Yao Wang Ph.D.

Associate Professor

School of Materials Science and Engineering

Beihang University, China

Website: http://shi.buaa.edu.cn/wangyao1/zh_CN/index.htm

Education:

2004/9-2009/7, Ph.D., Tsinghua University, Materials Science and Engineering

2000/9-2004/7, B.S., National University of Defense and Technology, Materials Science and Engineering

Professional Experience:

2016/6-present, *Associate Professor*, Beihang University, School of Materials Science and Engineering, Beijing Advanced Innovation Center for Biomedical Engineering

2012/1-2016/6, *Lecturer*, Beihang University, School of Materials Science and Engineering.

2013/7-2014/7, *Visiting Scholar*, University of Houston, Department of Mechanical Engineering, Host: Prof. Li Sun, Prof. Chonglin Chen

2009/7-2011/12, *Lecturer*, Beihang University, School of Chemistry

Research Interest:

- Polymer-based nanocomposites designed for high-performance thermoelectric, dielectric, ferroelectric and optoelectronic materials.
- Multifunctional sensors for E-skin applications.
- High power density capacitors.

Academic Activities:

- 93 SCI-indexed papers with *h*-index 29, published on journals such as: *Adv. Energy Mater.*, *J. Mater. Chem. A*, *Chem. Eng. J. Compos. Sci. Technol.*
- 9 Invited talks on international and domestic conferences
- 2 Authorized patents.
- Funded Projects:
  (1) Principal Investigator of National Natural Science Foundation of China, Grant No. 51872009, 51002006
  (2) Principal Investigator of Fundamental Research Funds for the Central Universities, from 2012/9
  (3) Co-PI of Major Research Plan, National Natural Science Foundation of China, Grant No. 92066203.
  (4) Major Participant of National Key Research and Development Program of China, Grant No. 2018YFA0702100, 2018YFB0703600
  (5) Major Participant of Beijing Nova Programme Interdisciplinary Cooperation Project

Community Service:

- *Serving as reviewer in the field of Energy and Functional Materials*
  (1) Totally **34** scores have been submitted for *J. Mater. Chem. A* from 2018; **64** scores submitted for *J. Mater. Chem. C* from 2016. Awarded "*Outstanding Reviewer for Journal of Materials Chemistry C*" in 2017.

(2) Serve as reviewer for many other journals, such as *Energy & Environmental Science*, *Chemical Engineering Journal*, *Composites Science and Technology*, *ACS Applied Materials & Interfaces*, *Advanced Materials Technologies* and so on. Awarded "*Publons Peer Review Awards*" (top 1% in Materials Science), 2018

- *Editorial activities*
  Editorial assistant, *Acta Materialia*, *Scripta Materialia*, 2019/1-
  Editor Board, *Materials Engineering*, *Journal of Aeronautical Materials* 2020/1-

Awards:

- Top-notch youth talent plan of Beihang University, from 2017
- Outstanding Reviewer for Journal of Materials Chemistry C, 2017.
- Publons Peer Review Awards (top 1% in Materials Science), 2018

Representative Publications:

[1] Pengcheng Zhu, Chuanqian Shi, Yalong Wang, Yaling Wang, Yuedong Yu, **Yao Wang***, Yuan Deng*, Jianliang Xiao*, Recyclable, healable and stretchable high-power thermoelectric generator, ***Adv. Energy Mater.*** 2021, 202100920.

[2] Chen Huang, Lingyu Zhang, Song Liu, **Yao Wang***, Nü Wang, Yuan Deng*, Double enhanced energy storage density via polarization gradient design in ferroelectric poly(vinylidene fluoride)-based nanocomposites, ***Chem. Eng. J.*** 411 (2021) 128585.

[3] Yalong Wang, Meiyu Xu, Fengyuan Zhang, **Yao Wang***, Lingyu Zhang, Qiang Zhang, Yuan Deng*, Design on orientation of one-dimensional ZnO/P(VDF-HFP) nanocomposites for significant enhanced electromechanical conversion, ***Compos. Sci. Technol.*** 204 (2021) 108635

[4] Pengcheng Zhu, Yalong Wang, **Yao Wang**,* Hongye Mao, Qiang Zhang, and Yuan Deng*, Flexible 3D Architectured Piezo/Thermoelectric Bimodal Tactile Sensor Array for E-Skin Application ***Adv. Energy Mater.*** 2020, 2001945.

[5] Yalong Wang, Hongye Mao, **Yao Wang***, Pengcheng Zhu, Chenghao Liu, Yuan Deng*, 3D geometry structured PANI/CNTs decorated polydimethylsiloxane active pressure and temperature dual-parameter sensor for man-machine interaction application, ***J. Mater. Chem. A***, 2020, 8, 15167.

[6] Wentian Wei, Chen Huang, Lingyu Zhang, **Yao Wang***, Meiyu Xu, Yuan Deng*, Design on polarization distribution in all-organic polymer hybrids for high density energy storage, ***Chem. Eng. J.*** 394 (2020) 125052.

[7] Chen Huang, **Yao Wang***, Ziwei Cheng, Yu Wu, Jiaxin Li, Yuan Deng*, Dielectric Screening Enabled Ultrastable Luminescence in $CsPbBr_3$ Perovskite Crystal Encapsulated by Ferroelectric Poly(vinylidene fluoride), ***Chem. Eng. J.*** 401 (2020) 126120.

[8] Ming Sheng, **Yao Wang***, Chenghao Liu, Yu Xiao, Pengcheng Zhu, Yuan Deng*, Significantly enhanced thermoelectric performance in SWCNT films via carrier tuning for high power generation, ***Carbon*** 158 (2020) 802-807.

[9] **Yao Wang***, Guifen Liu, Ming Sheng, Chao Yu, Yuan Deng* Flexible thermopower generation over broad temperature range by PANI/nanorod hybrid-based p–n couples, ***J. Mater. Chem. A***, 2019, 7, 1718.

[10] Pengcheng Zhu, **Yao Wang***, Ming Sheng, Yaling Wang, Yuedong Yu, Yuan Deng* A flexible active dual-parameter sensor for sensitive temperature and physiological signal monitoring via integrating thermoelectric and piezoelectric conversion, ***J. Mater. Chem. A***, 2019, 7, 8258.

[11] Lingyu Zhang, **Yao Wang***, Dalong He, Yuan Deng* Poly(vinylidene fluoride)-based nanocomposite employing oriented Bi_2S_3 nanorods with double-shell structure for high dielectric performance and loss suppression, ***Compos. Sci. Technol.*** 171 (2019) 118–126.

[12] Lingyu Zhang, **Yao Wang***, Meiyu Xu, Wentian Wei, Yuan Deng* Multiple Interfacial Modifications in Poly(vinylidene fluoride)/Barium Titanate Nanocomposites via Double-Shell Architecture for Significantly Enhanced Energy Storage Density, ***ACS Appl. Energy Mater.*** 2019, 2, 8, 5945-5953.

[13] **Yao Wang***, Chao Yu, Ming Sheng, Silong Song, Yuan Deng* Individual Adjustment of Electrical Conductivity and Thermopower Enabled by Multiple Interfaces in Polyaniline-Based Ternary Hybrid Nanomaterials for High Thermoelectric Performances, ***Adv. Mater. Interfaces***, 2018, 5(10):1701168.

[14] Silong Song, **Yao Wang***, Yu Luo, Dalong He, Ana Abella, Yuan Deng* Onedimensional oriented microcapacitors in ternary polymer nanocomposites: Toward high breakdown strength and suppressed loss , ***Mater. Des.***, 2018, 140:114-122.

[15] Dalong He, **Yao Wang***, Lingyu Zhang, Silong Song, Yuan Deng* Poly(vinylidene fluoride)-Based composites modulated via multiscale two-dimensional fillers for high dielectric performances, ***Compos. Sci. Technol.***, 2018, 159: 162-170.

[16] **Yao Wang***, Chao Yu, Guifen Liu, Ming Sheng, Yuan Deng*An effective thermal treatment strategy for thermoelectric performance enhancement in PANI/Te nanorod hybrid film, ***Mater. Lett.***, 2018, 229: 293-296.

[17] Dalong He, **Yao Wang***, Silong Song, Song Liu, Yuan Deng* Significantly Enhanced Dielectric Performances and High Thermal Conductivity in Poly(vinylidene fluoride)-Based Composites Enabled by $SiC@SiO_2$ Core-Shell Whiskers Alignment, ***ACS Appl. Mater. & Interfaces***, 2017, 9(51):44839-44846.

[18] **Yao Wang**, Yafang Hou, Yuan Deng* Effects of interfaces between adjacent layers on breakdown strength and energy density in sandwich-structured polymer composites, ***Compos. Sci. Technol.***, 2017, 145: 71-77

[19] Dalong He, **Yao Wang***, Xueqin Chen, Yuan Deng* Core-shell structured $BaTiO_3@Al_2O_3$ nanoparticles in polymer composites for dielectric loss suppression and breakdown strength enhancement, ***Compos. A***, 2017, 93: 137-143.

[20] **Y. Wang***, S. M. Zhang, Y. Deng*, Flexible low-grade energy utilization devices based on high-performance thermoelectric polyaniline/tellurium nanorod hybrid films, ***J. Mater. Chem. A***, 2016, 4(9): 3554-3559.