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Education and Postdoc training

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- 7/2021 – 7/2023 Postdoc, School of Science and Engineering at CUHK
(Advisor: **Prof. Benzhong Tang** and **Prof. Zheng Zhao**)
- 9/2017 – 6/2021 PhD in Biomedical Engineering at HIT
(Advisor: **Prof. Xingyu Jiang** and **Prof. Shaoqin Liu**)
- 9/2014 – 7/2017 M.Sc. in Material Physics at Qingdao University
(Advisor: **Prof. Yunze Long**)
- 7/2013 – 7/2014 Visiting student in Prof. Xingyu Jiang group
(National Center for Nanoscience and Technology)
- 9/2009 – 6/2013 B.Eng. in Material Physics
(Qingdao University, Qingdao, China)

Research Experiences

◆ **09/2021 – 06/2023 Postdoctoral research (Supervised by Prof. Benzhong Tang and Prof. Zheng Zhao)**

Topic: AIE nanofibers and flexible biodevices

(**Small Methods** 2022, 2101247)

09/2017 – 06/2021 PhD research (Jointly supervised by Prof. Xingyu Jiang and Prof. Shaoqin Liu)

Topic A: Liquid metal-based bioelectronics for neural interfacing

Develop the stretchable electrode arrays based on the liquid metal-polymer conductor for stable neural recording. (**Adv. Mater.** 2021, 2101447; **Small**, 2021, 17, 2006612; **Adv. Healthcare Mater.**, 2020, 10, 2000641; **Adv. Mater.** 2019, 31, 1805033; **Small** 2020, 16, 2005336; **Matter**, 2020, 3, 1664)

Topic B: Electrospun nanofibers for healthcare

Develop a deposited AIE nanofibrous dressings via a handheld electrospinning device for curing bacteria-infected diseases. (**ACS Appl. Mater. Interfaces** 2021, 10, 29398; **Chem. Commun.**, 2020, 56, 10918; **Small** 2020, 16,

1906240; **Lab Chip** 2019, 19, 2750; **ACS Appl. Mater. Interfaces** 2018, 10, 29398)

◆ **09/2014 – 7/2017 M.Sc. research (Supervised by Prof. Yunze Long)**

Topic: *Portable electrospinning devices for skin wound care*

Develop an *in situ* deposition of a personalized nanofibrous dressing via a handy electrospinning device and evaluate its properties related to skin wound care.

(**Macromol. Mater. Eng.** 2017, 302, 1700002; **Nanoscale** 2016, 8, 3482;

Int. J. Nanomedicine 2016, 11, 4213; **Nanoscale** 2015, 7, 19648)

Publications

Citation: over 700; H-index: 15; IF: impact factor 2020

As first or co-first author

1. **Ruihua Dong**, Ying Li, Mian Chen, Peihong Xiao, Yifan Wu, Kun Zhou, Zheng Zhao*, Benzong Tang*, *In situ* electrospinning of AIE nanofibrous dressings for wound healing, **Small Methods**, 2022, 2101247. (IF=14.188)
2. Dou Wang[#], **Ruihua Dong**[#], Xuedong Wang, Xingyu Jiang*, Flexible electronic catheter for capture and elimination of circulating tumor cells. **ACS Nano** 2022, (IF=15.881)
3. **Ruihua Dong**, Lulu Wang, Chen Hang, Zhen Chen, Xiaoyan Liu, Leni Zhong, Jie Qi, Yuqing Huang, Shaoqin Liu*, Liping Wang*, Yi Lu*, Xingyu Jiang*, Printed stretchable liquid metal electrode arrays for *in vivo* neural recording, **Small** 2021, 17, 2006612. (IF=13.281, Quote: 8)
4. **Ruihua Dong**, Xiaoyan Liu, Shiyu Cheng, Lixue Tang, Mian Chen, Leni Zhong, Zhen Chen, Shaoqin Liu*, Xingyu Jiang*, Highly stretchable metal-polymer conductor electrode array for electrophysiology, **Adv. Healthc. Mater.** 2020, 10, 2000641. (IF=9.933, Quote: 7)
5. **Ruihua Dong**, Yong Liu, Lei Mou, Jinqi Deng, Xingyu Jiang*, Microfluidics-based biomaterials and biodevices. **Adv. Mater.** 2019, 31, 1805033. (IF=30.849, Quote: 65)
6. **Ruihua Dong**, Yuexiao Jia, Chongchong Qin, Lu Zhan, Xu Yan, Lin Cui, Yu Zhou, Xingyu Jiang and Yunze Long*, *In situ* deposition of a personalized nanofibrous dressing via a handy electrospinning device for skin wound care. **Nanoscale** 2016, 8, 3482. (IF=7.790, Quote: 126)
7. **Ruihua Dong**, Chongchong Qin, Xuan Qiu, Xu Yan, Miao Yu, Lin Cui, Yu Zhou, Hongdi Zhang, Xingyu Jiang, Yunze Long*, *In situ* precision electrospinning as an effective delivery technique for cyanoacrylate medical

glue with high efficiency and low toxicity. [*Nanoscale*](#) 2015, 7, 19648. (IF=7.790, Quote: 41)

8. Fuyan Lv[#], **Ruihua Dong**[#], Zhaojian Li, Chongchong Qin, Xu Yan, Xiaoxiao He, Yu Zhou, Shiyong Yan, Yunze Long*, *In situ* precise electrospinning of medical glue fibers as nonsuture dural repair with high sealing capability and flexibility. [*Int. J. Nanomedicine*](#) 2016, 11, 4213. (IF=6.400, Quote: 16)
9. Miao Yu[#], **Ruihua Dong**[#], Xu Yan, Guifeng Yu, Minghao You, Xin Ning, Yunze Long*, Recent advances in needleless electrospinning of ultrathin fibers: from academia to industrial production. [*Macromol. Mater. Eng.*](#) 2017, 302, 1700002. (IF=4.367, Quote: 90)

As a co-author

10. Chen Hang, Li Ding, Shiyu Cheng, **Ruihua Dong**, Jie Qi, Xiaoyan Liu, Qian Liu, Yan Zhang and Xingyu Jiang*, *Adv. Mater.* 2021, 2101447. (IF=30.849)
11. Mian Chen, **Ruihua Dong**, Jiangjiang Zhang, Hao Tang, Qizhen Li, Huawu Shao and Xingyu Jiang*, *ACS Appl. Mater. Interfaces* 2021, 10, 29398. (IF=9.229)
12. Lei Mou, Jie Qi, Lixue Tang, **Ruihua Dong**, Yuan Gao* and Xingyu Jiang*, *Small* 2020, 16, 2005336. (IF=13.281)
13. Shiyu Cheng, Chen Hang, Li Ding, Liujuan Jia, Lixue Tang, Lei Mou, Jie Qi, **Ruihua Dong**, Wenfu Zheng, Yan Zhang, Xingyu Jiang*, *Matter*, 2020, 3, 1664. (IF=15.589)
14. Xiaohui Zhao, Yuexiao Jia, **Ruihua Dong**, Jinqi Deng, Hao Tang, Fupin Hu, Shaoqin Liu, Xingyu Jiang*, *Chem. Commun.* 2020, 56, 10918. (IF=6.222)
15. Mian Chen, Zhou Long, **Ruihua Dong**, Le Wang, Jiangjiang Zhang, Sixiang Li, Xiaohui Zhao, Xiandeng Hou, Huawu Shao, Xingyu Jiang*, *Small* 2020, 16, 1906240. (IF=13.281)
16. Lei Mou, **Ruihua Dong**, Binfeng Hu, Zulan Li, Jiangjiang Zhang, Xingyu Jiang*, *Lab Chip* 2019, 19, 2750. (IF=6.799)
17. Jun Li, Chunlin Sun, Pengrong An, Xiaoyan Liu, **Ruihua Dong**, Jinghong Sun, Xingyu Zhang, Yanbo Xie, Chuanguang Qin, Wenfu Zheng, Haoli Zhang, Xingyu Jiang*, *J. Am. Chem. Soc.* 2019, 141, 8816. (IF=15.419)
18. Xiaohui Zhao, Yuexiao Jia, Juanjuan Li, **Ruihua Dong**, Jiangjiang Zhang, Xingyu Jiang*, *ACS Appl. Mater. Interfaces* 2018, 10, 29398. (IF=9.229)
19. Shicong Xu, Chongchong Qin, Miao Yu, **Ruihua Dong**, Xu Yan, Hui Zhao,

- Wenpeng Han, Hongdi Zhang and Yunze Long*, **Nanoscale** 2015, 7, 12351. (IF=7.790)
20. Hongwei He, Bin Zhang, Xu Yan, **Ruihua Dong**, Xiansheng Jia, Guifeng Yu, Xin Ning, Linhua Xia and Yunze Long*, **RSC Adv.** 2016, 6, 106945. (IF=3.361)
21. Chongchong Qin, Xiaopeng Duan, Le Wang, Lihua Zhang, Miao Yu, **Ruihua Dong**, Xu Yan, Hongwei He and Yunze Long*, **Nanoscale** 2015, 7, 16611. (IF=7.790)
22. Xu Yan, Miao Yu, Lihua Zhang, Xiansheng Jia, Jintao Li, Xiaopeng Duan, Chongchong Qin, **Ruihua Dong** and Yunze Long*, **Nanoscale** 2016, 8, 209. (IF=7.790)
23. Xu Yan, Miao Yu, Wenpeng Han, Minghao You, Juncheng Zhang, **Ruihua Dong**, Hongdi Zhang and Yunze Long*, **Chin. Phys. B** 2016, 25, 7, 078106. (IF=1.494)
24. Hongwei He, Le Wang, Xu Yan, Lihua Zhang, Miao Yu, Guifeng Yu, **Ruihua Dong**, Linhua Xia, Seeram Ramakrishna* and Yunze Long*, **RSC Adv.** 2016, 6, 29423. (IF=3.361)

China Patents

Issued China patent: 24

1. 一种磁纺装置及使用该装置制备微纳米纤维的方法, 龙云泽, **董瑞华**, 李金涛, 贾宪生, 闫旭, 于桂凤, 魏代善, 管殿柱, **发明专利**, CN104878456B, 20170222.
2. 一种熔体磁纺丝装置及利用该装置制备微纳米纤维的方法, 龙云泽, **董瑞华**, 闫旭, 段晓鹏, 犹明浩, 王乐, 张丽华, 魏代善, 管殿柱, **发明专利**, CN104878455B, 20170315.
3. 一种大规模磁纺设备及用该设备制备微纳米纤维的方法, 龙云泽, **董瑞华**, 闫旭, 李金涛, 魏代善, 于桂凤, 贺晓晓, 犹明浩, 管殿柱, **发明专利**, CN104878461B, 20170503.
4. 一种纳米纤维抗菌敷料原位制备方法, 于淼, **董瑞华**, 龙云泽, 闫旭, 于桂凤, 韩文鹏, 张红娣, **发明专利**, CN104667338B, 20170808.
5. 一种便携式静电纺丝设备及其使用方法, 于淼, 龙云泽, **董瑞华**, 闫旭, 秦崇崇, 韩文鹏, **发明专利**, CN104790049B, 20160907.
6. 一种微波加热熔体静电纺丝装置, 龙云泽, 黄渊源, **董瑞华**, 闫旭, 韩文鹏, 张君诚, 段晓鹏, 秦崇崇, 林大鹏, **发明专利**, CN104131358B, 20170609.

7. 一种磁纺制备导电聚合物微纳米纤维的方法, 龙云泽, 于桂凤, 董瑞华, 闫旭, 李金涛, 贾宪生, 贺晓晓, 魏代善, 管殿柱, **发明专利**, CN104911719B, 20170707.
8. 一种磁纺制备石墨烯/聚合物有序微纳米复合纤维的方法, 韩文鹏, 龙云泽, 董瑞华, 闫旭, 贾宪生, 李金涛, 赵惠, 贺晓晓, 魏代善, 管殿柱, **发明专利**, CN104862799B, 20170118.
9. 一种大规模制备微纳米纤维的静电纺丝装置, 于淼, 龙云泽, 董瑞华, 秦崇崇, **发明专利**, CN105970313B, 20180824.
10. 一种利用气压恒定供液的静电纺丝装置, 于淼, 龙云泽, 董瑞华, 秦崇崇, **发明专利**, CN105951190B, 20180824.
11. 一种气流辅助线性齿电极静电纺丝装置, 于淼, 龙云泽, 董瑞华, 秦崇崇, **发明专利**, CN105970314, 20180824.
12. 一种消除 PM2.5 颗粒物的静电喷雾路灯装置, 于淼, 闫旭, 龙云泽, 董瑞华, 盛琛皓, 韩文鹏, **发明专利**, CN104776384B, 20170412.
13. 一种消除汽车尾气中 PM2.5 颗粒物的装置及其使用方法, 于淼, 闫旭, 龙云泽, 董瑞华, 盛琛皓, 韩文鹏, **发明专利**, CN104912627B, 20180511.
14. 一种低温原位静电纺丝装置, 龙云泽, 闫旭, 韩文鹏, 秦崇崇, 董瑞华, 张红娣, 张君诚, 于经学, 林大鹏, 盛琛皓, **发明专利**, CN104313707B, 20160824.
15. 一种交叉纳米纤维 P-N 异质结阵列的制备方法, 龙云泽, 陈帅, 盛琛皓, 韩文鹏, 董瑞华, 张红娣, **发明专利**, CN103943778B, 20160817.
16. 一种静电喷雾消除可入肺颗粒物的方法, 龙云泽, 闫旭, 韩文鹏, 秦崇崇, 董瑞华, 张红娣, 张君诚, 林大鹏, 盛琛皓, 赵惠, 张保生, **发明专利**, CN104259002B, 20161012.
17. 一种无溶剂静电纺丝制备聚氨酯微纳米纤维的方法, 龙云泽, 何宏伟, 林大鹏, 闫旭, 韩文鹏, 王乐, 张丽华, 董瑞华, **发明专利**, CN104532367B, 20160824.
18. 一种规模化无溶剂电纺制备光固化材料微纳米纤维的方法, 龙云泽, 何宏伟, 张丽华, 王乐, 段晓鹏, 董瑞华, 秦崇崇, 赵惠, 夏临华, **发明专利**, CN105220244A, 20160106.
19. 一种基于 UV 固化的无溶剂静电纺丝装置, 龙云泽, 何宏伟, 王乐, 张丽华, 段晓鹏, 董瑞华, 秦崇崇, 赵惠, 夏临华, **发明专利**, CN105088367B, 20171222.
20. 一种力敏可拉伸电纺图案化导电纳米纤维膜及其制备方法, 龙云泽, 于桂凤, 闫旭, 贺晓晓, 韩文鹏, 董瑞华, 贾宪生, 李金涛, 犹明浩, **发明专利**, CN104894750B, 20170503.
21. 一种电容式超薄柔性应力传感器及其制备方法, 闫旭, 龙云泽, 于桂凤, 贺晓晓, 王乐, 董瑞华, 贾宪生, 李金涛, **发明专利**, CN104897316B, 20170926.

22. 一种氯化钴湿敏电纺微纳米纤维膜及其制备方法和应用, 闫旭, 龙云泽, 犹明浩, 于桂凤, 贺晓晓, 贾宪生, 董瑞华, 张红娣, **发明专利**, CN105568557B, 20190118.
23. 颅内伤口愈合监测装置、其制备方法及应用, 蒋兴宇, 董瑞华, 奚磊, 秦伟, **发明专利**, CN109222905B, 20210910.
24. 一种 AIE 复合静电纺丝纤维膜及其制备方法和应用, 蒋兴宇, 董瑞华, **发明专利** CN110787316A, 20200214.

Substantive examination: 3

25. 一种液态金属微电极阵列及其制备方法, 蒋兴宇, 董瑞华, 发明专利申请公布 CN111920404A, 20201113.
26. 一种软硬可调的植入式神经电极及其制备方法, 蒋兴宇, 董瑞华, 发明专利申请公布 CN202011414621.6, 20200703
27. 一种液态金属光遗传神经电极及其制备方法, 蒋兴宇, 董瑞华, 发明专利申请, 20210115

Awards

1. 2016 Second Prize of Innovation Achievement of Shandong Province
2. 2016 Excellent Student of Shandong Province
3. 2016 Academic Star of Qingdao University
4. 2016 Model Student of Academic Records
5. 2016 Best Poster of 4th National Conference on Electrospinning
6. 2016 National Scholarship
7. 2015 Advanced Individual Student of Qingdao University
8. 2015 Second Prize of "Challenge Cup" in Shandong Province
9. 2015 Best Poster of 3rd National Conference on Electrospinning Nanofibers
10. 2013 Outstanding Graduates of Qingdao University
11. 2010 Excellent League Member
12. 2010 Outstanding Student of Qingdao University

Presentations

1. **Ruihua Dong**, Zheng Zhao*, Benzhong Tang*, International Conference on Aggregate Science 20th Anniversary of AIE Research, 2021, Guangzhou
2. **Ruihua Dong**, Xingyu Jiang*, 第八届国际微流控学学术论坛, 2021, Shenzhen
3. **Ruihua Dong**, Xingyu Jiang*, 中国神经科学学会神经科学研究技术分会 2019 年学术年会, 2019, Shenzhen
4. **Ruihua Dong**, Xingyu Jiang*, AsiaNANO2018, Oct. 2018, Qingdao. **Oral**
5. **Ruihua Dong**, Xingyu Jiang*, 2018 Conference on Biomedical Engineering, Sep. 2018, Shenzhen. **Oral**
6. **Ruihua Dong**, Xingyu Jiang*, 7th ChinaNano, Aug. 2017, Beijing. **Poster**
7. **Ruihua Dong**, Yunze Long*, 4th National Conference on Electrospinning, Dec. 2016, Beijing. **Best Poster**
8. **Ruihua Dong**, Yunze Long*, 3rd National Conference on Electrospinning, Sep. 2015, Qingdao. **Best Poster**

Grants and others

1. Fellowship of China Postdoctoral Science Foundation 中国博士后科学基金第 70 批面上资助二等, 80 KRMB, 2021-11-15.
2. National Defense Science and Technology Innovation, Vascularized "artificial brain"-machine interface system, 2020.07-2021.12, \$1.2 M. **(2nd)**
3. National Defense Science and Technology Innovation, Microfluidics-based brain chips for function analysis, 2018.12-2020.12, \$300 K. **(2nd)**
4. General Program of National Natural Science Foundation of China, Study on Three Solvents Participating in Curing Electrospinning by UV Curing, Thermal Curing and Anion Curing, 51673103, 2017.01-2020.12, \$100 K. **(8th)**

5. Editor for **《Nanotechnology and Microfluidics》** by Xingyu Jiang, Chunli Bai, Minghua Liu, 2020 Wiley-VCH Verlag GmbH & Co. KGaA
6. Invited reviewer of ***Nano Energy, Journal of Hazardous Materials, Environmental Science & Technology, Biosensors, and Polymer.***

