



Chunlei Wang

Professor of Mechanical and Materials Engineering
Mechanical and Materials Engineering, Florida International University
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Education:

- Ph.D. Condensed Matter Physics, Jilin University, P.R. China, 1997
Advisors: Prof. Guangtian Zou, Jilin University; Prof. Akio Hiraki, Osaka University
- M.S. Solid State Physics, Jilin University, 1993
- B.S. Solid State Physics, Jilin University, 1990

Experience:

1. Florida International University

- Professor, Department of Mechanical and Materials Engineering, Advanced Materials Engineering Research Institute, Center for Study of Matter at Extreme Conditions, 2016-present
- Affiliated faculty member, Department of Electrical and Computer Engineering
- Affiliated faculty member, Center for Women and Gender studies, 2015-present
- Interim Director, Advanced Materials Engineering Research Institute (AMERI), 2014
- Guest Scientist, Max Planck Institute for Solid State Research (sabbatical leave), 2012-2013
- Consultant (sabbatical leave), Intel Corporation, Santa Clara, CA, 2012
- Associate Professor (Tenured), Mechanical and Materials Engineering, 2010-2016
- Assistant Professor (Tenure-track), Mechanical and Materials Engineering, 2006-2010

2. University of California, Irvine

- Postdoctoral Researcher, Assistant Specialist, Assistant Researcher, Mechanical and Aerospace Engineering, 2003-2006

- Co-founder and consultant, Carbon Microbattery Company (name changed to: Enevate Corp), Irvine, CA, 2005
 - Postdoctoral Researcher, Electrical and Computer Engineering, 2001-2003
3. Osaka University, Japan
- Research Associate, Electrical Engineering, 1998-2001
 - Research Assistant, Department of Electrical Engineering, 1995-1997
4. Jilin University, P.R. China
- Lecturer, National Key Laboratory of Superhard Materials, 1995-2001

Selected Awards and Honors

- Max Plank Institute Guest Scientist Fellowship, 2012-2013
- FIU faculty award: Excellence in Research and Creative Activities, 2013
- FIU Kauffman Professor Award, 2009
- DARPA Young Faculty Award, 2008
- Japanese Government (MONBUSHO) Scholarship, 1995-1997

Professional Affiliations

SPIE, ECS, MRS

Research Interests

Wang group at FIU focuses on the development of micro and nanofabrication methods for building novel micro and nanostructures and synthesizing nanomaterials that have unique structures and useful properties for energy and biological applications.

Exemplary Publications

(11 book chapters, 130 peer reviewed journal papers, 44 proceedings, 274 presentations including 54 invited talks, 10 patents and 34 disclosures)

Richa Agrawal and Chunlei Wang, On-chip hybrid microsupercapacitors based on manganese oxide and reduced graphene oxide with high energy-power trade-off. *Micromachines*, 9(8) (2018) 399 (1-14)

Ebenezer Adelowo, Amin Rabiei Baboukani, Chunhui Chen, Chunlei Wang, Electrostatically sprayed reduced graphene oxide-carbon nanotubes electrodes for lithium-ion capacitors, *C*, 2017, 3, 31; 10.3390/c4020031

Ingrid Torres, Sadegh Mehdi Aghaei, Amin Rabiei Baboukani, Chunlei Wang, Shekhar Bhansali, Individual Gas Molecules Detection Using Zinc Oxide-Graphene Hybrid Nanosensor: A DFT Study, *Journal C*, 4 (2018) 0044 (1-15)

Paniz Foroughi, Amin Rabiei Baboukani, Alexander Franco Hernandez, Chunlei Wang, Zhe Cheng, Phase Control during Synthesis of Nanocrystalline Ultrahigh Temperature Tantalum-Hafnium Diboride Powders, *Journal of the American Ceramic Society*, 2018, DOI: 10.1111/jace.15783

Jujun Yuan; Yong Hao; Chunhui Chen; Xianke Zhang; Chunlei Wang; Xifei Li; Qunjun Li; Guoyang Zhong; Yingmao Xie, Synthesis of CoMn₂O₄ thin films on Ni foams by electrostatic spray deposition as anodes for sodium-ion batteries, *Journal of Materials Science: Materials in Electronics*, <https://doi.org/10.1007/s10854-018-9232-8>

- Jinshan Lu, Yingde Li, Chuanming Zou, Zhiyong Liu, Chunlei Wang, Effect of sintering additives on the densification, crystallization and flexural strength of sintered glass-ceramics from waste granite powder, *Materials Chemistry and Physics*, 10.1016/j.matchemphys.2018.02.010
- Jinshan Lu, Xinquan Cong, Yingde Li, Yong Hao, Chunlei Wang, Scalable recycling of oyster shells into high purity calcite powders by the mechanochemical and hydrothermal treatments, *Journal of Cleaner Production*, 172 (2018) 1978-1985
- Meer Safa, Yong Hao, Amir Chamaani, Ebenezer Adelowo, Neha Chawla, Chunlei Wang, Bilal El-Zahab, Capacity Fading Mechanism in Lithium-Sulfur Battery using Poly(Ionic Liquid) Gel Electrolyte, *Electrochimica Acta*, 258 (2017) 1284-1292
- Yong Hao, Xifei Li, Xueliang Sun, and Chunlei Wang, Nitrogen-Doped Graphene Nanosheets/S Composites as Cathode in Room-Temperature Sodium-Sulfur Batteries, *ChemistrySelect*, 2 (2017) 9425-9432, DOI: 10.1002/slct.201701951
- Christopher S. Choi, Jonathan Lau, Janet Hur, Leland Smith, Chunlei Wang, and Bruce Dunn, Synthesis and Properties of a Photopatternable Lithium-Ion Conducting Solid Electrolyte, *Advanced Materials*, 30 (2018) 1703772 (1-6), 10.1002/adma.201703772
- Richa Agrawal, Ebenezer Adelowo, Amin Rabiei Baboukani, Michael Franc Villegas, Alexandra Henriques and Chunlei Wang, Electrostatic Spray Deposition-Based Manganese Oxide Films—From Pseudocapacitive Charge Storage Materials to Three-Dimensional Microelectrode Integrands, *Nanomaterials*, 7 (2017) 198, 1-12
- Jujun Yuan, Chunhui Chen, Yong Hao, Xianke Zhang, Richa Agrawal, Chunlei Wang, Xifei Li, Youchen Hao, Bingbing Liu, Qunjun Li, and Yingmao Xie, Three-dimensionally porous CoMn_2O_4 thin films grown on Ni foams for highperformance lithium-ion battery anodes, *J Mater Sci* 52 (2017) 5751–5758
- Jujun Yuan, Chunhui Chen, Yong Hao, Xianke Zhang, Shiyong Gao, Richa Agrawal, Chunlei Wang, Zuzhou Xiong, Huajun Yu, Yingmao Xie, A facile synthetic strategy to three-dimensional porous ZnCo_2O_4 thin films on Ni foams for high-performance lithium-ion battery anodes, *Journal of Electroanalytical Chemistry* 787 (2017) 158–162
- Richa Agrawal, Chunhui Chen, Samantha Dages, and Chunlei Wang, A High Energy 3V Lithium-Ion Capacitor Synthesized via Electrostatic Spray Deposition, *Adv. Mater. Lett.* 8(7) (2017) 783-790, DOI: 10.5185/amlett.2016.7098
- Yin Song and Chunlei Wang, Modeling and Experimental Study of Micro Enzymatic Biofuel Cells, *ECS Transactions*, 72(1) (2016) 61-68
- Chunhui Chen, Perdomo Pedro J., Melisa Fernandez, Andres Barbeito and Chunlei Wang, Porous NiO/graphene composite thin films as high performance anodes for lithium-ion batteries, *Journal of Energy Storage*, 8(2016)198-204, 10.1016/j.est.2016.08.008
- Pranjal Nautiyal, Archana Loganathan, Richa Agrawal, Benjamin Boesl, Chunlei Wang, Arvind Agarwal, Oxidative Unzipping and Transformation of High Aspect Ratio Boron Nitride Nanotubes into “White Graphene Oxide” Platelets, *Scientific Reports*, 6 (2016) 29498:1-8, doi:10.1038/srep29498
- Yong Hao, Chunhui Chen, Xinyi Yang, Chunhui Chen, Bo Zou and Chunlei Wang, Phase dependent electrochemical performance of MnS in Lithium ion battery application, *Journal of Power Sources*, 338 (2017) 9-16

- Yong Hao, Xifei Li, Xueliang Sun, and Chunlei Wang, Nitrogen-doped graphene nanosheets/sulfur composite as lithium-sulfur batteries cathode, *Materials Science and Engineering B*, 213(2016)83–89, doi:10.1016/j.mseb.2016.04.009
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- Chowdhury Al-Amin, Phani Kiran Vabbina, Mustafa Karabiyik, Raju Sinha, Chunlei Wang, Nezhil Pala, Bandgap engineering of single layer graphene by randomly distributed nanoparticles, *J Mater Sci: Mater Electron*, 27 (2016) 7454–7459, DOI 10.1007/s10854-016-4722-z
- Chunhui Chen, Richa Agrawal and Chunlei Wang, High Performance Li₄Ti₅O₁₂/Si Composite Anodes for Li-Ion Batteries, *Nanomaterials*, 5 (2015) 1469-1480 (invited paper)
- Varun Penmatsa, Ruslinda A. Rahim, Hiroshi Kawarada and Chunlei Wang, Functionalized carbon microarrays platform for high sensitive detection of HIV-Tat peptide, *RSC Advance*, 5 (2015) 65042-65047
- Yin Song, Chunhui Chen, Chunlei Wang, Graphene/enzyme-encrusted three-dimensional carbon micropillar arrays for mediatorless micro-biofuel cells, *Nanoscale*, 7 (2015) 7084-7090 (invited paper)
- Lijun Fu, Kepeng Song, Xifei Li, Peter A. van Aken, Chunlei Wang, Joachim Maier and Yan Yu, Direct Evidence of Conversion Mechanism in NiSnO₃ Anode for Lithium Ion Battery Application, *RSC Advances*, 4 (2014) 36301-36306.
- Yin Song, Varun Penmatsa and Chunlei Wang, Modeling and Simulation of Enzymatic Biofuel Cells with Three-Dimensional Microelectrodes, *Energies*, 7 (2014) 4694-4709.
- Chunhui Chen, Richa Agrawal, Yong Hao and Chunlei Wang, Activated Carbon Nanofibers as High Capacity Anodes for Lithium-Ion Batteries, *ECS Journal of Solid State Science and Technology*, 2 (2013) M3074-M3077.
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- Varun Penmatsa, Hiroshi Kawarada, Chunlei Wang, Fabrication of Carbon Nanostructures using Photo-Nanoimprint Lithography and Pyrolysis, *Journal of Micromechanics and Microengineering*, 22 (2012) 045024-045032.
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- Xifei Li, Abirami Dhanabalan, Xiangbo Meng, Lin Gu, Xueliang Sun, and Chunlei Wang, Fractal Nano-Porous SiO₂ Films Fabricated by Sol-Gel Assisted Electrostatic Spray Deposition, *Microporous & Mesoporous Materials*, 151 (2012) 488-494.
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- Chunlei Wang and Toshimichi Ito, Fabrication of Ohmic Contacts to Buried Diamond Layers Using Pt Layer in The Diamond Chemical-Vapor-Deposition Process, *Applied Physics Letters*, , 75 (1999) 1920-1922
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