

蔡以兵 博士 教授

1. 个人简介



蔡以兵，2007 年获中国科学技术大学工学博士学位，教授，硕士生导师。现任江南大学科学技术研究院副院长兼保密办公室副主任、军工科技办公室主任。2012.07-2012.12 和 2010.11-2011.04 期间两次在美国南达科他州矿业与技术学院（South Dakota School of Mines and Technology）化学与应用生物科学系从事高级访问学者的研究工作（美方全额资助）。入选

2016 年度江苏高校“青蓝工程”优秀青年骨干教师和 2015 年度江苏省“双创计划”人才（双创博士），连续 3 年（2015~2013 年度）入选江南大学“至善青年学者”支持计划。获 2016 年度高等学校科学研究优秀成果奖自然科学奖二等奖，2014 年度中国商业联合会科学技术奖一等奖，2016 年度宿迁市科学技术奖一等奖，2015 年度江苏省研究生培养模式改革成果一等奖，2015 年度中国纺织工业联合会教学成果一等奖；获 2013 年度江南大学优秀班主任、2011 年度江苏省无锡市科技创新工作先进个人、2016 年江苏省优秀硕士学位论文指导教师、2015 年江苏省普通高校本专科优秀毕业设计（论文）二等奖指导教师、2015 年和 2010 年江南大学优秀本科毕业论文指导教师等荣誉。2016 年 05 月起担任国家自然科学基金委项目评审专家，国际期刊 Nanoscience and Nanometrology、Journal of Nanomaterials（SCI index, 2016 Impact Factor: 1.871）和 The Scientific World Journal 的 Editorial Board Member（编委会成员），2012 年 08 月起担任浙江省自然科学基金委员会评议专家。长期担任"The Journal of Physical Chemistry"、"Industrial & Engineering Chemistry Research"、"Journal of Chemical & Engineering Data"、"RSC Advances"、"Applied Energy"、"Energy"、"Composite Science and Technology"、"Chemical Engineering Journal"、"Journal of Materials Science"、"Renewable Energy"、"Energy Conversion and Management"、"Applied Thermal Engineering"、"Energy and Buildings"、"Polymer Degradation and Stability"、"Renewables: Wind, Water, and Solar"、"Journal of Applied Polymer Science"、"Polymer International"、"Polymer Composites"、"Fibers and Polymers"、"Journal of Materiomics"、"Journal of Thermal Analysis and Calorimetry"、"Journal of Nanoscience and Nanotechnology"、"The Scientific World Journal" 和 "Journal of Nanomaterials" 等国际学术期刊资深审稿人。

主要从事热能存储材料、电纺纳米纤维、纤维材料的多功能化和高性能化等方面研究，在 Applied Energy、Solar Energy Materials and Solar Cells、Solar Energy、Renewable Energy、Energy Conversion and Management、Polymer Degradation and Stability、Materials Letters、Journal of Materials Science、ACS Applied Materials & Interfaces 和 RSC Advances 等知名国际期刊上共发表 SCI 收录学术论文 97 篇，其中**第一作者和通讯作者 47 篇（含工程技术 1 区 8**

篇、工程技术和化学 2 区 13 篇，其中 Top Journal 15 篇)。参编《Functional Nanofibers and Their Applications》(Woodhead 出版社, 2012)、《Surface Modification of Textiles》(Woodhead 出版社, 2009)、国家“十一五”规划教材《纤维材料改性》(中国纺织出版社, 2009)和《火灾化学导论》(化学工业出版社, 2007)等教材 4 部; 申请国家发明专利 18 件。主持和参与国家自然科学基金青年基金 (No. 51006046)、中国博士后科学基金特别资助项目 (No. 2015T80496)、中国博士后科学基金面上项目 (No. 2014M560391)、江苏高校“青蓝工程”优秀青年骨干教师培养对象资助项目 (No. 2016 [15])、江苏省“双创计划”人才项目 (No. 2015 [26])、江苏省自然科学基金面上项目 (No. BK2010140)、高等学校博士学科点专项科研基金 (No. 200802951011)、中央高校基本科研业务费专项资金资助项目 (No. JUSRP51621A)、国家高技术研究发展 (863) 计划专项 (No. 2012AA030313)、教育部长江学者和创新团队发展计划 (No. IRT1135)、国家自然科学基金 (No. 51203064 和 No.21201083)、新世纪优秀人才计划 (No. NCET-06-0485) 和江苏省产学研联合创新基金 (No.BY2012068 和 No. BY2014023-04) 等国家级 (或省部级) 项目。

2. 研究生教育

硕士生

学术型研究生招生专业:

①纺织材料与纺织品设计

研究方向: 热能存储材料、电纺纳米纤维、纤维材料的多功能化和高性能化

②纺织工程

研究方向: 功能纺织材料、纺织材料表面功能化

专业学位研究生招生专业:

纺织工程

研究方向: 功能纺织材料、纤维复合材料

3. 联系方式

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4. 著作和近期发表的代表性学术论文

- **Yibing Cai**, Qufu Wei and Fenglin Huang. In *Functional Nanofibers and Their Applications: Part I Types and Processing*, Chapter 3, Processing of Composite Functional Nanofibers, Qufu Wei, Editor, Woodhead Publishing Limited (ISBN: 978-0-85709-069-0), 2012, pp. 38-54.
- Fenglin Huang, Qufu Wei and **Yibing Cai**. In *Functional Nanofibers and Their Applications: Part I Types and Processing*, Chapter 6, Surface functionalization of polymer nanofibers, Qufu Wei, Editor, Woodhead Publishing Limited (ISBN: 978-0-85709-069-0), 2012, pp. 92-118.

- Qufu Wei, Fenglin Huang and **Yibing Cai**. In Surface Modification of Textiles: Chapter 2, Textile Surface Characterization Methods, Qufu Wei, Editor, Woodhead Publishing Limited (ISBN: 978-1-84569-419-8), 2009, pp. 26-57.
- 蔡以兵、魏取福. 国家“十一五”规划教材《纤维材料改性》(第七章 第二节: 阻燃性能改性), 陈衍夏、兰建武 主编, 中国纺织出版社 (ISBN: 978-7-5064-5819-1), 2009, pp. 164-173.
- Jin Zhang, **Yibing Cai***, Xuebin Hou, Xiaofei Song, Pengfei Lv, Huimin Zhou, Qufu Wei*. Fabrication of hierarchically porous TiO₂ nanofibers by microemulsion electrospinning and their application as anode material for lithium-ion batteries. *Beilstein Journal of Nanotechnology*, 2017, 8, 1297-1306. (IF=3.127, 工程技术 2 区)
- Xue Zong, **Yibing Cai***, Guiyan Sun, Yong Zhao, Fenglin Huang, Lei Song, Yuan Hu, Hao Fong, Qufu Wei**. Fabrication and characterization of electrospun SiO₂ nanofibers absorbed with fatty acid eutectics for thermal energy storage/retrieval. *Solar Energy Materials & Solar Cells*, 2015, 132, 183-190. (IF=4.784, 工程技术 1 区, Top Journal)
- **Yibing Cai**, Mengmeng Liu, Xiaofei Song, Jin Zhang, Qufu Wei*, Lifeng Zhang**. A form-stable phase change material made with a cellulose acetate nanofibrous mat from bicomponent electrospinning and incorporated capric-myristic-stearic acid ternary eutectic mixture for thermal energy storage/retrieval. *RSC Advances*, 2015, 5, 84245-84251. (IF=3.108, 化学 2 区)
- **Yibing Cai***, Guiyan Sun, Mengmeng Liu, Jin Zhang, Qingqing Wang, Qufu Wei**. Fabrication and characterization of capric-lauric-palmitic acid/electrospun SiO₂ nanofibers composite as form-stable phase change material for thermal energy storage/retrieval. *Solar Energy*, 2015, 118, 87-95. (IF=4.018, 工程技术 2 区)
- **Yibing Cai***, Xue Zong, Jingjing Zhang, Yiyuan Hu, Qufu Wei, Guangfei He, Xiaoxu Wang, Yong Zhao, Hao Fong**. Electrospun nanofibrous mats absorbed with fatty acid eutectics as an innovative type of form-stable phase change materials for storage and retrieval of thermal energy. *Solar Energy Materials & Solar Cells*, 2013, 109, 160-168. (IF=4.784, 工程技术 1 区, Top Journal)
- Huizhen Ke, **Yibing Cai***, Qufu Wei, Yao Xiao, Ju Dong, Yuan Hu, Lei Song, Guangfei He, Yong Zhao, Hao Fong**. Electrospun ultrafine composite fibers of binary fatty acid eutectics and polyethylene terephthalate as innovative form-stable phase change materials for storage and retrieval of thermal energy. *International Journal of Energy Research*, 2013, 37(6), 657-664. (IF=2.598, 工程技术 2 区, Top Journal)
- **Yibing Cai***, Chuntao Gao, Ting Zhang, Zhen Zhang, Qufu Wei, Jinmei Du, Yuan Hu, Lei Song**. Influences of expanded graphite on structural morphology and thermal performance of composite phase change materials consisting of fatty acid eutectics and electrospun PA6 nanofibrous mats. *Renewable Energy*, 2013, 57, 163-170. (IF=4.357, 工程技术 2 区)
- Guangfei He, **Yibing Cai***, Yong Zhao, Xiaoxu Wang, Chuilin Lai, Min Xi, Zhengtao Zhu, Hao Fong**. Electrospun anatase-phase TiO₂ nanofibers with different morphological structures and specific surface areas. *Journal of Colloid and Interface Science*, 2013, 398, 103-111 (IF=4.233, 化学 2 区)
- **Yibing Cai***, Chuntao Gao, Xiaolin Xu, Zhen Fu, Xiuzhu Fei, Yong Zhao, Qi Chen, Xinzhu Liu, Qufu Wei, Guangfei He, Hao Fong**. Electrospun ultrafine composite fibers consisting of lauric acid and polyamide 6 as form-stable phase change materials for storage and retrieval

of solar thermal energy. *Solar Energy Materials & Solar Cells*, 2012, 103, 53-61. (IF=4.784, 工程技术 1 区, Top Journal)

- **Yibing Cai***, Huizhen Ke, Liang Lin, Xiuzhu Fei, Qufu Wei, Lei Song, Yuan Hu, Hao Fong**. Preparation, morphology and thermal properties of electrospun fatty acid eutectics/polyethylene terephthalate form-stable phase change ultrafine composite fibers for thermal energy storage. *Energy Conversion and Management*, 2012, 64, 245-255. (IF=5.589, 工程技术 1 区, Top Journal)
- **Yibing Cai***, Xiaolin Xu, Chuntao Gao, Tianyu Bian, Hui Qiao, Qufu Wei**. Structural morphology and thermal performance of composite phase change materials consisting of capric acid series fatty acid eutectics and electrospun polyamide6 nanofibers for thermal energy storage. *Materials Letters*, 2012, 89, 43-46. (IF=2.572, 工程技术 2 区, Top Journal)
- **Yibing Cai**, Huizhen Ke, Ju Dong, Qufu Wei*, Jiulong Lin, Yong Zhao, Lei Song, Yuan Hu, Fenglin Huang*, Weidong Gao, Hao Fong. Effects of nano-SiO₂ on morphology, thermal energy storage, thermal stability and combustion properties of electrospun lauric acid/PET ultrafine composite fibers as form-stable phase change materials. *Applied Energy*, 2011, 88(6), 2106-2112. (IF=7.182, 工程技术 1 区, Top Journal)
- **Yibing Cai***, Qufu Wei, Fenglin Huang, Shiliang Lin, Fang Chen, Weidong Gao. Thermal stability, latent heat and flame retardant properties of the thermal energy storage phase change materials based on paraffin/high density polyethylene composites. *Renewable Energy*, 2009, 34(10), 2117-2123. (IF=4.357, 工程技术 2 区)
- **Yibing Cai***, Qufu Wei, Fenglin Huang, Weidong Gao. Preparation and properties studies of halogen-free flame retardant form-stable phase change materials based on paraffin/high density polyethylene composites. *Applied Energy*, 2008, 85(8), 765-775. (IF=7.182, 工程技术 1 区, Top Journal)
- **Yibing Cai**, Fenglin Huang, Qufu Wei*, Enci Wu, Weidong Gao. Surface functionalization, morphology and thermal properties of polyamide6/O-MMT composite nanofibers by Fe₂O₃ sputter coating. *Applied Surface Science*, 2008, 254(17), 5501-5505 (IF=3.387, 工程技术 2 区, Top Journal)
- **Yibing Cai**, Qi Li, Qufu Wei*, Yibang Wu, Lei Song, Yuan Hu. Structures, thermal stability, and crystalline properties of polyamide6/organic-modified Fe-montmorillonite composite nanofibers by electrospinning. *Journal of Materials Science*, 2008, 43(18), 6132-6138 (IF=2.599, 工程技术 2 区, Top Journal)