H. Lee, "Conformal Coatings of Cyclized-PAN for Mechanically Resilient Si nano-Composite Anodes", ***Advanced Energy Materials,*** 3 (6) 697 2013
26. I. Bloom, L Trahey, A. Abouimrane, I Belharouak, X. Zhang, Q. Wu, W. Lu, D. P. Abraham, M. Bettge, J. W. Elam, X. Meng, A.Burrella, **C. Ban**, R. Tenent, J. Nanda, N. Dudney, "Effect of Interface Modifications on Voltage Fade in 0.5Li2MnO3•0.5LiNi0.375Mn0.375Co0.25O2", ***Journal of Power Sources,*** 249 509 2013
27. **C. Ban**, Ming Xie, Xiang Sun, Jonathan J Travis, GongkaiWang, Hongtao Sun, Anne C Dillon, Jie Lian and Steven M George, "Atomic layer deposition of amorphous TiO2 on graphene as an anode for Li-ion batteries" (invited paper) ***Nanotechnology,*** 24, 424002, 2013
28. Jung, Y. S.; Lu, P.; Cavanagh, A. S.; **Ban, C**.; Kim, G. H.; Lee, S. H.; George, S. M.; Harris, S. J.; Dillon, A. C. "Unexpected Improved Performance of ALD Coated LiCoO2/Graphite Li-Ion Batteries" ***Advanced Energy Materials***， 3 (213) 2013
29. **C. Ban**, W. Yin, H. Tang, S. Wei, A.C. Dillon and Y. Yan, "A Novel Codoping Approach for Enhancing the Performance of LiFePO4 Cathodes", ***Advanced Energy Materials***, 2(8) 1028, 2012
30. Y. Zhao, **C. Ban**, J. Kang, S. Santhanagopalan, G.-H. Kim, S.-H. Wei, and A. C. Dillon, "P-type Doping of Lithium Peroxide with Carbon Sheets" ***Applied Physics Letters*** 101(2) 023903, 2012
31. **C. Ban**, B. Kappes, Q Xu, C. Engtrakul, C .V. Ciobanu, A. *C*. Dillon and Y Zhao, "Lithiation of silica through partial reduction" ***Applied Physics Letters*** 100, 243905 2012
32. **C. Ban**, Z. Li, Z. Wu, M. J. Kirkham, L. Chen, Y Jung, E. Payzant, Y. Yan, M. S. Whittingham, A. C. Dillon, "Extremely Durable High-rate Capability of a $LiNi_{0.4}Mn_{0.4}Co_{0.2}O_2$ Cathode Enabled with Single-Walled Carbon Nanotubes" ***Advanced Energy Materials*** 1 (1) 58 2011.
33. Y. Zhao, **C. Ban**, Q. Xu, S. Wei, "Charge-Driven Structure Transformation and Valence Versatility of Boron Sheets in Magnesium Borides" ***Physics Review B***. 83 035406 2011.
34. A.C. Dillon, L.A. Riley, Y.S. Jung, **C. Ban**, D. Molina, A.H. Mahan, A.S. Cavanagh, S.M. George, S.-H. Lee, "HWCVD MoO3 nanoparticles and a-Si for next generation Li-ion anodes" ***Thin Solid Films***, 519 (14) 4495 2011.
35. Q. Xu, **C. Ban**, A. C. Dillon, S. Wei, Y. Zhao, "First-principles Study of Lithium Borocarbide as a Cathode Material for Rechargeable Li-ion Batteries" ***J Physics Chemistry Letters*** 2 (10) 1129 2011
36. Yin, S. Wei, **C. Ban**, Z. Wu, M. Jassim, Y Yan, "Origin of Bonding between the SWCNT and the Fe_3O_4 (001) Surface" ***J Phys Chem. Lett.*** 2(22), 2853,2011
37. **C. Ban**, Z. Wu, D. T. Gillaspie, L. Chen, Y. Yan, J. L. Blackburn, A. C. Dillon, "Nanostructured Fe3O4-SWNT Electrode: Binder-free and High-rate Li-Ion Anode", ***Advanced Materials,*** l22

(20) 145 2010.

38. **C. Ban**, and A. C. Dillon, "High Capacity and High Rate Li -Ion Anodes for Electric Vehicles", ***ENT*** 2 46 2010.
39. **C. Ban**, N. A. Chernova, M. S. Whittingham, "Electrospun Nano-vanadium Pentoxide Cathode" ***Electrochemistry communications,*** 11 522 2009.
40. **C. Ban**, M. S. Whittingham, "Nanoscale Single-Crystal Vanadium Oxides with Layered Structure by Electrospinning and Hydrothermal Methods", ***Solid State Ionics,*** 179 1721 2008.
41. **C. Ban**, M. S. Whittingham, "Electrospinning of Single-Crystal Vanadium Oxide Nanorods", ***Materials Research Society Symposium Proceeding,*** 988 QQ09-31, 2007.
42. C. Jacobs, M. Roppolo, K. Butterworth, **C. Ban**, N. A. Chernova, M. S. Whittingham, "Magnetic properties of vanadium oxide nanotubes, nanourchins, and nanorods", ***Materials Research Society Symposium Proceeding,*** 988E, 0988-QQ03-19, 2007.
43. **C. Ban**, H. Liu, B. Yu, W. Zhang, S. Yao, "Research on the thin silver film at monolayer of stearic acid", ***Chinese Journal of Chemical Physics,*** 16 (2) 146 2003.
44. S. Yao, P. Zhao, **C. Ban**, H. Liu, S. Yao, "The PbS Semiconductor Nanocrystallites Epitaxial Growth under Arachidic Acid Monolayer", ***Acta Physico-Chimica Sinica,*** 8 701 2003.
45. W. Zhang, H. Liu, **C. Ban**, B. Yu, S. Yao, "The Progress of Preparation of Composite Nanostructured Films by Monolayer-induced Electroless/Electrodeposition", ***Journal of Materials Engineering***, 6, 44, 2003.
46. **C. Ban**, H. Liu, B. Yu, W. Zhang, H. Wang, S. Yao, "Electrodeposition of Silver Film on Monolayer of Stearic Acid", ***Chemical World,*** 11 581 2002.
47. H Liu, S. Yao, **C. Ban**, B. Yu, W. Zhang, H. Wang, "Study on Silver Films by Electroless Deposition Method Through the Induction of Mono-Langmuir-Blodgett Films", ***Nonferrous Metals***, 4 2002.
48. H. Liu, S. Yao, **C. Ban**, W. Zhang, S. Yao, "Study on Silver Films by Electroless Deposition through Monolayer Induction", ***Chinese Journal Materials Research***, 6 664 2002.
49. **C. Ban,** S. Yao, B. Yu, H. Liu, W. Zhang, H. Wang, S Yao, "Fabrication of Silver Thin Films through Stearic Monolayer", ***9th annual conference of electroplating engineering proceeding***, 2002.
50. S. Yao, B. Zhang, W. Zhang, **C. Ban**, T. Sugiyama, Electrodeposition of Hard Cr on Al Alloy by Orthogonal Experiment, ***Electroplating & Pollution Control***, 2, 21 2001.

BOOK

K. Xu, **C. Ban,** "Lithium-ion Battery Enabled by Silicon Anodes", The Institute of Engineering and Technology, IET, under editing, expected 2019
K. E. Hurst, J. M. Luther, **C. Ban**, S. T. Christensen, "Nanomaterials for Energy Applications" In Mansfield, E.; Kaiser, D. L.; Fujita, D.; Van de Voorde, M. (Ed). Metrology and Standardization of Nanomaterials: Protocols and Industrial Innovations; Wiley. 2016

PATENTS

- C. Ban, S. Hafner, S. Lee, "Solid-State Energy Storage Devices and Methods of Making the Same", U.S. Provisional application, Application No.: 62/760,166, filed Nov. 13, 2018

- C. Ban, S-B Son, M. Groner, "Coated semiconductor particles and methods of making the same", U.S. Non-provisional patent application, Pub. No.: US2018/0351168 A1, Pub. Date: Dec. 6, 2018
- C. Ban, L. Cao, Y. Yin, "Solid-state flexible microfiber energy storage systems and method of making the same", U.S. provisional application, filed Feb. 15, 2018
- C. Ban, T. Genett, W. Braunecker and D. Arrelaine, "Materials for flow battery energy storage and methods of using", International Application No.: PCT/US2017/019992, filed Feb. 28, 2017, and Publication date Aug. 9, 2017.
- C. Ban and S-B Son, "Magnesium metal electrodes and methods of making the same, U.S. provisional application", International Application No.: PCT/US2016/038793, filed Jun. 22, 2016, and Publication date Dec. 29, 2016.
- C. Ban, Y. Zhao, S.B. Son, D. Ruddy, P. Parilla, "Magnesium-based methods, systems, and devices", U.S. Patent 9,843,080, filed Apr. 13, 2015, and issued Dec. 12, 2017.
- C. Ban, Z. Wu and A. Dillon, "Method of fabricating electrodes including high-capacity, binder-free anodes for lithium-ion batteries", U.S. Patent 9,543,054 (Licensed to NanoReserach Inc.), filed Nov. 8, 2012, and issued Jan. 10, 2017.
- C. Ban, T. Gennet, D, Ginley, W. Braunecker, Z. Owczarczyk, "Hybrid radical energy storage device and method of making", U.S. Patent 9,324,992, filed September 11, 2014, and issued April 26, 2016.
- C. Ban, T. Gennet, D, Ginley, W. Braunecker, Z. Owczarczyk, "Hybrid radical energy storage device and method of making", U.S. Patent 8,940,444, filed May 21, 2012, and issued January 17, 2015.

INVITED PRESENTATION (SELECTED)

- C. Ban, 2019 American Chemical Society (ACS) Fall National Meeting, San Diego, CA.
- C. Ban, 2018 Materials Research Society (MRS) Fall Meeting, Boston, MA: Scalable Surface Modification Techniques for Electrochemical Materials
- C. Ban, 2018 Materials Research Society (MRS) Spring Meeting, Phoenix, Arizona: Effect of Surface Modification on Surface Chemistry and Electrochemistry of Silicon-Based Anode Materials
- C. Ban, 2018 Annual Merit Review Meeting, Department of Energy: "Surface Chemistry of Solid Electrode Interface in Silicon Anodes"
- C. Ban, 2017 Lithium Battery Materials & Battery Safety, Washington D.C.: Promises and Challenges of Silicon-Based Anode Materials for Lithium-ion Batteries
- C. Ban, 2017, Beyond Lithium-ion Symposium-10, IBM Research-Almaden: Surface modification for Magnesium metal for Magnesium metal-based batteries
- C. Ban, International Battery Seminar & Exhibit 2017, Fort Lauderdale, FL, 2017: Reversible Magnesium chemistry in nitrile-and carbonate-electrolytes
- C. Ban, 51st American Chemical Society's Midwest Regional Meeting (ACS-MWRM), Manhattan, KS, 2016: Structural evolution of lithium-ion electrodes during battery cycling

- C. Ban, 2016, Department of Chemical and Biomolecular Engineering at University of Maryland: Surface modification for nanoscale silicon electrode materials
- C. Ban, 11th U.S.-China Electric Vehicle and Battery Technology Meeting, Denver, Colorado, 2016: Development of silicon anode for high-energy Li-ion batteries
- C. Ban, 2016, Department of Chemical and Materials Engineering at University of Kentucky: Surface modification for Silicon-based alloy materials
- C. Ban, 249th ACS National Meeting, Denver, Colorado, 2015: Investigation of atomic/molecular layer deposition coatings for Li-ion electrode
- C. Ban, International Battery Association and Pacific Power Source Symposium Joint Meeting 2015: Molecular Layer Deposition Coatings for Silicon Anodes
- C. Ban, 40th Annual symposium AVS, East Lansing, Michigan, 2014: Surface modification of silicon anodes for advanced Li-ion batteries
- C. Ban, 247th ACS National Meeting, 2014, Dallas, Texas: Understand the effect of conformal coatings on electrochemical performance and interfacial chemistry of Si anodes
- C. Ban, THERMEC' 2013, Las Vegas, USA: Atomic Layer Deposition for Stabilization of Si Anodes for Lithium-ion Batteries
- C. Ban, Materials Research Society 2012 Fall Meeting, Boston, MA: Atomic Layer Deposition of Al2O3 for Highly Improved Performance in Li-ion Battery Electrodes
- C. Ban, 2012 Energy Materials Nanotechnology, Las Vegas: Effects of Al2O3 coating for Performance of Li-ion Battery Electrodes
- C. Ban, International Battery Association-Pacific Power Source Symposium, 2012, Hawaii: Electrochemical and In-situ Structural Study of Coated Li[NMC]O_2 Cathodes for Durable High-voltage Cycling
- C. Ban, 10X Advanced Battery R&D, 2012, Santa Clara, CA: Improving Electrochemical Performance of Li-ion Electrodes via Advanced Surface Modification
- C. Ban, Materials Research Society 2011 Spring Meeting, San Francisco, CA: Carbon Nanotube Functionalized Li-ion Electrodes for Enhanced Rate Capability and Durability; Coating electrode materials by atomic layer deposition for Li-ion batteries
- C. Ban, APS March Meeting 2011, Dallas, Texas: (1) Charge-Driven Structural Transformation and Valence Versatility of Boron Sheets in Magnesium Borides; (2) Electronic structure of lithium borocarbide as a cathode material for a rechargeable Li-ion battery: First-principles calculation
- C. Ban, 5th International Conference on Polymer Batteries and Fuel Cells, August 2011, Argonne, Illinois, USA. "Atomic Layer Deposition Coating form Improved Electrical Energy Storage"
- C. Ban, Materials Research Society 2010 Fall Meeting, Boston, CA: (1) Electrochemical and Structural Evaluation of the Effect of SWNTs on a $LiNi_{0.4}Mn_{0.4}Co_{0.2}O_2$ Cathode; (2) Atomic Layer Deposition Coatings Improve Electrode Architectures for Lithium-ion Batteries
- C. Ban, 218th ECS Meeting, October, 2010, Las Vegas, NV: High-Capacity and High-Rate Anodes for Li-Ion Batteries
- C. Ban, Materials Research Society 2010 Spring Meeting, San Francisco, CA: Effect of Surface Coatings on Electrochemical Behavior of Li-ion Materials

- C. Ban, Materials Research Society 2009 Fall Meeting, Boston, Massachusetts: Nanostructured Fe3O4-SWNT Electrode
- C. Ban, 216th ECS Meeting, October, 2009, Vienna, Austria: High Energy Density Metal Oxide Anodes for Li-ion Batteries

PROFESSIONAL SOCIETY ACTIVITIES

- General Chair of Beyond Li-ion Conference XI, 2018, Westlake, OH
- Board member, Editor, the Institute of energy technology (IET), 2017-present
- Editorial Advisory Board Member for Sustainable Energy & Fuels, 2016- present
- General Chair for Beyond Li-ion conference VI, 2013, Boulder, CO
- Committee member, US-China Electric Vehicle and Battery Technology Meeting, Denver, Colorado, 2016
- Editor: Nanoscience and Nanoengineering (2013-2015)
- Professional Memberships: Electrochemical Society; Materials Research Society
- Volunteer, Role model in Girls and Science, Denver Museum of Science & Nature, 2015-2018