



Department: School of materials science and engineering

Professional field: Materials Science and Engineering

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Profile

Qilin Cheng is currently a professor and supervisor of Ph.D. candidates of School of Materials Science and Engineering at East China University of Science and Technology (ECUST). He received his Ph.D. from ECUST in 2006, and served at the Faculty of Technology, Tomas Bata University in Zlin, Czech Republic between 2004 and 2009. His research is focused on the understanding of basic principles that control structural and electromagnetic properties of functional nanomaterials, as well as electrochemical behavior and practical applications of advanced energy materials in energy storage and conversion systems such as supercapacitors, Li-ion batteries and Li-ion capacitors.

Research Field

1. Design, structural control and electrochemical properties of energy storage materials.
2. Synthesis and applications of inorganic/organic composites.
3. Synthesis and responsive characteristics of nanomaterials under electric/magnetic fields.

Research results and selected published papers

1. Yan Liu, Wenqiang Wan, Jin Chen, Xingwei Li, Qilin Cheng, Gengchao Wang, Fabrication of porous lithium titanate self-supporting anode for high performance lithium-ion capacitor. *Journal of Energy Chemistry* 50 (2020) 344-350.
2. Chunmei Zhu, Ying He, Yijun Liu, Natalia Kazantseva, Petr Saha, Qilin Cheng, ZnO@MOF@PANI core-shell nanoarrays on carbon cloth for high-performance supercapacitor electrodes. *Journal of Energy Chemistry* 35 (2019) 124-131.
3. Chenting Xue, Ying He, Yijun Liu, Petr Saha, Qilin Cheng, Controlled synthesis of alkalized Ti3C2 MXene-supported -FeOOH nanoparticles as anodes for lithium-ion batteries. *Ionics* 25 (2019) 3069-3077.
4. Hongwei Qiao, Shuang Yang, Yun Wang, Xiao Chen, Tianyu Wen, Lijuan Tang, Qilin Cheng, Yu Hou, Huijun Zhao, Huagui Yang, A gradient heterostructure based on tolerance factor in high-performance perovskite solar cells with 0.84 Fill Factor. *Advanced Materials* 31 (2019) 1804217.
5. Xi Wang, Chongyang Wang, Jie Jin, Xingwei Li, Qilin Cheng, Gengchao Wang, High-performance stretchable supercapacitors based on intrinsically stretchable acrylate rubber/MWCNTs@conductive polymer composite electrodes. *Journal of Materials Chemistry A* 6 (2018) 4432-4442.
6. Haiyan Wang, Hao Jiang, Yanjie Hu, Petr Saha, Qilin Cheng, Chunzhong Li, Interface-engineered MoS2/C nanosheet heterostructure arrays for ultra-stable sodium-ion batteries. *Chemical Engineering Science* 174 (2017) 104-111.
7. Chongyang Yang, Minqiang Sun, Gengchao Wang, Qilin Cheng, Hua Bao, Xingwei Li, Nabanita Saha, Petr Saha, High energy-density organic supercapacitors based on optimum matching between GNS/aMWCNT@polyaniline nanocone arrays cathode and GNS/aMWCNT@poly (1,5-diaminoanthraquinone) nanoparticles anode. *Chemical Engineering Journal* 326 (2017) 9-16.
8. Kun Ma, Xue Liu, Qilin Cheng, Petr Saha, Hao Jiang, Chunzhong Li, Flexible textile electrode with high areal capacity from hierarchical V2O5 nanosheet arrays. *Journal of Power Sources* 357 (2017) 71-76.
9. Huailong Li, Lixue Jiang, Qilin Cheng, Ying He, Vladimir Pavlinek, Petr Saha, Chunzhong Li, MnO2 nanoflakes/hierarchical porous carbon nanocomposites for high-performance supercapacitor electrodes. *Electrochimica Acta* 164 (2015) 252-259.
10. Huailong Li, Ying He, Vladimir Pavlinek, Qilin Cheng, Petr Saha, Chunzhong Li, MnO2 nanoflake/polyaniline nanorod hybrid nanostructures on graphene paper for high-performance flexible supercapacitor electrodes. *Journal of Materials Chemistry A* 3 (2015) 17165-17171.