

Ying (Jane) Wang
Ph.D., Associate Professor
Department of Mechanical and Industrial Engineering, Louisiana State University, Baton Rouge, LA 70803
E-mail: ywang@lsu.edu; Tel: 225-578-8577; Fax: 225-578-5924
Web: <https://www.lsu.edu/eng/mie/people/faculty/wangying.php>

YING (JANE) WANG – CURRICULUM VITAE

EDUCATION BACKGROUND

- **Ph.D.** in Materials Science and Engineering, *University of Washington*, Seattle, WA. June 2006.
Thesis title: Enhanced Li-Ion Intercalation Properties of Vanadium Oxides.
- **M.A.** in Chemistry, *Harvard University*, Cambridge, MA. November 1999.
- **B.S.** in Chemical Physics, *University of Science and Technology of China (USTC)*, Hefei, Anhui Province, China. June 1997.

PROFESSIONAL EXPERIENCE

- **Associate Professor**, Department of Mechanical Engineering, *Louisiana State University*, August 2014 – present.
- **Assistant Professor**, Department of Mechanical Engineering, *Louisiana State University*, August 2008 – August 2014.
- **Postdoctoral Fellow**, under supervision of Professor Robert P. H. Chang, Materials Research Institute and Department of Materials Science and Engineering, *Northwestern University*, 2006 – 2008.

RESEARCH EXPERTISE

Nanomaterials synthesis, advanced rechargeable batteries, flexible solid-state batteries, photovoltaics, electrocatalysts, water splitting, photocatalysts for environmental cleaning, metal organic frameworks synthesis and applications, atomic layer deposition, sol-gel processing, electrochemical synthesis.

TEACHING EXPERIENCE

- Department of Mechanical Engineering, *Louisiana State University*, August 2008 – present.
ME 3752, Materials Selection for Mechanical Engineers, Spring 2024.
ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2024.
ME 2733, Materials of Engineering, Fall 2023 (*Teaching Evaluation: 2.98/5.0*).
ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2023 (*Teaching Evaluation: 3.94/5.0*).
ME 2733, Materials of Engineering, Spring 2023 (*Teaching Evaluation: 3.50/5.0*).
ME 4723, Advanced Materials Analysis, Fall 2022 (*Teaching Evaluation: 4.58/5.0*).
ME 2733, Materials of Engineering, Section 1, Spring 2022 (*Teaching Evaluation: 3.62/5.0*).
ME 2733, Materials of Engineering, Section 2, Spring 2022 (*Teaching Evaluation: 3.91/5.0*).
ME 4763, Introduction to Corrosion, Fall 2021 (*Teaching Evaluation: 4.36/5.0*).
ME 3752, Materials Selection for Mechanical Engineers, Spring 2021 (*Teaching Evaluation: 4.42/5.0*).
ME 7753, Thermodynamics of Materials, Fall 2020 (*Teaching Evaluation: 4.47/5.0*).
ME 4723, Advanced Materials Analysis, Fall 2020 (*Teaching Evaluation: 4.60/5.0*).
ME 3752, Materials Selection for Mechanical Engineers, Spring 2020 (*Teaching Evaluation: 3.66/5.0*).
ME 7753, Thermodynamics of Materials, Fall 2019 (*Teaching Evaluation: 4.31/5.0*).
ME 4723, Advanced Materials Analysis, Fall 2019 (*Teaching Evaluation: 4.48/5.0*).

ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2019. (*Teaching Evaluation: 4.43/5.0*)

ME 2733, Materials of Engineering, Fall 2018. (*Teaching Evaluation: 3.7/5.0*)

ME 4763, Introduction to Corrosion, Fall 2018. (*Teaching Evaluation: 3.7/5.0*)

ME 2733, Materials of Engineering, Spring 2018. (*Teaching Evaluation: 2.895/4.0*)

Family medical leave (maternity leave), August 16 – November 8, 2017.

ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2017. (*Teaching Evaluation: 1.825/4.0*).

(In this class, three students copied from Wikipedia for their lab reports and I reported them to the Office of the Dean of Students who confirmed their plagiarism and gave the students some penalty. It was a small class with eleven students and eight students did the evaluation. I received three very negative comments with one positive comment. It is possible that the three students I reported could give me very low score which affected the total evaluation score, considering eight students did the evaluation.)

ME 4723, Advanced Materials Analysis, Fall 2016. (*Teaching Evaluation: 2.706/4.0*).

(Possible mix-up with ME 2723 since the evaluation scores in all categories are the same as those for ME 2723 taught in the same semester).

ME 2723, Materials of Engineering, Fall 2016. (*Teaching Evaluation: 2.706/4.0*).

Sabbatical leave, Fall 2015 – Spring 2016.

ME 2723, Materials of Engineering, Spring 2015. (*Teaching Evaluation: 2.570/4.0*).

ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2015.

ME 2723, Materials of Engineering, Fall 2014. (*Teaching Evaluation: 2.012/4.0*)

ME 2723, Materials of Engineering, Spring 2014. (*Teaching Evaluation: 2.791/4.0*).

ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2014. (*Teaching Evaluation: 3.000/4.0*).

ME 4763, Introduction to Corrosion, Fall 2013. (*Teaching Evaluation: 3.353/4.0*).

ME 4733, Deformation and Fracture of Engineering Materials, Spring 2013 (*Teaching Evaluation: 2.358/4.0*).

ME 2733, Materials of Engineering, Spring 2013 (*Teaching Evaluation: 2.358/4.0*).

ME 4723, Advanced Materials Analysis, Fall 2012 (*Teaching Evaluation: 3.692/4.0*).

ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2012 (*Teaching Evaluation: 3.500/4.0*).

ME 3701, Materials Science Laboratory (Section 2), Spring 2012. (*Teaching Evaluation: 3.507/4.0*).

ME 4723, Advanced Materials Analysis, Fall 2011 (*Teaching Evaluation: 3.909/4.0*).

ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2011 (*Teaching Evaluation: 3.600/4.0*).

ME 7953, Nanomaterials for Energy, Fall 2010 (*Teaching Evaluation: 3.833/4.0*).

ME 7723, Materials Characterization Using Electron Beam Methods, Spring 2010 (*Teaching Evaluation: 3.077/4.0*).

ME 2733, Materials of Engineering, Fall 2009 (*Teaching Evaluation: 3.412/4.0*).

ME 2733, Materials of Engineering, Spring 2009 (*Teaching Evaluation: 3.346/4.0*).

ME 3701, Materials Science Laboratory, Fall 2008 (*Teaching Evaluation: 3.778/4.0*).

- Teaching assistant, Department of Materials Science and Engineering, **University of Washington**, January 2004 – June 2004.

MSE 452, Functional Properties of Materials I and II, Instructor: Professor Guozhong Cao.

MSE 333, Materials Characterization, Instructor: Professor Mehmet Sarikaya.

MSE 352, Functional Properties of Materials I, Instructor: Professor Guozhong Cao.

- Teaching fellow, Department of Chemistry and Chemical Biology, **Harvard University**, September 1997 – January 1999.

Chem 10, Principles of Chemistry, Instructor: Dr. Gregory Tucci.

Chem 5, Introduction to Principles of Chemistry, Instructor: Dr. Gregory Tucci.

Chem 98, Introduction to Research – Junior Year, Instructor: Dr. James Davis.

HONORS AND AWARDS

- (1) Worley Professor of Excellence Award, LSU, 2022.
- (2) LSU Alumni Association Rising Faculty Research Award, 2014.
- (3) LSU Rainmaker Award in the Emerging Scholar Category, 2012.
- (4) Roy Paul Daniels Distinguished Professorship for career development, College of Engineering, Louisiana State University, 2012 – 2014.
- (5) Dean's Scholarship Award, College of Engineering, Louisiana State University, 2011.
- (6) LSU Environmental, Health and Safety Accreditation Award, 2011.
- (7) Ralph E. Powe Junior Faculty Enhancement Award from Oak Ridge Associated Universities (ORAU), 2010.
- (8) Nanotechnology Graduate Research Award from University of Washington Initiative Fund (UIF), 2005.
- (9) Graduate Fellowship from PNNL-UW Joint Institute for Nanoscience (JIN), 2005.
- (10) Ford Motor Company Fellowship, 2004.
- (11) Best B.S. Thesis Award, University of Science and Technology of China, 1997.
- (12) Procter & Gamble Scholarship, University of Science and Technology of China, 1996.
- (13) Excellent Student Scholarship, University of Science and Technology of China, 1995.

PUBLICATIONS

- **Refereed Journals**

(The journal articles received **9030** citations with an h-index of 47 and an i10-index of 85 from Google Scholar, based on a search on April 24, 2024.)

- (97) A. Paudel, A. N. Crum, **Y. Wang**, “A Full Metal-free Flexible Battery with Biodegradable Hydrogel Electrolyte”, <https://doi.org/10.1039/D4TA00249K>, *J. Mater. Chem. A*, 2024.
- (96) S. Kuchena, A. Paudel, Q. L. Wu, **Y. Wang**, “A Novel Aqueous Zinc-ion Battery Capable of Self-charging at Low Temperature”, *J. Mater. Chem. A*, 12, 2867 – 2876 (2024).
- (95) A. Paudel, S. Kuchena, **Y. Wang**, “A Full Metal-free Battery Operating Under Cold Condition Enabled by an Antisolvent”, *Electrochim. Acta*, 469, 143227 (2023).
- (94) S. Kuchena, **Y. Wang**, “A Metal-free All-organic Ammonium-ion Battery with Low-temperature Applications”, *J. Mater. Chem. A*, 11, 2814 – 2825 (2023).
- (93) **Y. Wang**, S. Kuchena, “Recent Progress in Aqueous Ammonium-Ion Batteries”, *ACS Omega*, 7, 33732 – 33738 (2022). (*Invited Review Article*).
- (92) S. Kuchena, **Y. Wang**, “V₂O₅ Intercalated with Polyaniline for Improved Kinetics in Aqueous Ammonium-Ion Batteries”, *Electrochim. Acta*, 425, 140751 (2022).
- (91) M. K. Wang, T. H. Liao, X. L. Zhang, J. L. Coa, S. Q. Xu, H. Tang, **Y. Wang**, “Electrospun Carbon Nanofibers Loaded with Atomic FeN_x/Fe₂O₃ Active Sites for Efficient Oxygen Reduction Reaction in Both Acidic and Alkaline Media”, *Adv. Mater. Interfaces*, 9, 2101904 (2022).
- (90) S. Kuchena, **Y. Wang**, “A Full Flexible NH₄⁺ Ion Battery Based on the Concentrated Hydrogel Electrolyte for Enhanced Performance”, *Chem. European J.*, 27, 15450-15459 (2021).
- (89) **Y. Wang**, Y. H. Chen, “A Flexible Zinc-Ion Battery based on the Optimized Concentrated Hydrogel Electrolyte for Enhanced Performance at Subzero Temperature”, *Electrochim. Acta*, 395, 139178 (2021).
- (88) W. W. Xu, C. L. Sun, N. Wang, X. B. Liao, K. N. Zhao, G. Yao, Q. C. Sun, H. W. Cheng, **Y. Wang**, X. G. Lu, “Sn Stabilized Pyrovanadate Structure Rearrangement for Zinc Ion Battery”, *Nano Energy*, 81, 105584 (2021).
- (87) S. Kuchena, **Y. Wang**, “Superior Polyaniline Cathode Material with Enhanced Capacity for Ammonium Ion Storage”, *ACS Appl. Energy Mater.*, 3(12), 11690-11698 (2020).

- (86) Y. H. Chen, J. Q. Zhao, **Y. Wang**, “Quasi-Solid-State Zinc Ion Rechargeable Batteries for Subzero Temperature Applications”, *ACS Appl. Energy Mater.*, 3(9), 9058-9065 (2020).
- (85) S. D. Lu, G. C. Tan, **Y. Wang**, W. M. Moe, X. P. Zhu, “Mo₂N Nanobelt Cathodes for Efficient Hydrogen Production in Microbial Electrolysis Cells with Shaped Biofilm Microbiome”, *Biosensors and Bioelectronics*, 167, 112491 (2020).
- (84) H. H. Zhu, J. W. Lai, **Y. Wang**, C. G. Arges, X. P. Zhu, “Engineering the Interlayer Spacing of Molybdenum Disulfide for Efficient Salinity Gradient Energy Recovery in Concentration Flow Cells”, *Electrochim. Acta*, 342, 136103 (2020).
- (83) W. W. Xu, **Y. Wang**, “Recent Progress on Zinc-Ion Rechargeable Batteries”, *Nano-Micro Lett.*, 11:90 (2019) (*Review article*).
- (82) J. W. Lai, H. Tang, X. Zhu, **Y. Wang**, “Hydrated NH₄V₃O₈ Nanobelts Electrode for Superior Aqueous and Quasi-Solid-State Zinc Ion Batteries”, *J. Mater. Chem. A*, 7, 23140-23148 (2019).
- (81) J. W. Lai, H. H. Zhu, X. P. Zhu, H. Koritala, **Y. Wang**, “Interlayer-Expanded V₆O₁₃·nH₂O Architecture Constructed for Advanced Rechargeable Aqueous Zinc Ion Battery”, *ACS Appl. Energy Mater.*, 2, 1988-1996 (2019).
- (80) W. C. Zhu, X. Huang, T. T. Liu, Z. Q. Xie, **Y. Wang**, K. Tian, L. M. Bu, H. B. Wang, L. J. Gao, J. Q. Zhao, “Ultrathin Al₂O₃ Coating on LiNi_{0.8}Co_{0.1}Mn_{0.1}O₂ Cathode Material for Enhanced Cycleability at Extended Voltage Ranges”, *Coatings*, 9(2), 92-103 (2019).
- (79) Z. Q. Xie, **Y. Wang**, “Facile Synthesis of MOF-Derived Co@CoN_x/Bamboo-like Carbon Tubes for Efficient Electrocatalytic Water Oxidation”, *Electrochim. Acta*, 296, 372-378 (2019).
- (78) H. H. Zhu, W. W. Xu, G. C. Tan, E. Whiddon, **Y. Wang**, C. G. Arges, X. P. Zhu, “Carbonized Peat Moss Electrodes for Efficient Salinity Gradient Energy Recovery In a Capacitive Concentration Flow Cell”, *Electrochim. Acta*, 294, 240-248 (2019).
- (77) Z. Q. Xie, H. Tang, **Y. Wang**, “MOF-Derived Ni-Doped CoS₂@Carbon Grown on Carbon Fiber Paper for Efficient Oxygen Evolution Reaction”, *ChemElectroChem*, 6(4), 1206-1212 (2019).
- (76) W. W. Xu, C. L. Sun, K. N. Zhao, X. Cheng, S. Rawal, Y. Xu, **Y. Wang**, “Defect Engineering Activating (Boosting) Zinc Storage Capacity of MoS₂”, *Energy Storage Materials*, 16, 527-534 (2019).
- (75) Z. Q. Xie, J. W. Lai, X. P. Zhu, **Y. Wang**, “Green Synthesis of Vanadate Nanobelts at Room Temperature for Superior Aqueous Rechargeable Zinc-Ion Batteries”, *ACS Appl. Energy Mater.*, 1(11), 6401-6408 (2018).
- (74) W. W. Xu, K. N. Zhao, **Y. Wang**, “Electrochemical Activated MoO₂/Mo₂N Heterostructured Nanobelts as Superior Zinc Rechargeable Battery Cathode”, *Energy Storage Materials*, 15, 374-379 (2018).
- (73) X. X. Sun, C. T. Mei, A. D. French, S. Y. Lee, **Y. Wang**, Q. L. Wu, “Surface Wetting Behavior of Nanocellulose-based Composite Films”, *Cellulose*, 25(9), 5071-5087 (2018).
- (72) J. Q. Zhao, X. X. Kuai, X. Y. Dong, H. B. Wang, W. Zhao, L. J. Gao, **Y. Wang**, R. M. Huang, “Phase Transitions and Related Electrochemical Performances of Li-rich Layered Cathode Materials for High-energy Lithium Ion Batteries”, *J. Alloy & Compounds*, 732, 385-395 (2018).
- (71) W. W. Xu, **Y. Wang**, “Nanowires of Li-Excess Spinel Cathode Material for Improved Lithium Ion Storage”, *Ionics*, 24(9), 2523-2532 (2017).
- (70) J. Q. Zhao, R. M. Huang, P. Ramos, Y. Y. Yue, Q. L. Wu, M. Pavanello, J. Y. Zhou, X. X. Kuai, L. J. Gao, H. X. He, **Y. Wang**, “Structural Transformation of Li-Excess Cathode Materials via Facile Preparation and Assembly of Sonication-Induced Colloidal Nanocrystals for Enhanced Lithium Storage Performance”, *ACS Appl. Mater. & Interfaces*, 9, 31181 - 331191 (2017).
- (69) Z. Q. Xie, **Y. Wang**, “Metal-Organic Framework Derived CoNi@CNTs Embedded Carbon Nanocages as Efficient Electrocatalysts for Oxygen Evolution Reaction”, *Ionics*, 1 - 8 (2017).
- (68) W. W. Xu, W. W. Xie, **Y. Wang**, “Co₃O_{4-x}Carbon@Fe_{2-y}Co_yO₃ Heterostructural Hollow Polyhedrons for the Oxygen Evolution Reaction”, *ACS Appl. Mater. & Interfaces*, 9(34), 28642 – 28649 (2017).

- (67) Z. Q. Xie, C. M. Jiang, W. W. Xu, X. D. Cui, C. A. de los Reyes, A. A. Marti, **Y. Wang**, “Facile Self-Assembly Route to Co_3O_4 Nanoparticles Confined into Single-Walled Carbon Nanotube Matrix for Highly Reversible Lithium Storage”, *Electrochim. Acta*, *235*, 613-622 (2017).
- (66) M. Liu, H. Y. Jin, E. Uchaker, Z. Q. Xie, **Y. Wang**, G. Z. Cao, S. Hou, J. Y. Li, “One-pot Synthesis of In-situ Carbon-Coated Fe_3O_4 as Long-Life Lithium-Ion Battery Anode”, *Nanotechnology*, *28*, 155603 (2017).
- (65) Z. Q. Xie, X. W. W. Xu, X. D. Cui, **Y. Wang**, “Recent Progresses on Metal-Organic Frameworks and Their Derived Nanostructures for Energy and Environmental Applications”, (*Review Article*), *ChemSusChem*, *10*, 1645-1663 (2017). (*Top 20 most downloaded paper between July 2016 and December 2018.*)
- (64) Z. Q. Xie, X. D. Cui, W. W. Xu, **Y. Wang**, “Metal-Organic Framework Derived CoNi@CNTs Embedded Carbon Nanocages for Efficient Dye-Sensitized Solar Cells”, *Electrochim. Acta*, *229*, 361-370 (2017).
- (63) W. W. Xu, Z. Q. Xie, G. Dietrich, X. D. Cui, Z. Wang, **Y. Wang**, “Interwoven Heterostructural Co_3O_4 -Carbon@ FeOOH Hollow Polyhedrons with Improved Lithium-Ion Battery”, *J. Mater. Chem. A*, *4*, 19011-19018 (2016).
- (62) W. W. Xu, X. D. Cui, Z. Q. Xie, G. Dietrich, **Y. Wang**, “Integrated $\text{Co}_3\text{O}_4/\text{TiO}_2$ Composite Hollow Polyhedrons Prepared via Cation-Exchange Metal-Organic Framework for Superior Lithium-Ion Batteries”, *Electrochim. Acta*, *222*, 1021-1028 (2016).
- (61) J. Q. Zhao, H. Wang, Z. Q. Xie, S. Ellis, X. X. Kuai, J. Guo, X. Zhu, **Y. Wang**, L. J. Gao, “Tailorable Electrochemical Performance of Spinel Cathode Materials via In-situ Integrating a Layered Li_2MnO_3 Phase for Lithium-Ion Batteries”, *J. Power Sources*, *333*, 43 – 52 (2016).
- (60) X. D. Cui, W. W. Xu, Z. Q. Xie, J. A. Dorman, M. T. Gutierrez Wing, **Y. Wang**, “Effect of Dopant Concentration on Visible Light Driven Photocatalytic Activity of $\text{Sn}_{1-x}\text{Ag}_x\text{S}_2$ ”, *Dalton Transactions*, *45*, 16290 – 16297 (2016).
- (59) Y. J. Zhang, Z. Q. Xie, Z. Q. Wang, X. H. Feng, **Y. Wang**, A. G. Wu, “Unveiling the Adsorption Mechanism of Zeolitic Imidazolate Framework-8 with High Removal Efficiency on Copper Ions from Aqueous Solutions”, *Dalton Transactions*, *45*, 12653 - 12660 (2016). (*Featured as the back cover*)
- (58) X. D. Cui, Z. Q. Xie, **Y. Wang**, “Novel CoS_2 Embedded Carbon Nanocage by Direct Sulfurizing Metal-organic Framework for Dye-sensitized Solar Cells”, *Nanoscale*, *8*, 11984 – 11992 (2016).
- (57) W. W. Xu, X. D. Cui, Z. Q. Xie, G. Dietrich, **Y. Wang**, “Three-dimensional Coral-like Structure Constructed by Carbon-Coated Interconnected Monocrystalline SnO_2 Nanoparticles with Improved Lithium Storage Properties”, *ChemElectroChem*, *3*, 1-10 (2016). (*Featured as the inside front cover*)
- (56) Z. Q. Xie, Z. Y. He, X. H. Feng, W. W. Xu, X. D. Cui, J. H. Zhang, C. Yan, M. A. Carreon, X. F. Wang, P. P. Zhou, Z. Liu, **Y. Wang**, “Hierarchical Sandwich-like Structure of Ultrafine N-Rich Porous Carbon Nanospheres Grown on Graphene Sheets as Superior Lithium Ion Battery Anodes”, *ACS Appl. Mater. & Interfaces*, *8(16)*, 10324–10333 (2016).
- (55) W. W. Xu, Z. Q. Xie, X. D. Cui, K. N. Zhao, L. Zhang, L. Q. Mai, **Y. Wang**, “Direct Growth of Economic Green Energy Storage Material: A Monocrystalline Jarosite- $\text{KFe}_3(\text{SO}_4)_2(\text{OH})_6$ -Nanoplates@rGO Hybrid as Superior Lithium-Ion Battery Cathode”, *J. Mater. Chem. A*, *4*, 3735 – 3742 (2016). (*Selected as a hot article in 2016 by J. Mater. Chem. A*)
- (54) X. D. Cui, W. W. Xu, Z. Q. Xie, **Y. Wang**, “High-Performance Dye-Sensitized Solar Cells based on Ag-doped SnS_2 Counter Electrode”, *J. Mater. Chem. A*, *4(5)*, 1908-1914 (2016).
- (53) W. W. Xu, K. N. Zhao, L. Zhang, Z. Q. Xie, Z. Y. Cai, **Y. Wang**, “ SnS_2 @Graphene Nanosheet Arrays Grown on Carbon Cloth as Freestanding Binder-Free Flexible Anodes for Advanced Sodium Batteries”, *J. Alloy. Compd.*, *654*, 357 – 362 (2016).
- (52) X. D. Cui, W. W. Xu, Z. Q. Xie, **Y. Wang**, “Hierarchical SnO_2 @ SnS_2 Counter Electrode for Remarkable High-Efficiency Dye-Sensitized Solar Cells”, *Electrochim. Acta*, *186*, 125 – 132 (2015).
- (51) W. W. Xu, Z. Q. Xie, X. D. Cui, K. N. Zhao, L. Zhang, G. Dietrich, **Y. Wang**, “Hierarchical Graphene-Encapsulated Hollow SnO_2 @ SnS_2 Nanostructures with Enhanced Lithium Storage Capability”, *ACS Appl. Mater. & Interfaces*, *7(40)*, 22533-22541 (2015).

- (50) Z. Q. Xie, J. Q. Zhao, S. C. Ellis, W. W. Xu, D. Dye, **Y. Wang**, “A Novel Preparation of Core-shell Electrode Materials via Evaporation-Induced Self-Assembly of Nanoparticles for Advanced Li-Ion Batteries”, *Chem. Commun.*, *51*, 15000 – 15003 (2015).
- (49) Z. Q. Xie, J. Q. Zhao, **Y. Wang**, “One-Step Solvothermal Synthesis of Sn Nanoparticles Dispersed in Ternary Manganese-Nickel-Cobalt Carbonate as Superior Anode Materials for Lithium Ion Batteries”, *Electrochim. Acta*, *174*, 1023 – 1029 (2015).
- (48) J. Q. Zhao, S. C. Ellis, Z. Q. Xie, **Y. Wang**, “Synthesis of Integrated Layered-Spinel Composite Cathode Materials for High-Voltage Lithium-Ion Batteries Up to 5.0 V”, *ChemElectroChem*, *2*, 1821-1829 (2015).
- (47) Z. Q. Xie, H. Eikhuemelo, J. Q. Zhao, C. Cain, W. W. Xu, **Y. Wang**, “Ni and Fe Dual-Doped $\text{Li}_4\text{Mn}_5\text{O}_{12}$ Spinel as Cathode Materials for High-Voltage Li-Ion Batteries”, *J. Electrochem. Soc.*, *162* (8), A1523-A1529 (2015).
- (46) J. Q. Zhao, R. M. Huang, W. P. Gao, J. M. Zuo, X. F. Zhang, S. T. Misture, Y. Chen, J. Lockard, B. L. Zhang, S. M. Guo, M. R. Khoshi, K. Dooley, H. X. He, **Y. Wang**, “An Ion-Exchange Promoted Phase Transition in a Li-Excess Layered Cathode Material for High-Performance Lithium Ion Batteries”, *Adv. Energy Mater.*, 1401937 (2015). (Reported by Materials Views China in March 2015).
- (45) X. N. Luan, M. T. Gutierrez Wing, **Y. Wang**, “Enhanced Photocatalytic Activity of Graphene Oxide/Titania Nanosheets Composites for Methylene Blue Degradation”, *Mater. Sci. in Semiconductor Processing*, *30*, 592-598 (2015).
- (44) J. Q. Zhao, **Y. Wang**, “High-Capacity Full Lithium-Ion Cells Based on Nanoarchitected Ternary Manganese-Nickel-Cobalt Carbonate and Its Lithiated Derivative”, *J. Mater. Chem. A.*, *2*, 14947-14956 (2014).
- (43) X. N. Luan, **Y. Wang**, “Ultrathin Exfoliated TiO_2 Nanosheets Modified with ZrO_2 for Dye-Sensitized Solar Cells”, *J. Phys. Chem. C.*, *118*(33), 18917-18923 (2014).
- (42) X. N. Luan, **Y. Wang**, “Thermal Annealing and Graphene Modification of Exfoliated Hydrogen Titanates for Enhanced Lithium-Ion Intercalation Properties”, *J. Mater. Sci. & Tech.*, *30*(9), 839-846 (2014).
- (41) S. Aziz, J. Q. Zhao, C. Cain, **Y. Wang**, “Nanoarchitected LiMn_2O_4 /Graphene/ ZnO Composites as Electrodes for Lithium Ion Batteries”, *J. Mater. Sci. & Tech.*, *30*(5), 427-433 (2014).
- (40) J. Q. Zhao, S. Aziz, **Y. Wang**, “Hierarchical Functional Layers on High-Capacity Lithium-Excess Cathodes for Superior Lithium Ion Batteries”, *J. Power Sources*, *247*, 95-104 (2014).
- (39) X. N. Luan, **Y. Wang**, “Plasmon-Enhanced Performance of Dye-Sensitized Solar Cells Based on Electrodeposited Ag Nanoparticles”, *J. Mater. Sci. & Tech.*, *30*, 1-7 (2014) (Top one most downloaded paper in 2014).
- (38) D. S. Guan, C. J. Zhou, **Y. Wang**, “Engineering Bamboo-Type TiO_2 Nanotube Arrays to Enhance Their Photocatalytic Property”, *J. Nanotech. Nanosci.*, *14*, 4541-4550 (2014).
- (37) X. N. Luan, **Y. Wang**, “Preparation and Photoactivity of Ag/Bamboo-Type TiO_2 Nanotube Composite Electrodes for Methylene Blue Degradation”, *Mater. Sci. in Semiconductor Processing*, *25*, 43-51 (2013).
- (36) J. Q. Zhao, **Y. Wang**, “Atomic Layer Deposition of Epitaxial ZrO_2 Coatings on LiMn_2O_4 Nanoparticles for High-Rate Lithium Ion Batteries at Elevated Temperature”, *Nano Energy*, *2*, 882-889 (2013).
- (35) X. N. Luan, L. Chen, J. D. Zhang, G. Y. Qu, J. C. Flake, **Y. Wang**, “Electrophoretic Deposition of Reduced Graphene Oxide Nanosheets on TiO_2 Nanotube Arrays for Dye-Sensitized Solar Cells”, *Electrochim. Acta*, *111*, 216-222 (2013).
- (34) J. Q. Zhao, **Y. Wang**, “Surface Modifications of Li-Ion Battery Electrodes with Various Ultrathin Amphoteric Oxide Coatings for Enhanced Cycleability”, *J. Solid State Electrochem.*, *17*, 1049-1058 (2013).
- (33) D. S. Guan, **Y. Wang**, “Ultrathin Surface Coatings to Enhance Cycling Stability of LiMn_2O_4 in Lithium-Ion Batteries”, *Ionics*, *19*, 1-8 (2013).

- (32) D. S. Guan, **Y. Wang**, “Electrodeposition of Ag Nanoparticles onto Bamboo-Type TiO₂ Nanotube Arrays to Improve Their Lithium-Ion Intercalation Properties”, *Ionics*, *19*, 879-885 (2013).
- (31) X. N. Luan, D. S. Guan, **Y. Wang**, “Enhancing High-Rate and Elevated-Temperature Performances of Micro-Sized and Nano-Sized LiMn₂O₄ in Lithium-Ion Batteries with Ultrathin Surface Coatings”, *J. Nanosci. Nanotech.*, *12*(9), 7113-7120 (2012).
- (30) D. S. Guan, P. J. Hymel, **Y. Wang**, “Growth Mechanism and Morphology Control of Double-Layer and Bamboo-Type TiO₂ Nanotube Arrays by Anodic Oxidation”, *Electrochim. Acta*, *83*, 420-429 (2012).
- (29) X. N. Luan, D. S. Luan, **Y. Wang**, “Facile Synthesis and Morphology Control of Bamboo-Type TiO₂ Nanotube Arrays for High-Efficiency Dye-Sensitized Solar Cells”, *J. Phys. Chem. C*, *116*, 14257-14263 (2012).
- (28) J. Q. Zhao, G. Y. Qu, J. C. Flake, **Y. Wang**, “Low Temperature Preparation of Crystalline ZrO₂ Coatings for Improved Elevated-Temperature Performances of Li-Ion Battery Cathodes”, *Chem. Commun.*, *48*, 8108-8110 (2012).
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- (26) D. S. Guan, **Y. Wang**, “Synthesis and Growth Mechanism of Multilayer TiO₂ Nanotube Arrays”, *Nanoscale*, *4*, 2968-2977 (2012).
- (25) D. S. Guan, C. Cai, **Y. Wang**, “Amorphous and Crystalline TiO₂ Nanotube Arrays for Enhanced Li-Ion Intercalation Properties”, *J. Nanosci. Nanotech.*, *11*(4), 3641-3650 (2011).
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- (23) C. Cai, D. S. Guan, **Y. Wang**, “Solution Processing of V₂O₅-WO₃ Composite Films for Enhanced Li-Ion Intercalation Properties”, *J. Alloy. Compd.*, *509*, 909-915 (2011).
- (22) F. Teng, S. Santhanagopalan, **Y. Wang**, D. D. Meng, “In-Situ Hydrothermal Synthesis of Three-Dimensional MnO₂-CNT Nanocomposites and Their Electrochemical Properties”, *J. Alloy. Compd.*, *499*, 259-264 (2010).
- (21) C. Cai, **Y. Wang**, “Novel Nanocomposite Materials for Advanced Li-Ion Rechargeable Batteries”, *Materials*, Special Issue *Composite Materials*, *2*(3), 1205-1238 (2009).
- (20) **Y. Wang**, G. Z. Cao, “Developments in Nanostructured Vanadium Oxides for Advanced Li-Ion Rechargeable Batteries”, *invited* contribution by *IEEE Nanotechnology Magazine*, *3*(2), 14-20 (2009).
- (19) **Y. Wang**, G. Z. Cao, “Developments of Nanostructured Cathode Materials for High-Performance Lithium-Ion Batteries”, (**Review Article**) *Adv. Mater.*, *9999*, 1-19 (2008) (Top 5 most downloaded paper in *Adv. Mater.* in 2008, chosen for the Special Issue “the Best of Advanced Materials” in 2009).
- (18) **Y. Wang**, G. Z. Cao, “Synthesis and Electrochemical Properties of InVO₄ Nanotube Arrays”, *J. Mater. Chem.*, *17*, 894-899 (2007).
- (17) **Y. Wang**, G. Z. Cao, “Synthesis and Electrochemical Properties of V₂O₅ nanostructures”, *invited* contribution by *Key Engineering Materials*, *336-338*, 2134-2137 (2007).
- (16) **Y. Wang**, G. Z. Cao, “Nanostructures and Enhanced Intercalation Properties of Vanadium Oxides” (**Review Article**), *Chem. Mater.*, *18*, 2787-2804 (2006) (Top 5 most accessed paper in *Chem. Mater.* in 2006).
- (15) **Y. Wang**, K. Takahashi, K. Lee, G. Z. Cao, “Nanostructured Vanadium Oxide Electrodes for Enhanced Li⁺-Intercalation” (**Feature Article**), *Adv. Funct. Mater.*, *16*, 1133-1144 (2006).
- (14) **Y. Wang**, G. Z. Cao, “Li⁺ Intercalation Electrochemical/Electrochromic Properties of Vanadium Pentoxide Porous Films by Sol Electrophoretic Deposition”, *Electrochim. Acta*, *51*, 4865-4872 (2006).
- (13) K. Takahashi, **Y. Wang**, K. Lee, G. Z. Cao, “Fabrication and Li⁺-intercalation Properties of V₂O₅-TiO₂ Composite Nanorod Arrays”, *Appl. Phys. A*, *82*, 27-31 (2006).
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- (11) **Y. Wang**, K. Takahashi, H. M. Shang, G. Z. Cao, “Synthesis and Electrochemical Properties of Vanadium Pentoxide Nanotube Arrays”, *J. Phys. Chem. B*, *109*, 3085-3088 (2005).

- (10) **Y. Wang**, K. Lee, H. M. Shang, B. Wiley, Y. Xia, G. Z. Cao, "Ag-Ag_{0.08}V₂O₅·nH₂O Composite Films as Host Materials for Li⁺ Intercalation", *Phys. Stat. Sol., (a)* 202, R79-R81 (2005).
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- (7) K. Lee, **Y. Wang**, G. Z. Cao, "Dependence of Electrochemical Properties of Vanadium Oxide Films on Their Nano- and Microstructures", *J. Phys. Chem. B*, 109, 16700-16704 (2005).
- (6) K. Takahashi, S. J. Limmer, **Y. Wang**, G. Z. Cao, "Growth and Electrochemical Properties of Single Crystalline V₂O₅ Nanorod Arrays", *Jpn. J. Appl. Phys.*, 44, 662-668 (2005).
- (5) H. M. Shang, **Y. Wang**, B. Milbrath, M. Bliss, G. Cao, "Hydrothermal Growth and Photoluminescence Property of Textured CdWO₄ Scintillator Films", *Appl. Phys. Lett.*, 87, 051909 (2005).
- (4) H. M. Shang, **Y. Wang**, B. Milbrath, M. Bliss, G. Z. Cao, "Doping Effects in Nanostructured Cadmium Tungstate Scintillation Films", *J. Luminescence*, 121, 527-534 (2006).
- (3) H. M. Shang, **Y. Wang**, D. Li, Y. Xia, G. Z. Cao, "Nanostructured Superhydrophobic Surfaces", *J. Mater. Sci. Lett.*, 44, 3587-3591 (2005).
- (2) H. M. Shang, **Y. Wang**, S. J. Limmer, T. P. Chou, G. Z. Cao, "Optically Transparent Superhydrophobic Silica-Based Films", *Thin Solid Films*, 472, 37-43 (2005).
- (1) K. Takahashi, S. J. Limmer, **Y. Wang**, G. Z. Cao, "Synthesis and Electrochemical Properties of Single Crystal V₂O₅ Nanorod Arrays by Template-based Electrodeposition", *J. Phys. Chem. B*, 108, 9795-9800 (2004).

- **Invited Book**

- (1) G. Z. Cao, **Y. Wang**, "Nanostructures and Nanomaterials: Synthesis, Properties and Applications", 2nd Edition, World Scientific Publishers, 2011.

- **Invited Book Chapters**

- (6) **Y. Wang**, C. Cai, D. S. Guan, "New Developments in Nanostructured Electrode Materials for Advanced Li-Ion Batteries", in *Nanoelectronics: Nanowires, Molecular Electronics, and Nano-devices*, ed. Kris Iniewski, McGraw-Hill, p. 321-359, 2010.
- (5) D. Liu, G. Z. Cao, **Y. Wang**, "Positive Electrode: Nanostructured Transition Metal Oxides", in *Encyclopedia of Electrochemical Power Sources*, Vol. 5, eds. J. Garche, C. Dyer, P. Moseley, Z. Ogmi, D. Rand, B. Scrosati, Amsterdam, Elsevier, p. 121-130, 2009.
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- (3) A. Shen, C. J. Lee, M. Vasudevan, R. Sureshkumar, **Y. Wang**, G. Z. Cao, "Hydrodynamics and Rheology Effects in Processing of Micellar Fluids in Nanomaterials Manufacturing" in *Soft Materials*, ed. H. S. Nalwa, The American Scientific Publishers, Chapter 7, p. 234-256, 2009.
- (2) **Y. Wang**, G. Z. Cao, "Nanostructured Cathode Materials for Advanced Lithium-Ion Batteries", in *Annual Review of Nano Research*, Vol. 2, eds. G. Z. Cao and C. J. Brinker, World Scientific Publishers, p. 545-591, 2008.
- (1) G. Z. Cao, **Y. Wang**, "Chemical Vapor Deposition of Ceramics", in *Chemical Processing of Ceramics*, eds., B. Lee and S. Komarneni, Marcel Dekker, CRC Press, New York, p.511-542, 2005.

- **Peer-Reviewed Conference Proceedings**

- (17) L. Guo, Z. Q. Xie, H. Yao, **Y. Wang**, "A Comparative Study of Surface Cleaning Treatments for 3D Printed Medical Implants", accepted by *the Proceeding of the ASME (American Society of Mechanical Engineers) 2017 Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), SMASIS2017-3873*, 2017.

- (16) J. Q. Zhao, R. M. Huang, H. X. He, **Y. Wang**, “Ex-Situ Activation of Li-Excess Layered Cathode Materials for High-Capacity Lithium Ion Batteries”, *Electrochemical Society Transactions*, 64(22), 77-86 (2015).
- (15) J. Q. Zhao, **Y. Wang**, “Versatile Ternary Manganese-Nickel-Cobalt Compounds in Multi-Shell Spherical Structures as Electrode Materials for High-Capacity Lithium-Ion Batteries”, *Electrochemical Society Transactions*, 61, 83-90 (2014).
- (14) J. Q. Zhao, **Y. Wang**, “Hierarchical Functional Layers On High-Capacity Lithium-Excess Cathodes for Superior Lithium-Ion Batteries”, *Electrochemical Society Transactions*, 58, 3-12 (2014).
- (13) **Y. Wang**, J. Q. Zhao, “Ultrathin Surface Coatings for Enhanced Cycleability of Li-Ion Battery Electrodes at Elevated Temperature”, *TMS (The Minerals, Metals & Materials Society) 2013 Spring Conference Proceedings*, p. 789-796, 2013.
- (12) J. Q. Zhao, **Y. Wang**, “Surface Modifications of Li-ion Battery Electrodes with Ultrathin Amphoteric Oxide Coatings for Enhanced Elevated-Temperature Cycleability”, *Mater. Res. Soc. Symp. Proc. Vol. 1496*, 2012. (DOI: 10.1557/opl.2013).
- (11) D. S. Guan, C. Cai, **Y. Wang**, “Enhanced Cycleability of LiMn₂O₄ Cathodes by Atomic Layer Deposition of Al₂O₃ Coatings”, *IEEE Green Technologies Conference*, 978-1-61284-713-9, pages 1-6 (2011). (Selected for “Honorable Mention”, interviewed by and aired on the ScienceNews Radio Network).
- (10) D. S. Guan, C. Cai, **Y. Wang**, “Amorphous and Crystalline TiO₂ Nanotube Arrays for Enhanced Li-Ion Intercalation Properties”, *Mater. Res. Soc. Symp. Proc.*, 1266, 1266-CC06-05 (2010).
- (9) C. Cai, D. S. Guan, **Y. Wang**, “Synthesis and Enhanced Li⁺-Intercalation Properties of V₂O₅-WO₃ Composite Films”, *Proceedings of Energy Materials: Battery Technologies, Materials Science & Technology (MS&T) Conference*, p. 668-679, October 2010.
- (8) **Y. Wang**, G. Z. Cao, “Nanostructured Vanadium Oxide Electrodes for Enhanced Li⁺-Intercalation”, *Proceedings of NSF Design, Service, and Manufacturing Grantees and Research Conference*, St. Louis, MO, DMI-0455994, 1-14 (2006).
- (7) **Y. Wang**, G. Z. Cao, “Synthesis and Electrochemical Properties of InVO₄ Nanotube Arrays”, *Mater. Res. Soc. Symp. Proc.*, 922, 0922-U01-06 (2006).
- (6) H. M. Shang, **Y. Wang**, M. Bliss, G. Z. Cao, “Processing and Optical Properties of Sol-gel Derived Nanostructured CdWO₄ Films”, *Proceedings of SPIE Optics East Meeting*, Boston, 6008, 60081B, (2005).
- (5) **Y. Wang**, K. Takahashi, H. M. Shang, K. Lee, G. Z. Cao, “Growth and Electrochemical Properties of V₂O₅ Nanotube Arrays”, *Mater. Res. Soc. Symp. Proc.*, 879, Z7.8.1-Z7.8.6 (2005).
- (4) K. Takahashi, **Y. Wang**, K. Lee, G. Z. Cao, “Solution Synthesis and Electrochemical Properties of V₂O₅ Nanostructures”, *Mater. Res. Soc. Symp. Proc.* 835, K11.7.1-K11.7.6 (2005).
- (3) K. Takahashi, S. J. Limmer, **Y. Wang**, G. Z. Cao, “Synthesis and Electrochromic Property of Single-crystalline V₂O₅ Nanorod Arrays by Template Based Deposition”, *SPIE Proc.*, 5510, 49-56 (2004)
- (2) H. M. Shang, **Y. Wang**, B. Milbrath, M. Bliss, G. Z. Cao, “Doping Effects on Microstructure and Scintillation Properties of Cadmium Tungstate Films” *SPIE Proc.*, 5510, 88-96 (2004).
- (1) H. M. Shang, **Y. Wang**, S. J. Limmer, G. Z. Cao, “Optically Transparent Superhydrophobic Films by Sol-Gel Processing and Self-assembly”, *SPIE Proc.*, 5224, 70-75 (2003).

- **Patents**

- (1) **Y. Wang**, S. Kuchena, “Light Aqueous Non-metal Ion Rechargeable Batteries with High Safety”, Technology disclosure, LSU-2021-052, 2021.
- (2) **Y. Wang**, Y. H. Chen, “High-safety and Flexible Aqueous Rechargeable Batteries that Operate Over a Wide Temperature Range”, Technology disclosure, LSU-2021-034, 2020.

- **Invited Seminars**

- (34) **Y. Wang**, “Novel High-Safety Aqueous Ammonium-Ion Batteries”, invited guest lecture for *ME 4663 – Renewable and Nuclear Plant Power Engineering* (Instructor: Manas Gartia), November 1, 2023.

- (33) **Y. Wang**, “Novel High-Safety Aqueous Ammonium-Ion Batteries”, invited guest lecture for *ME 4663 – Renewable and Nuclear Plant Power Engineering* (Instructor: Manas Gartia), October 31, 2022.
- (32) **Y. Wang**, “Novel High-Safety Aqueous Ammonium-Ion Batteries”, *the Academic Forums sponsored by the Key Materials and Technology for Electronic Components Professional Committee of the Chinese Society of Instrumentation and Functional Materials*, Xidian University, invited virtual seminar, August 20, 2022.
- (31) **Y. Wang**, “Heterostructured Nanomaterials via Electrochemical Activation for High-Performance Zinc Ion Rechargeable Batteries”, *the 22nd International Conference on Photochemical Conversion and Storage of Solar Energy (IPS-22)*, Hefei, Anhui Province, China, July 30, 2018. (Invited as keynote lecture).
- (30) **Y. Wang**, “Novel Nanostructured Materials for Advanced Energy Conversion and Storage”, Department of Chemistry, Rice University, Houston, Texas, October 19, 2016.
- (29) **Y. Wang**, “Novel Nanomaterials for Next-Generation Batteries & Solar Cells”, *the 7th Southeast Symposium on Contemporary Engineering Topics (SSCET)*, Jackson, Mississippi, August 2016.
- (28) **Y. Wang**, “Novel Nanomaterials and Nanohybrids for Advanced Batteries and Solar Cells”, Department of Materials Science and Engineering, Wuhan University of Technology, Wuhan, China, April 27, 2016.
- (27) **Y. Wang**, “Novel Nanomaterials and Nanohybrids for Advanced Batteries and Solar Cells”, Department of Materials Science and Engineering, China University of Geosciences, Wuhan, China, April 26, 2016.
- (26) **Y. Wang**, “Novel Nanomaterials and Nanocomposites for Advanced Batteries and Solar Cells”, College of Energy, Soochow University, Suzhou, China, March 22, 2016.
- (25) **Y. Wang**, “Novel Nanomaterials for Advanced Energy Conversion and Storage”, *Saturday Science Series*, Louisiana State University, Baton Rouge, LA, March 21, 2015.
- (24) **Y. Wang**, “Advanced Photovoltaics and Photocatalysis based on Novel Nanostructured Titania and Titania Nanocomposites”, East China Normal University, Shanghai, China, December 2014.
- (23) **Y. Wang**, “Ultrathin ZrO₂ Coating on LiMn₂O₄ Nanoparticles for Improved High-Rate Performance at Elevated Temperature”, *245th American Chemical Society National Meeting*, New Orleans, LA, April 10, 2013.
- (22) **Y. Wang**, “Ultrathin Surface Coatings for Enhanced Cycleability of Li-Ion Battery Electrodes at Elevated Temperature”, *2013 Spring TMS (The Minerals, Metals & Materials Society) Meeting*, San Antonio, TX, March 7, 2013.
- (21) **Y. Wang**, “Ultrathin Surface Coatings and Novel Titania Nanostructures for High-Performance Li-Ion Batteries and Solar Cells”, Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences, June 20, 2012.
- (20) **Y. Wang**, “Nanostructured Materials for Enhanced Performances of Lithium-Ion Batteries”, Department of Electrical Engineering, Louisiana State University, September 27, 2011.
- (19) **Y. Wang**, “Nanostructured Electrodes and Ultra-Thin Surface Coatings for Enhanced Performances of Lithium-Ion Batteries”, Macro Seminar Series, Department of Chemistry, Louisiana State University, September, 2011.
- (18) **Y. Wang**, “Nanostructured Materials for High-Performance Lithium-Ion Rechargeable Batteries”, *241st American Chemical Society National Meeting*, Anaheim, CA, March 2011.
- (17) **Y. Wang**, Invited lecture for graduate level class “Condensed Matter Experimental Techniques”, Department of Physics, Louisiana State University, Baton Rouge, February 2010.
- (16) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Chemistry, Louisiana State University, Baton Rouge, October 2010.
- (15) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Materials Science and Engineering, University of Washington, February 2009.
- (14) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, “Micro and Nano Technology for Energy Applications” Workshop, *4th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems*, Shenzhen, China, January 2009.

- (13) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Mechanical Engineering, University of California – Riverside, April 2008.
- (12) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Mechanical Engineering, Louisiana State University, April 2008.
- (11) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Mechanical Engineering, State University of New York – Buffalo, March 2008.
- (10) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Mechanical Engineering, University of Texas – Austin, March 2008.
- (9) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Materials Science and Engineering, University of Michigan, March 2008.
- (8) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Chemical Engineering, University of Delaware, March 2008.
- (7) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Materials Science and Engineering, Michigan Technological University, February 2008.
- (6) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Chemistry, Hong Kong University of Science and Technology, February 2008.
- (5) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Mechanical Engineering, University of Hong Kong, February 2008.
- (4) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Department of Electronic and Computer Engineering, Hong Kong University of Science and Technology, February 2008.
- (3) **Y. Wang**, “Nanostructured Materials for Advanced Energy Conversion and Storage Systems”, Materials Research Institute, Northwestern University, March 2006.
- (2) **Y. Wang**, G. Z. Cao, “Enhanced Li Intercalation Properties of V_2O_5 Nanostructures”, *Materials Science & Technology Meeting*, Cincinnati, Ohio, October 2006.
- (1) **Y. Wang**, G. Z. Cao, “Growth of Oxide Nanorod, Nanotube, and Nanocable Arrays through Template-Based Sol Electrophoretic Deposition”, *Materials Science & Technology Meeting*, Cincinnati, Ohio, October 2006.

- **Conference Presentations**

- (49) **Y. Wang**, “A Metal-Free Quasi-Solid-State Battery for Better Safety and Sustainability”, *2024 Materials Research Society (MRS) Virtual Spring Meeting*, May 7, 2024 (oral presentation).
- (48) **Y. Wang**, “Sustainable Self-charging Aqueous Battery with Low-temperature Applications”, *2024 American Chemical Society (ACS) Spring Meeting*, March 20, 2024 (oral presentation).
- (47) A. Paudel, **Y. Wang**, “Novel Metal-free Battery with Applications under Cold Condition”, *2024 American Chemical Society (ACS) Spring Meeting*, March 18, 2024 (poster presentation).
- (46) A. Paudel, A. N. Crum, **Y. Wang**, “A Total Metal-free Battery Enabled by Biodegradable Hydrogel Electrolyte”, *Provost’s Fund for Innovation in Research Symposium*, LSU, January 31, 2024 (poster presentation).
- (45) **Y. Wang**, “Modulating Hydrogel Electrolytes for Safer Flexible Rechargeable Batteries with Enhanced Performances”, *2023 American Chemical Society (ACS) Virtual Fall Meeting*, August 17, 2023 (oral presentation).
- (44) **Y. Wang**, “Tailoring Electrodes and Electrolytes in Emerging Aqueous Ammonium-Ion Batteries”, *the 241st Electrochemical Society Meeting*, Vancouver, Canada, May 31, 2022 (oral presentation).
- (43) **Y. Wang**, “Tailoring Electrolyte to Enable High-Safety High-Performance Flexible Rechargeable Batteries”, *2022 Materials Research Society Virtual Spring Meeting*, May 25, 2022 (oral presentation).
- (42) **Y. Wang**, “Safe Flexible Rechargeable Batteries with Subzero-temperature Operation and Self-charging Capabilities”, *2021 Materials Research Society (MRS) Virtual Fall Meeting*, December 7, 2021 (oral presentation).

- (41) **Y. Wang**, S. Kuchena, “A Low-cost Flexible Full Ammonium-Ion Battery Enabled by a Novel Concentrated Hydrogel Electrolyte”, *2021 Materials Research Society Virtual Fall Meeting*, December 6, 2021 (oral presentation).
- (40) Y. H. Chen, **Y. Wang**, “A Flexible Aqueous Rechargeable Battery Operating Over an Extended Temperature Range”, *TMS (The Minerals, Metals, & Materials Society) 2021 Virtual Annual Meeting & Exhibition*, March 15, 2021 (poster presentation).
- (39) **Y. Wang**, “Flexible Quasi-Solid-State Zinc-Ion Rechargeable Batteries for Subzero Temperature Applications”, *2020 Materials Research Society Virtual Spring/Fall Meeting*, November 30, 2020 (oral presentation).
- (38) **Y. Wang**, “High-Safety Zinc-Ion Rechargeable Batteries for Space Applications”, *LaSPACE Fall 2019 Council Meeting*, Baton Rouge, LA, October 19, 2019 (oral presentation).
- (37) Y. H. Chen, **Y. Wang**, “Rechargeable Solid-State Zinc Ion Batteries for Low Temperature Applications”, *LaSPACE Fall 2019 Council Meeting*, Baton Rouge, LA, October 19, 2019 (poster presentation).
- (36) J. W. Lai, **Y. Wang**, “High-Performance Aqueous Rechargeable Zinc Ion Battery Based on Interlayer-Expanded $V_6O_{13} \cdot nH_2O$ Ultrathin Nanosheets Cathode”, *The American Society of Mechanical Engineers – International Mechanical Engineering Education Leadership Summit*, New Orleans, LA, March 21, 2019 (poster presentation).
- (35) W. W. Xu, **Y. Wang**, “Aqueous Zinc Ion Battery with MoS_2 Nanosheets Cathode”, *the 255th ACS (American Chemical Society) National Meeting*, New Orleans, LA, March 21, 2018 (oral presentation).
- (34) L. Guo, Z. Q. Xie, H. Yao, **Y. Wang**, “A Comparative Study of Surface Cleaning Treatments for 3D Printed Medical Implants”, *the American Society of Mechanical Engineers (ASME) Conference*, Snowbird, UT, September 2017 (oral presentation).
- (33) L. Guo, Z. Q. Xie, H. Yao, **Y. Wang**, “A Comparative Study of Surface Cleaning Treatments for 3D Printed Medical Implants”, *Consortium for Innovation in Manufacturing & Materials*, Baton Rouge, LA, July 24, 2017 (poster presentation).
- (32) W. W. Xu, Z. Q. Xie, **Y. Wang**, “Reversible Aqueous Zinc Battery Using Molybdenum-Based Intercalation Cathode”, *the 231st Electrochemical Society Meeting*, New Orleans, LA, June 2017 (oral presentation).
- (31) W. W. Xu, Z. Q. Xie, Z. Wang, G. Dietrich, **Y. Wang**, “Hollow Co_3O_4 Nanopolyhedrons Interwoven with Amorphous Nanowires for Enhanced Lithium Storage and Water Splitting”, *the 231st Electrochemical Society Meeting*, New Orleans, LA, June 2017 (poster presentation).
- (30) Z. Q. Xie, X. D. Cui, W. W. Xu, **Y. Wang**, “Metal-Organic Framework Derived $CoNi@CNTs$ Embedded Carbon Nanocages for Efficient Dye-Sensitized Solar Cells”, *the 231st Electrochemical Society Meeting*, New Orleans, LA, June 2017 (poster presentation).
- (29) X. D. Cui, Y. X. Fang, J. C. Flake, Z. Q. Xie, **Y. Wang**, “Coral-Like Cu-Doped Sn Electrocatalyst for Efficient CO_2 Electrochemical Reduction to Formate”, *the 231st Electrochemical Society Meeting*, New Orleans, LA, June 2017 (oral presentation).
- (28) Z. Q. Xie, C. M. Jiang, A. A. Martí, **Ying Wang**, “Facile Self-Assembly Route to Co_3O_4 Nanoparticles Uniformly Confined into SWCNT Sheet for Highly Reversible Lithium Storage”, *the 230th Electrochemical Society Meeting*, Honolulu, Hawaii, October 2016 (oral presentation).
- (27) X. D. Cui, **Y. Wang**, “Novel Metal Sulfide based Counter Electrodes for Remarkable High-Efficiency Dye-Sensitized Solar Cells”, *the 7th Southeast Symposium on Contemporary Engineering Topics (SSCET)*, Jackson, MS, August 2016 (oral presentation).
- (26) W. W. Xu, **Y. Wang**, “Economic Green Energy Storage Material as Superior Lithium-Ion Battery Cathode”, *the 7th Southeast Symposium on Contemporary Engineering Topics (SSCET)*, Jackson, MS, August 2016 (oral presentation).
- (25) Z. Q. Xie, **Y. Wang**, “Novel Nanostructure Designs for High-Performance Electrode Materials in Lithium Ion Batteries”, *the 7th Southeast Symposium on Contemporary Engineering Topics (SSCET)*, Jackson, MS, August 2016 (oral presentation).

- (25) **Y. Wang**, “Novel Nanomaterials for Next-Generation Solar Cells & Lithium Ion Batteries”, *the 7th Southeast Symposium on Contemporary Engineering Topics (SSCET)*, Jackson, MS, August 2016 (oral presentation).
- (24) P. E. Kolic, N. Siraj, B. P. Regmi, X. N. Luan, **Y. Wang**, I. M. Warner, “Porphyrin-Based GUMBOs and nanoGUMBOs for Use as Sensitizers in Dye-Sensitized Solar Cells”, *DOE Science Graduate Fellowship Meeting*, March 2015 (poster presentation).
- (23) J. Q. Zhao, **Y. Wang**, “Ex-Situ Activation of Li-Excess Layered Cathode Materials for High-Capacity Lithium Ion Batteries”, *226th Electrochemical Society Meeting*, Cancun, Mexico, October 2014 (poster presentation).
- (22) P. E. Kolic, N. Siraj, B. P. Regmi, X. N. Luan, **Y. Wang**, I. M. Warner, “Porphyrin-Based GUMBOs and nanoGUMBOs for Use as Sensitizers in Dye-Sensitized Solar Cells”, *DOE Science Graduate Fellowship Meeting*, July 2014 (poster presentation).
- (21) J. Q. Zhao, **Y. Wang**, “Versatile Ternary Manganese-Nickel-Cobalt Compounds in Multi-Shell Spherical Structures As Electrode Materials for High-Capacity Lithium-Ion Batteries”, *225th Electrochemical Society Meeting*, Orlando, FL, May 14, 2014 (poster presentation).
- (20) X. N. Luan, **Y. Wang**, “Novel Nanostructured Titania and Titania Nanocomposite for Photovoltaics”, Economic Development Assistantship Symposium, Louisiana State University, Baton Rouge, LA, April 28, 2014 (poster presentation).
- (19) J. Q. Zhao, S. Aziz, **Y. Wang**, “Hierarchical Functional Layers on High-Capacity Lithium-Excess Cathodes for Superior Lithium Ion Batteries”, *224th Electrochemical Society Meeting*, San Francisco, CA, October 27, 2013 (oral Presentation).
- (18) J. Q. Zhao, **Y. Wang**, “Ultrathin ZrO₂ Coating on LiMn₂O₄ Nanoparticles for Improved High-Rate Performance at Elevated Temperature”, *invited by 245th American Chemical Society National Meeting*, New Orleans, LA, April 10, 2013 (oral presentation).
- (17) **Y. Wang**, J. Q. Zhao, “Ultrathin Surface Coatings for Enhanced Cycleability of Li-Ion Battery Electrodes at Elevated Temperature”, *invited by 2013 Spring TMS (The Minerals, Metals & Materials Society) Meeting*, San Antonio, TX, March 7, 2013 (oral presentation).
- (16) X. N. Luan, **Y. Wang**, “Novel Bamboo-Type TiO₂ Nanotube Arrays with Enhanced Photocatalytic Effect for Decomposition of Dispersed Oil and Organic Pollutants”, *Gulf of Mexico: Oil Spill & Ecosystem Science Conference*, New Orleans, LA, January 2013 (oral presentation).
- (15) J. Q. Zhao, **Y. Wang**, “Surface Modifications of Li-Ion Battery Electrodes with Ultrathin Amphoteric Oxide Coatings for Enhanced Elevated-Temperature Cycleability”, *Materials Research Society Fall Meeting*, Boston, November 2012 (poster presentation).
- (14) D. S. Guan, **Y. Wang**, “Nanosized Thin and Highly Conformal Oxide Coatings for Enhanced Cycleability of Li-Ion Battery Cathodes”, *Materials Research Society Fall Meeting*, Boston, MA, November 2011 (oral presentation).
- (13) D. S. Guan, C. Cai, **Y. Wang**, “Enhanced Cycleability of LiMn₂O₄ Cathodes by Atomic Layer Deposition of Al₂O₃ Coatings”, *IEEE Green Technologies Conference*, Baton Rouge, LA, April 2011 (oral presentation).
- (12) **Y. Wang**, “Nanostructured Materials for High-Performance Lithium-Ion Rechargeable Batteries”, *invited by the 241st American Chemical Society National Meeting*, Anaheim, CA, March 2011 (oral presentation).
- (11) **Y. Wang**, C. Cai, D. S. Guan, “Synthesis and Enhanced Li⁺-Intercalation Properties of V₂O₅-WO₃ Composite Films”, *Materials Science & Technology Meeting*, Houston, TX, October 2010 (oral presentation).
- (10) **Y. Wang**, D. S. Guan, C. Cai, “Amorphous and Crystalline TiO₂ Nanotube Arrays for Enhanced Li-Ion Intercalation Properties”, *Materials Research Society Spring Meeting*, San Francisco, CA, April 2010 (oral presentation).

- (9) **Y. Wang**, C. Cai, D. S. Guan, “Solution Processing of V₂O₅-WO₃ Composite Films for Enhanced Li-Ion Intercalation Properties”, *Materials Research Society Spring Meeting*, San Francisco, CA, April 2010 (poster presentation).
- (8) **Y. Wang**, “Nanostructured Materials for Advanced Energy and Conversion Systems”, “*Micro and Nano Technology for Energy Applications*” Workshop, *invited* by the 4th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems, Shenzhen, China, January 2009 (oral presentation).
- (7) **Y. Wang**, R. P. H. Chang, “Improving the Performance of Dye-Sensitized ZnO Nanowire Solar Cells”, 13th International Conference on Unconventional Photoactive Systems, Evanston, IL, August 2007 (poster presentation).
- (6) **Y. Wang**, G. Z. Cao, “Enhanced Li Intercalation Properties of V₂O₅ Nanostructures”, *invited* by *Materials Science & Technology Meeting*, Cincinnati, OH, October 2006 (oral presentation).
- (5) **Y. Wang**, G. Z. Cao, “Growth of Oxide Nanorod, Nanotube, and Nanocable Arrays through Template-Based Sol Electrophoretic Deposition”, *invited* by *Materials Science & Technology Meeting*, Cincinnati, OH, October 2006 (oral presentation).
- (4) **Y. Wang**, G. Z. Cao, “Synthesis and Electrochemical Properties of InVO₄ Nanotube Arrays”, *Materials Research Society Spring Meeting*, San Francisco, CA, April 2006 (oral presentation).
- (3) **Y. Wang**, K. Takahashi, G. Z. Cao, “Enhanced Li⁺-Intercalation Performance in Vanadium Pentoxides through Engineering of Nanostructure and Interlayer Structure”, *Materials Research Society Fall Meeting*, Boston, MA, November 2005 (poster presentation).
- (2) **Y. Wang**, K. Takahashi, H. M. Shang, K. Lee, G. Z. Cao, “Growth and Electrochemical Properties of V₂O₅ Nanotube Arrays”, *Materials Research Society Spring Meeting*, San Francisco, CA, April 2005 (poster presentation).
- (1) **Y. Wang**, S. J. Limmer, E. D. Stenehjem, G. Z. Cao, “Processing and Properties of PZT Sol-Gel Films and Nanorod Arrays”, 56th Pacific Coast Regional and Basic Science Division Fall Meeting Hosted by American Ceramic Society, Seattle, WA, September 2004 (oral presentation).

THESIS ADVISOR

- (1) *Abhishek Paudel*, Ph.D. student, Mechanical Engineering, Louisiana State University.
- (2) *Shelton Kuchena*, Ph.D. student, Engineering Science, Louisiana State University, graduated in May 2023.
Ph.D. dissertation: “Development of Novel Electrodes and Electrolytes for Safer Aqueous Ammonium-ion Batteries with Enhanced Performance”.
- (3) *Jianwei Lai*, M.E. student, Mechanical Engineering, Louisiana State University, graduated in December 2019.
Master thesis: “Vanadium-based Nanomaterials for Improved Zinc Ion Storage”.
- (4) *Wangwang Xu*, Ph.D. student, Mechanical Engineering, Louisiana State University, graduated in December 2018.
Ph.D. dissertation: “Novel Design and Synthesis of Composite Nanomaterials for Lithium and Multivalent Ion Batteries”.
- (5) *Andrew Xie*, Ph.D. student, Mechanical Engineering, Louisiana State University, graduated in May 2018.
(Received the *First Place Best Presentation Award* at the Department Graduate Student Conference and an *Electrochemical Society Travel Grant Award* in 2016).
Ph.D. dissertation: “Novel Nanostructured Materials Derived from Metal-Organic Frameworks for Energy and Environmental Applications”.
- (6) *Jianqing Zhao*: Ph.D. student, Mechanical Engineering, Louisiana State University, graduated in December 2014.
(Received the *Outstanding Research Assistant Award* at the Department Graduate Student Conference in 2014, an *Enrichment Award* from the College of Engineering in 2014, a *ME Scholarship* in 2013, and an *Electrochemical Society Travel Award and Membership Award* in 2013).

Ph.D. dissertation: “Novel Syntheses and Surface Modifications of Electrode Materials for Superior Lithium-Ion Batteries”.

- (7) *Hilary Eikhuemelo*, M.E. student, Mechanical Engineering, Louisiana State University, graduated in December 2014.

Master thesis: “Composition Control of Spinel Lithium Manganese Oxide for High Voltage, High Energy Lithium-Ion Batteries”.

- (8) *Xinning Luan*: Ph.D. student, Mechanical Engineering, Louisiana State University, graduated in August 2014.

(Received a *LSU Graduate School Enrichment Award*, 2011 – present, *Materials Initiative Assistantship* in 2012-2013, and *Economic Development Assistantship*, 2014).

Ph.D. dissertation: “Novel Nanostructured Titania and Titania Nanocomposites for Photovoltaics and Photocatalysis”.

- (9) *Dongsheng Guan*: Ph.D. student, Mechanical Engineering, Louisiana State University, graduated in December 2012.

(Received *LSU Graduate School Supplementary Award*, 2009 - 2012).

Ph.D. dissertation: “Novel Surface Modifications and New Nanostructured Titania Synthesis for High-Performance Lithium-Ion Batteries and Solar Cells”.

- (10) *Chuan Cai*: M.E. Student, Mechanical Engineering, Louisiana State University, graduated in May 2011.

Master thesis: “V₂O₅-WO₃ Composite Films and Surface-Coated LiCoO₂ for Enhanced Li-Ion Intercalation Properties”.

UNDERGRADUATE STUDENTS SUPERVISED

- (1) *Ajalynn N. Crum*, Summer and Fall 2023, Spring 2024

- (2) *Henry Horist*, Summer 2022

- (3) *Landon Latiolais*, Spring - Summer 2022

- (4) *Coby R. Knight*, Fall 2021

- (5) *Andreas Kafkallides*, Summer and Fall 2021

- (6) *Hidiya Sessions*, Summer 2021.

- (7) *Terry Geraldson*, Fall 2020 – Spring 2021

- (8) *Ethan J. Devillier*, Spring and Fall, 2020

- (9) *Kory Martin Robert*, Spring 2020

- (10) *Keagan Alexander*, Fall 2019

- (11) *Harsha Koritala*, Summer 2018

- (12) *Bradley F. Champagne*, 2017

- (13) *Jacob B. Miller*, 2017

- (14) *Lucy Guo*, 2016 - 2017

- (15) *Nathaniel S. Cannon*, 2016 - 2017

- (16) *Dara Dye*, 2015

- (17) *Grant J. Dietrich*, 2015 – 2017

- (18) *Hisham S. Alhasani*, 2015

- (19) *Sarah C. Ellis*, 2014 - 2015

- (20) *Carrington Cain*, 2013 - 2015

- (21) *Hayato deSouza*, 2012

- (22) *Kori Lutenbacher*, 2009 – 2011

- (23) *Jishnu Medhi*, 2011

- (24) *Sasha Bacchus*, 2010

PROFESSIONAL ACTIVITIES

- **Membership in Professional Organizations**

- (1) Material Research Society (MRS) 2005-present.
- (2) Electrochemical Society, 2012, 2022.
- (3) Sigma Xi, The Scientific Research Society, 2007-2011.
- (4) The Institute of Electrical and Electronics Engineers (IEEE), 2009-2011.
- (5) American Chemical Society (ACS), 2007-2008, 2010-2011, 2013-2024.
- (6) The Minerals, Metals & Materials Society (TMS), 2007, 2010-2011.
- (7) The American Association for the Advancement of Science (AAAS), 2007-2008.
- (8) American Ceramic Society (ACerS), 2004.

- **Journal Manuscripts Review** (Reviewed **139** manuscripts for **51** journals since 2007 and until March 23, 2024.)

- (1) ACS Advanced Materials and Interfaces (2012 - 2016) (6 times)
- (2) ACS Applied Energy Materials (2018 – 2020, 2023) (6 times)
- (3) ACS Applied Materials & Interfaces (2017 - 2019) (3 times)
- (4) ACS Applied Nano Materials (2019)
- (5) Advanced Electronic Materials (2015)
- (6) Advanced Energy Materials (2011, 2021)
- (7) Advanced Functional Materials (2019, 2022) (2 times)
- (8) Advanced Healthcare Materials (2012)
- (9) Advanced Materials (2011, 2014, 2020, 2021, 2023, 2024) (6 times)
- (10) Analyst (2011)
- (11) Angewandte Chemie (2022)
- (12) Beilstein Journal of Nanotechnology (2010)
- (13) ChemElectroChem (2015)
- (14) ChemSusChem (2017)
- (15) Chemical Communications (2010, 2013) (2 times)
- (16) Chemistry Letters (2017)
- (17) Chemistry of Materials (2009, 2015) (2 times)
- (18) Current Applied Physics (2009, 2010) (2 times)
- (19) Dalton Transactions (2010)
- (20) Electrochemistry Communications (2012)
- (21) Electrochimica Acta (2007, 2010 – 2013, 2016 – 2018, 2022 - 2023) (17 times)
- (22) Energy & Environmental Sciences (2009, 2011) (2 times)
- (23) Energy Storage Materials (2019, 2021, 2024) (3 times)
- (24) Energy Technology (2013)
- (25) Journal of Alloys and Compounds (2011)
- (26) Journal of Electroanalytical Chemistry (2019)
- (27) Journal of Energy Chemistry (2020)
- (28) Journal of Materials Chemistry (2008 - 2014) (12 times)
- (29) Journal of Materials Chemistry A (2017 – 2018, 2020 - 2021) (6 times)
- (30) Journal of Materials Science (2012, 2014, 2016) (3 times)
- (31) Journal of Materials Science and Technology (2014)
- (32) Journal of Physical Chemistry (2013) (2 times)
- (33) Journal of Power Sources (2014)
- (34) Langmuir (2015)
- (35) Materials Letters (2012)
- (36) Materials Science in Semiconductor Processing (2013)
- (37) Materials Today (2020, 2022 - 2023) (4 times)
- (38) Microchimica Acta (2015)
- (39) NANO (2010)
- (40) Nano Energy (2014, 2015 - 2016) (4 times)

- (41) Nano Letters (2011, 2015) (6 times)
- (42) Nanoscale (2010 – 2013, 2016) (9 times)
- (43) Nanoscale Research Letters (2020)
- (44) Nanoscience and Nanotechnology Letters (2010)
- (45) Physical Chemistry Chemical Physics (2009, 2010, 2014) (7 times)
- (46) Polymer Composites (2023)
- (47) Science of Advanced Materials (2011, 2013) (2 times)
- (48) Small (2012, 2013, 2017, 2021) (4 times)
- (49) Science Advances (2021)
- (50) Solid State Sciences (2008)
- (51) Biochemical and Biophysical Journal of Neutron Therapy & Cancer Treatments (2014)

- **Proposals Review**

- (1) National Science Foundation – Solid State and Materials Chemistry Program (mail in review, April 29, 2009)
- (2) National Science Foundation – MRI (panel meeting, October 19-20, 2009)
- (3) National Science Foundation – Energy for Sustainability Program (panel meeting, January 4-5, 2010)
- (4) National Science Foundation – Solid State and Materials Chemistry Program, (panel meeting, March 29-30, 2012)
- (5) National Science Foundation – Ceramics Program (mail in review, January 2013)
- (6) National Science Foundation – Division of Materials Research (mail in review, February 2013)
- (7) National Science Foundation – Solid State and Materials Chemistry Program (teleconference panel meeting, April 9 – 10, 2014)
- (8) National Science Foundation – Ceramics Program (mail in review, February 2016)
- (9) BICI (Beijing Institute of Collaborative Innovation) case review (mail in review, June 2016)
- (10) Economic Development Assistantship sponsored by Graduate School at Louisiana State University (mail in review, November 2017)
- (11) DOE funded Center for Computationally Assisted Science and Technology (CCAST) at North Dakota State University (mail in review, December 2017)
- (12) National Science Foundation - SBIR/STTR Program (virtual panel meeting, March 12, 2019).
- (13) National Science Foundation – Electrochemical System Program/CBET Division (panel meeting, June 18, 2019).
- (14) Dutch Research Council - Vidi grant within the Innovational Research Incentives Scheme of the Domain Science (mail in review, December 19, 2019).
- (15) National Science Foundation – Advanced Manufacturing Program/CMMI Division (virtual panel meeting, February 28, 2022).

SYNERGISTIC ACTIVITIES

- (1) Supervising a middle school student for the *Science Research Mentorship (SRM) Program* at the Kenilworth Science and Technology Charter (KST) School, Baton Rouge, LA, Fall 2023.
- (2) Serving on the Faculty Research Committee in the area of Energy, College of Engineering, LSU, Spring 2023.
- (3) Participating in the LSU NSF Innovation Corps workshops, Spring 2023.
- (4) Supervising a middle school student for the *Science Research Mentorship (SRM) Program* at the Kenilworth Science and Technology Charter (KST) School, Baton Rouge, LA, Fall 2022. (*The project won the 2nd place in the School Science Fair.*)
- (5) Serving as a reviewer/interviewer of the applications for the Chevron Energy Leader Scholarship, College of Engineering, LSU, June 24, 2022.

- (6) Supervising an undergraduate student (*Henry Horist from LeTourneau University in Texas*) on research for a NSF-REU project, Summer 2022.
- (7) Chairing the Session of “Sodium Ion Batteries” in the A01 Symposium entitled “New Approaches and Advances in Electrochemical Energy Systems” at the 241st Electrochemical Society Meeting, Vancouver, Canada, May 31, 2022.
- (8) Advising a Capstone Senior Design project entitled “Corrosion Resistant Bolting in Aggressive Chemical Environments”, (Student members: Nathan T. Gaspard, Matthew Snellgrove, Matthew B. Gordon, Daniel C. Segrest), Department of Mechanical & Industrial Engineering, LSU, Fall 2021 - Spring 2022.
- (9) Supervising a middle school student for the *Science Research Mentorship (SRM) Program* at the Kenilworth Science and Technology Charter (KST) School, Baton Rouge, LA, Fall 2021.
- (10) Serving as a reviewer/interviewer of the applications for the Chevron Energy Leader Scholarship, College of Engineering, LSU, August 20, 2021.
- (11) Serving as a judge for the student presentations at the 2021 LS-PAC (Louis Stokes for Promotion of Academic Careers) Models Diversity in STEM Conference, Baton Rouge, LA, July 22, 2021.
- (12) Supervising an undergraduate student (*Hadiya Sessions from North Carolina A&T State University*) on research for a NSF-REU project, Summer 2021.
- (13) Advising a Capstone Senior Design project entitled “Instabrush”, (Student members: Benjamin Ebrahim, Alaina A. Marcomb, James Andrew Jr. Stapp), Department of Mechanical & Industrial Engineering, LSU, Fall 2020 - Spring 2021.
- (14) Invited teaching on “Nanomaterials for Energy”, School of Materials Science and Engineering, Southeast University, Nanjing, China, July 2 -6, 2018.
- (15) Participating in the LSU Graduate School’s Summer Institute on the Future of Graduate Studies, May 2018.
- (16) Supervising an undergraduate student (*Harsha Koritala from Rensselaer Polytechnic Institute*) on research for a NSF-REU project, Summer 2018.
- (17) Serving as the chair on the Materials Science and Engineering Education Committee and MSE Graduate Certificate Program, LSU, 2016 – present.
- (18) Advising a Capstone Senior Design project “A Roll-To-Roll Imprinting System for Bio-Analytic, Nanofluidic Devices”, (Student members: Xavier Allen, Matthew Cannon, John. W. Grove, Conrad Michael III Kuebel), Department of Mechanical & Industrial Engineering, LSU, Fall 2014 - Spring 2015.
- (19) Giving a talk on “Novel Nanomaterials for Advanced Energy Conversion and Storage” to high school students and the public for the *Saturday Science Series*, LSU, Baton Rouge, LA, March 21, 2015.
- (20) Participating in the CoE female undergrads mentoring, College of Engineering, LSU, spring 2015.
- (21) Serving on the search committee for hiring new faculty in the areas of composite manufacturing and computational mechanics in the MIE department, LSU, spring 2015.
- (22) Handling new equipment selection and purchase for undergraduate materials laboratory, spring 2014.
- (23) Hosting an international visitor and speaker (Prof. Mu Wang) from Nanjing University, China, March 2014.
- (24) Supervising middle school students for the *Science Research Mentorship (SRM) Program* at the Kenilworth Science and Technology Charter (KST) School, Baton Rouge, LA, fall 2013. (The project “Lithium Ion Battery Revolution” won the second place in the regional science fair and advanced to state level competition.)
- (25) Organizing and chairing the Symposium N – “Nanomaterials in the Subnanometer-Size Range” for *2013 Spring Materials Research Society (MRS) Meeting*, San Francisco, CA, April 2013.
- (26) Advising a Capstone Senior Design Project “Internal Passivation of Aluminum-Based Microchannel Heat Exchanges”, (Student members: Paul J. Hymel, Michael G. Reich, Charles Bourgeois, Kelly Clement), Department of Mechanical & Industrial Engineering, LSU, Fall 2012 – Spring 2013.

- (27) Supervising a middle school student on a lithium-ion battery project for the *Science Research Project Initiative Program (SRPIP)* at the Kenilworth Science and Technology Charter (KST) School, Baton Rouge, LA, November 2012 (The project won the first place in the school system science fair).
- (28) Serving on the ME departmental Graduate Study Committee, LSU, 2012 – present.
- (29) Track Co-Chair of the session - “Energy Generation and Storage Technologies”, the IEEE Green Technologies Conference, Baton Rouge, LA, April 14-15, 2011.
- (30) Chair of the session - “Nanoparticles and Nanostructured Materials for Energy Applications”, *the 241st National American Chemical Society Conference*, Anaheim, CA, March 28, 2011.
- (31) Serving as the ME departmental seminar coordinator, LSU, 2009 - 2011.
- (32) *Iberville Science Fair* Judge, Iberville Parish School System, Plaquemine, LA, February 2009.
- (33) Chair of the *Nanomaterials Symposium* on the *4th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems*, Shenzhen, China, January 2009.
- (34) Supervising a high school teacher (from Wells High School, Chicago) in the *Research Experience for Teachers (RET)* program, Northwestern University, Evanston, IL, summer 2006.
- (35) Serving on the *Graduate Student Committee for Faculty Search*, University of Washington, 2005 -2006.
- (36) Serving on the *Graduate Student Committee for Department Seminars*, University of Washington, 2005 - 2006.
- (37) Supervising a team of three undergraduate students in the *UW Subject Area Programs for Groups*, University of Washington, Seattle, WA, summer 2004.

GRADUATE COMMITTEES (CHAIR OR MEMBER)

- (1) Chuan Cai (Master in Department of Mechanical & Industrial Engineering, graduated in May 2011), Chair.
- (2) Dongsheng Guan (Ph.D. in Department of Mechanical & Industrial Engineering, graduated in December 2012), Chair.
- (3) Xinning Luan (Ph.D. in Department of Mechanical & Industrial Engineering, graduated in August 2014), Chair.
- (4) Jianqing Zhao (Ph.D. in Department of Mechanical & Industrial Engineering, graduated in December 2014), Chair.
- (5) Hilary Eikhuemelo (Master in Department of Mechanical & Industrial Engineering, graduated in December 2014), Chair.
- (6) Andrew Xie (Ph.D. in Department of Mechanical & Industrial Engineering), Chair.
- (7) Wangwang Xu (Ph.D. in Department of Mechanical & Industrial Engineering), Chair.
- (8) Jianwei Lai (Master in Department of Mechanical & Industrial Engineering), Chair.
- (9) Shelton Kuchena (Ph.D. in Engineering Science), Chair.
- (10) Abhishek Paudel (Ph.D. in Mechanical Engineering), Chair.
- (11) Kai Xia (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (12) Jieqiong Lin (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (13) Fareed B Dawan (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (14) Atiya Jordan (Ph.D. in Department of Chemistry), Member.
- (15) Xiaoling Tan (Ph.D. in Department of Civil and Environmental Engineering), Member.
- (16) Bahador Farshchian (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (17) Rohit Pant (Ph.D. in Department of Civil and Environmental Engineering), Member.
- (18) Fenghong Fan (Ph.D. in Department of Civil and Environmental Engineering), Member.
- (19) Junseo Choi (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (20) Quentin Yougoubare (M. E. in Department of Mechanical & Industrial Engineering), Member.
- (21) Mandeep Sharma Yougoubare (M. E. in Department of Mechanical & Industrial Engineering), Member.
- (22) Emmanuel Gikunoo (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (23) Khurshida Sharmin (Ph.D. in Department of Mechanical & Industrial Engineering), Member.

- (24) Folly Teko (Non-thesis M.E. in Department of Mechanical & Industrial Engineering), Member.
- (25) Fariborz Tavangarian (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (26) Qianxi Yang (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (27) Jianren Zhou (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (28) Haihui Zhu (M.E. in Department of Civil & Environmental Engineering), Member.
- (29) Saurin H. Rawal (Ph.D. in Department of Chemical Engineering), Member.
- (30) Tochukwu Ofoegbuna (Ph.D. in Department of Chemical Engineering), Member.
- (31) Ardalan Chaichi (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (32) Md I Islam (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (33) Xiaoman Zhang (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (34) Syed M. Hasan, (Ph.D. in Department of Mechanical & Industrial Engineering), Member.
- (35) Mohammad Shayan, (Ph.D. in School of Renewable Natural Resources), Member.

RESEARCH SPONSORS

Burroughs Wellcome Fund, BP, Chevron Corporation, Louisiana Space Consortium (La-SPACE), Louisiana Board of Regents (LABOR), NSF, NASA, LSU Graduate School, etc.