

Curriculum vitae - Fei Wang (汪飞)

Professor, Dr.

[School of Microelectronics,](#)
[Southern University of Science and Technology \(SUSTech\)](#)

No. 1088, Xueyuan Road, Xili, Nanshan District, Shenzhen, China 518055

Phone: +86-755-88018509

E-mail: wangf@sustech.edu.cn



BIOGRAPHY:

June 2023- Professor, Deputy Dean

[School of Microelectronics, SUSTech, Shenzhen, China](#)

April 2019 – May 2023 Associate Professor (Tenured), Deputy Dean (since 2021)

[School of Microelectronics, SUSTech, Shenzhen, China](#)

Aug. 2013 – March 2019 Associate Professor (Tenure-tracked)

[Department of Electrical and Electronic Engineering, SUSTech, Shenzhen, China](#)

July 2010 - July 2013 Assistant Professor

[Department of Micro- and Nanotechnology \(DTU Nanotech\), DTU, Copenhagen, Denmark](#)

Aug. 2008 - June 2010 Postdoctoral Researcher

[Department of Micro- and Nanotechnology \(DTU Nanotech\), DTU, Copenhagen, Denmark](#)

EDUCATION:

Sept. 2003 - July 2008 Ph.D.

[Shanghai Institute of Microsystem and Information Technology \(SIMIT\),](#)
[Chinese Academy of Sciences \(CAS\)](#)

Sept. 1999 - July 2003 B.E.

[Department of Precision Machinery and Precision Instrumentation,](#)
[University of Science and Technology of China \(USTC\)](#)

TEACHING, SUPERVISION AND MANAGEMENT EXPERIENCE:

- 2013-now, supervisor for 11 master students and 8 Ph.D students; mentor for more than 38 undergraduate students in *ShuRen College*
- 2013-now, EE202 (Digital Circuit), SME305/EE305(Introduction to VLSI Technology), SME318/EE306 (Introduction to MEMS), EE415 (Advances in Micro Energy and Micro Systems)
- 2013, teaching “33250 Semiconductor Technology” (5 ECTS) in DTU Nanotech and a Ph. D course “Sustainable wireless sensor networks” in Aalborg University.
- 2012, supervisor for two master students and three bachelor students.
- 2010-2013, UDTU course, level 1-4.

FUNDING:

1. 2022, PI, Shenzhen Fundamental Research Project (Key Program), 2 Million RMB. (Project No.: JCYJ20220818100415033). 深圳市基础研究(重点项目), 200 万元, 2022-10-28 至 2025-10-31.

2. 2022, PI, National Natural Science Foundation of China (NSFC): “The principle and application of self-healable vibration energy harvester for harsh industry environment”, 580,000 RMB (Project No.: 62174077), 国家自然科学基金, 58 万元, 2022-01-01 至 2025-12-31
3. 2021, PI, 深圳市 XX 材料技术有限公司, 200 万元 (2021-10-01 至 2023-09-30)
4. 2021, PI, Nanshan District Special Program, 886,700 RMB, 2021-09-24 至 2022-09-30(已结题)
5. 2021, PI, Nanshan District Special Program, 266,000 RMB, 2021-09-24 至 2022-09-30(已结题)
6. 2020, PI, 国家重点研发计划(课题负责人, Grant No. 2020YFB2008604), 257 万元(2020-10-01 至 2023-09-30)。
7. 2020, PI, Shenzhen Fundamental Research Project, 2.5 Million RMB. (Project No.: JCYJ20200109105838951). 深圳市基础研究(重点项目), 250 万元, 2020-11-05 至 2023-11-04 (已结题)
8. 2020, PI, 深圳市 XX 科技有限公司, 10 万元。(已结题)
9. 2019, PI, Nanshan District Special Program, 1.5 Million, 2019-12-01 至 2020-12-01 (已结题)
10. 2018, PI, Guangdong Science and Technology Program for International Collaboration, 0.5 Million RMB. (Project No.: 2018A050506001), 广东省科学技术厅, 2018-12-01 至 2020-12-01, 已结题
11. 2018, PI, 深圳市 XX 科技有限公司, 7 万元。(已结题)
12. 2017, PI, 深圳市 XX 科技有限公司, 7 万元。(已结题)
13. 2017, PI, Shenzhen Fundamental Research Project, 2 Million RMB. (Project No.: JCYJ20170412154426330). (深圳市科技创新委员会, 2017-07-01 至 2020-06-30).(已结题)
14. 2016, PI, Open Project from State Key Laboratories of Transducer Technology, 0.25 Million RMB. (Project No.: SKT1606). (传感技术联合国家重点实验室基金, 2016 年 12 月-2019 年 12 月, 已结题).
15. 2016, PI, Guangdong Natural Science Funds for Distinguished Young Scholar, 1 Million RMB. (Project No.: 2016A030306042). 广东省自然科学基金杰出青年项目, 2016-06-01 至 2020-06-01 (已结题).
16. 2016, PI, Guangdong Special Support Program for High-level Talents, 0.3 Million RMB. (“广东特支计划”科技青年拔尖人才, 广东省科学技术厅, 2016-07-01 至 2019-06-30, 2015TQ01X555, 已结题)
17. 2016, PI, National Natural Science Foundation of China (NSFC): “Micro electrostatic energy harvester with broad bandwidth for wireless sensor networks”, 249,000 RMB (Project No.: 51505209) (国家自然科学基金, 2016-01-01 至 2018-12-31, 已结题)
18. 2015, co-PI, Shenzhen Fundamental Research Project, overall 3 Million RMB, with a share of 0.9 Million RMB. (Project No.: JCYJ20150827165024088). (深圳市知识创新计划基础研究学科布局项目, 2016-01-01 至 2018-12-31, 已顺利结题)
19. 2015, co-PI, Shenzhen Fundamental Research Project, overall 3 Million RMB, with a share of 0.4 Million RMB. (Project No.: JCYJ20150930160634263). (深圳市知识创新计划基础研究学科布局项目, 2016-01-01 至 2018-12-31, 已顺利结题)
20. 2015, co-PI, Shenzhen Peacock Group Plan, overall 20 Million RMB. (Project No.: KQTD2015071710313656) (深圳市海外高层次人才创新创业团队计划, 深圳市科技创新委员会, 2016-12-01 至 2020-11-30)
21. 2015, PI, Guangdong Natural Science Foundation: “MEMS based electrostatic energy harvesting device”, 100,000 RMB (Project No.: 2015A030313812) (广东省自然科学基金, 2015-08-01 至 2018-08-01, 已结题).
22. 2015, PI, Scientific Research Foundation for the Returned Overseas Chinese Scholars, State

- Education Ministry. 35,000 RMB. (教育部留学回国人员科研启动基金资助项目, 教育部)
23. 2014, PI, Shenzhen Fundamental Research Project: "Key technologies of electret materials for wireless sensor networks", 290,000 RMB (Project No.: JCYJ20140417105742703). (深圳市知识创新计划基础研究项目, 2014-08-18 至 2016-08-31, 已结题)
 24. 2014, co-PI, Shenzhen key laboratory: "Shenzhen Key Laboratory of 3rd Generation Semiconductor Devices", overall 3 Million RMB, with a share of 0.3 Million RMB. (Project No.: ZDSYS20140509142721434) (深圳市创新环境建设计划重点实验室项目, "深圳市第三代半导体器件重点实验室", 深圳市科技创新委员会, 2014-08-18 至 2016-08-31, 已顺利结题)
 25. 2014, PI, start-up research grant for new faculty in SUSTech, 5.98 Million RMB. (南方科技大学引进学术人才科研启动经费, 2014-01-01 至 2018-12-31)
 26. 2013, Conference stipend, *Otto Mønsted Fond*, Hellerup, Denmark, 8,000 DKK.
 27. 2012, Conference stipend, *Otto Mønsted Fond*, Hellerup, Denmark, 5,000 DKK.
 28. 2011, Conference stipend, *Otto Mønsted Fond*, Hellerup, Denmark, 7,990 DKK.
 29. 2010, Co-Applicant with Dr. Ming Shen as PI, Project funding: "Microwatt Radio for Self-Sustaining Wireless Sensor Networks". *Danish Research Council for Technology and Production (FTP)*, Denmark. (Project No. 10-093783)
 30. 2010, PI, Project funding: "Energy harvesting device with polymer electret for wireless electronic devices". *Danish Research Council for Technology and Production (FTP)*, Denmark, 3,866,400 DKK. (Project No. 10-080864)
 31. 2009, Conference stipend, *Otto Mønsted Fond*, Hellerup, Denmark, 6,945 DKK.

HONORS AND AWARDS:

- ✓ 2023, 国家级一流本科课程负责人
- ✓ 2021, 中国工程前沿杰出青年学者 (中国工程院办公厅)
- ✓ 2021, 南方科技大学 "年度青年教授奖"
- ✓ 2020, 广东省 2020 年度一流本科课程负责人
- ✓ 2020, 第九届广东省教育教学成果奖, 二等奖 (排名第二)
- ✓ 2018, 深圳市 "青年科技奖" (全市每年 4 名高校, 4 名企业获奖者)
- ✓ 2018, 深圳市 "先进教育工作者" 荣誉称号
- ✓ 2017-, 深圳市龙华区 "龙舞华章计划" A 类人才
- ✓ 2016-, 深圳市南山区 "领航人才"
- ✓ 2016, 2017 年, 南方科技大学 "优秀书院导师" 荣誉称号
- ✓ 2016, 2017 年, 南方科技大学 "青年科研奖"
- ✓ 2016 年, 获得广东省第三届高校青年教师教学大赛三等奖
- ✓ 2016 年, 南方科技大学 "杰出教学" 奖 (建校第 1 位获得者)
- ✓ 2016 年, 南方科技大学第一届青年教师教学竞赛理论课组一等奖
- ✓ 2016, Guangdong Special Support Program for High-level Talents. ("广东特支计划" 科技青年拔尖人才)
- ✓ 2015 年, 获得深圳市第三届教育教学科研优秀成果奖二等奖
- ✓ 2013, Shenzhen "Overseas High-Caliber Personnel Award" (Peacock Plan, B-Class). (深圳市海外高层次人才 "孔雀计划" B 类人才)
- ✓ 2008, CAS Zhu Li Yuehua Scholarship of Outstanding Doctoral Award (Top 240 out of 4,488 Ph.D. students graduated from CAS in 2008), 5,000 RMB. (中国科学院 "朱李月华" 优秀博士生奖)
- ✓ 2007, Best Student Paper (1st of 450 papers) in 9th Annual Domestic Conference of China Society of

Micro-Nano Technology, Shanghai, 2,000 RMB. (第九届中国微米纳米技术学会国内年会一等奖)

AFFILIATION AND SCIENTIFIC SERVICE:

Editorial Board of *Micromachines* (SCI Journal)

Institute of Electrical and Electronics Engineers (IEEE), *Senior Member* (2012-)

I have been the grant reviewer for A*STAR Agency for Science & Technology, the National Science Foundation of China, and the Shenzhen Science and Technology Innovation Committee.

I have served for several international conferences, such as,

Plenary Chair for *2014 IEEE International Conference on Consumer Electronics – China*.

International Organizing Committee for *International Conference on Small Science (ICSS, 2014-2016)*

Technical Program Committee Member, and Session Chair for *International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (IEEE 3M-NANO, 2014-2018)*

Session Chair, for the *6th International Multidisciplinary Conference on Optofluidics (IMCO 2017, 2018)*

Organizing Co-chair, for the *International Multidisciplinary Conference on Optofluidics (IMCO 2019)*

Technical Program Committee Member, and Session Chair for the *International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2018)*

General Chair for the *1st International conference on vibration and energy harvesting application (VEH 2018), Nov. 2-4, Shenzhen, China*.

Technical Program Committee Member, Awards Committee Chair for the *19th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS 2019, Poland.)*

Technical Program Committee Member for the *International Conference on Solid-State Sensors, Actuators and Microsystems (TPC since Transducers 2017, ETPC since Transducers 2021)*

Technical Program Committee Member for the *IEEE International Conference on Micro Electro Mechanical Systems (ETPC since IEEE MEMS 2022)*

2017-, 中国医疗保健国际交流促进会健康大数据和数字化医疗分会委员

2018-, 中国微米纳米技术学会微纳执行器与微系统分会理事

List of Publications

Totally published 3 book chapters, 131 articles in peer-reviewed journals, 110 abstracts/publications in peer-reviewed conference proceedings, 20 invited talks and 20 patent applications. (H-index: 42, citation: 4873, web of science, Feb 2024)

BOOK CHAPTERS:

- [3] Rajendran Ramachandran, Murugan Saranya and **Fei Wang***, *Chapter: Metal Oxides/Hydroxides Composite Electrodes for Supercapacitors*, in Book 'Electrochemical Capacitors - Theory, Materials and Applications', Materials Research Forum LLC, USA, ISBN 978-1-945291-56-2, 2018.
- [2] Rajendran Ramachandran and **Fei Wang***, *Chapter: Electrochemical Capacitors Performance-Influence of Aqueous Electrolytes*, in Book 'Supercapacitors - Theoretical and Practical Solutions,' IN TECH publishing, ISBN 978-953-51-5764-9, 2017.
- [1] Zhen Yang, and **Fei Wang***, *Advances in Biosensors: Reviews*, Chapter 4, International Frequency Sensor Association (IFSA) Publishing, ISBN: 978-84-697-3467-4, 2017.

JOURNAL PUBLICATIONS:

2024 [1]

- [131] Shanghao Gu, Weihang Xu, Kunling Xi, Anxin Luo, Kangqi Fan, **Fei Wang***, "High-Performance Piezoelectric Energy Harvesting System with Anti-Interference Capability for Smart Grid Monitoring", *Renewable Energy*, 2024.
- [130] Gaoqiang Niu, Yi Zhuang, Yushen Hu, Zong Liu, Bo Wu and **Fei Wang***, "Selective discrimination of VOCs gases at ppb-level using MOS gas sensor in temperature-pulsed operation mode with modified Hill equation", *Surfaces and Interfaces*, 2023, accepted.

2023 [10]

- [129] Zong Liu, Yushen Hu, Fei Wang, Man Wong, "A "Smart" Gas Sensing System Composed of Micro-Hotplates and Artificial Neural Network," *IEEE Journal of Microelectromechanical Systems*, 2023, accepted.
- [128] Yi Zhuang, Du Yin, Lang Wu, Gaoqiang Niu, and **Fei Wang***, "A Deep Learning Approach for Gas Sensor Data Regression: Incorporating Surface State Model and GRU-based Model," *APL Machine Learning*, 2023, accepted.
- [127] Yi Zhuang, Xiaojiang Liu, Xue Wang, Gaoqiang Niu, Ran Cheng, **Fei Wang***, "Pulse Heating Combined with Machine Learning for Enhanced Gas Identification and Concentration Detection with MOS Gas Sensors," *IEEE Sensors Letters*, Aug. 2023.
<https://doi.org/10.1109/LSSENS.2023.3310366>
- [126] Mingjie Li, Anxin Luo, Wenxin Luo, Xiaojiang Liu, and **Fei Wang***, "Electrostatic Vibration Energy Harvester With a Self-Rechargeable Electret," *IEEE Electron Device Letters*, vol. 44, no. 3, pp. 540-543, March 2023.
<https://doi.org/10.1109/LED.2023.3240836> .
- [125] Anxin Luo, Weihang Xu, Jiangyong Sun, Kunling Xi, Siyao Tang, Xinge Guo, Chengkuo Lee* and **Fei Wang***, "Vibration energy harvester with double frequency-up conversion mechanism for self-powered sensing system in smart city," *Nano Energy*, Vol 105, 108030, January 2023.
<https://doi.org/10.1016/j.nanoen.2022.108030>
- [124] Gaoqiang Niu, Mingxiang Zhang, Bo Wu, Yi Zhuang, Rajendran Ramachandran, Changhui Zhao,

and **Fei Wang***, “Nanocomposites of pre-oxidized $\text{Ti}_3\text{C}_2\text{T}_x$ MXene and SnO_2 nanosheets for highly sensitive and stable formaldehyde gas sensor,” *Ceramics International*, Vol 49, Issue 2, pp. 2583-2590, 15 January 2023.

<https://doi.org/10.1016/j.ceramint.2022.09.238>

[123] Smitha Ankanahalli Shankaregowda, Chandrashekar Bananakere Nanjegowda, Shirong Guan, Jiaqi Huang, Jingyi Li, Rumana Farheen Sagade Muktar Ahmed, Krishnaveni Sannathammegowda, Anandraju Madaveeranahally Boregowda, **Fei Wang***, Chun Cheng*, “A Robust Triboelectric Nanogenerator Resistant to Humidity and Temperature in Ambient Environment,” *physica status solidi (RRL)–Rapid Research Letters*, vol 17, 2200489, Sept, 2023.

<https://doi.org/10.1002/pssr.202200489>

[122] Kangqi Fan, Chenyu Wang, Yan Zhang, Jiyuan Guo, Rongchun Li, Fei Wang, Qinxue Tan, “Modeling and experimental verification of a pendulum-based low-frequency vibration energy harvester,” *Renewable Energy*, Vol 211, pp. 100-111, July 1, 2023.

<https://doi.org/10.1016/j.renene.2023.04.136>

[121] Yu Wang, Minzhang Li, Rajendran Ramachandran, Haiquan Shan, Qian Chen, Anxin Luo, Fei Wang, and Zong-Xiang Xu, “Peripheral octamethyl-substituted nickel(II)-phthalocyanine-decorated carbon-nanotube electrodes for high-performance all-solid-state flexible symmetric supercapacitors,” *Journal of Energy Chemistry*, Vol 76, Pages 214-225, January 2023.

<https://doi.org/10.1016/j.jechem.2022.08.046>

2022 [15]

[120] Bo Wu, Minzhang Li, Rajendran Ramachandran,* Gaoqiang Niu, Mingxiang Zhang, Changhui Zhao, Zongxiang Xu, and **Fei Wang***, “GQDs Incorporated CoPc Nanorods for Electrochemical Detection of Dopamine and Uric Acid,” *Advanced Materials Interfaces*, 2200738, 2022.

<https://doi.org/10.1002/admi.202200738>

[119] Wenjie Ren, Changhui Zhao,* Gaoqiang Niu, Yi Zhuang, and **Fei Wang***, “Gas sensor array with pattern recognition algorithms for highly sensitive and selective discrimination of trimethylamine,” *Advanced Intelligent System*, 2200169, 2022.

<https://doi.org/10.1002/aisy.202200169>

[118] Mingjie Li, Wenxin Luo, Xiaojiang Liu, Gaoqiang Niu, and **Fei Wang***, “Wafer-level patterning of SnO_2 nanosheets for MEMS gas sensors,” *IEEE Electron Device Letters*, vol. 43, no. 11, pp. 1981-1984, Nov. 2022.

<https://doi.org/10.1109/LED.2022.3204292>

[117] Mingjie Li, Anxin Luo, Wenxin Luo, and **Fei Wang***, “Recent progress on mechanical optimization of MEMS electret-based electrostatic vibration energy harvesters,” *Journal of Microelectromechanical Systems*, Vol 31, pp.726–740, Oct 2022.

<https://doi.org/10.1109/JMEMS.2022.3194859>

[116] Rajendran Ramachandran*, Yu Wang, Sundaram Chandrasekaran, Minzhang Li, Anxin Luo, Zong-Xiang Xu*, and **Fei Wang***, “Construction of MoS_2 intercalated siloxene heterostructure for all-solid-state symmetric supercapacitors,” *Applied Materials Today*, Vol 29, 101578, Dec 2022.

<https://doi.org/10.1016/j.apmt.2022.101578>

[115] Changhui Zhao, Peijun Wang, Gaoqiang Niu, Dan Luo, Quan Wang*, and **Fei Wang***, “Rapid and efficient detection of NH_3 at room temperature using CuO/WS_2 nanohybrids,” *IEEE Sensors Journal*, Vol. 22, No. 13, July 1, pp. 12539, 2022.

<https://doi.org/10.1109/JSEN.2022.3175827>

[114] Gaoqiang Niu, and **Fei Wang***, “A review of MEMS-based metal oxide semiconductors gas sensor in mainland China,” *Journal of Micromechanics and Microengineering*, 32, 054003, 2022.

<https://doi.org/10.1088/1361-6439/ac5b98>

[113] Yuncai Chen, Haw Jiunn Woo*, Sharifah Athira Fatimah Syed Mohd Fadzil, Winie Tan, **Fei Wang***, and Abdul Kariem Mohd Arof, “Cage-like porous prussian blue as high-capacity cathode for sodium-ion batteries,” *ACS Appl. Nano Mater.*, Mar. 2022.

<https://doi.org/10.1021/acsanm.1c04416>

[112] Yushen Hu, Tengting Lei, Yuqi Wang, Fei Wang, and Man Wong, “An Artificial Neural Network Implemented Using Parallel Dual-Gate Thin-Film Transistors,” *IEEE Transactions on Electron Devices*, Vol. 69, pp. 5574-5579, 2022.

<https://doi.org/10.1109/TED.2022.3201836>

[111] Yushen Hu, Yuqi Wang, Tengting Lei, Fei Wang, and Man Wong, “Neuromorphic Implementation of Logic Functions Based on Parallel Dual-Gate Thin-Film Transistors,” *IEEE Electron Device Letters*, Vol. 43, pp.741–744, May 2022.

<https://doi.org/10.1109/LED.2022.3164684>

[110] Xiyun Zhan, Yanjun Liu, Fei Wang, Dongyu Zhao, Kun-Lin Yang and Dan Luo, “A highly sensitive fluorescent sensor for ammonia detection based on aggregation-induced emission luminogen-doped liquid crystals,” *Soft Matter*, vol. 18, 7662, 2022.

<https://doi.org/10.1039/D2SM00568A>

[109] Wenxin Luo, Jingfu Xu, Gang Li, Gaoqiang Niu, Kar Wei Ng, Fei Wang, Mingjie Li, “Fabrication of robust, anti-reflective, transparent superhydrophobic coatings with a micropatterned multilayer structure,” *Langmuir*, vol. 38, pp.7129-7136, June 2022.

<https://doi.org/10.1021/acs.langmuir.2c00264>

[108] Mingjie Li, Wenxin Luo, Haoyang Sun, Mingxiang Zhang, Kar Wei Ng, Fei Wang, Xing Cheng, “Low-cost preparation of durable, transparent, superhydrophobic coatings with excellent environmental stability and self-cleaning function,” *Surface and Coatings Technology*, vol. 438, 128367, May 2022.

<https://doi.org/10.1016/j.surfcoat.2022.128367>

[107] M. Li *et al.*, “Non-peripheral octamethyl-substituted cobalt phthalocyanine nanorods supported on N-doped reduced graphene oxide achieve efficient electrocatalytic CO₂ reduction to CO,” *Chemical Engineering Journal*, vol. 430, Feb. 2022.

<https://doi.org/10.1016/j.cej.2021.133050>

[106] Y. Qiao *et al.*, “Intelligent and multifunctional graphene nanomesh electronic skin with high comfort,” *Small*, vol. 18, no. 7, Feb. 2022.

<https://doi.org/10.1002/sml.202104810>

2021 [13]

[105] Xinge Guo, Tianyi He, Zixuan Zhang, Anxin Luo, **Fei Wang***, Eldwin Ng, Yao Zhu, Huicong Liu, and Chengkuo Lee*, “Artificial intelligence-enabled caregiving walking stick powered by ultra-low frequency human motion,” *ACS Nano*, 15, 12, 19054–19069, 2021.

<https://doi.org/10.1021/acs.nano.1c04464>

[104] Anxin Luo, Yulong Zhang, Xinge Guo, Yan Lu, Chengkuo Lee, and **Fei Wang***, “Optimization of MEMS Vibration Energy Harvester with Perforated Electrode,” *Journal of Microelectromechanical Systems*, Vol. 30, No. 2, pp. 299-308, April 2, 2021.

<https://doi.org/10.1109/JMEMS.2021.3058766>

[103] Anxin Luo, Yixin Xu, Yulong Zhang, Mi Zhang, Xiaoqing Zhang, Yan Lu, and **Fei Wang***, “Spray coated electret materials with enhanced stability in harsh environment for MEMS energy harvesting device,” *Microsystems & Nanoengineering*, **7**, Article number: 15, 2021.

<https://doi.org/10.1038/s41378-021-00239-0>

[102] Kangqi Fan*, Chenyu Wang, Chenggen Chen, Yan Zhang, Peihong Wang, and **Fei Wang***, “A pendulum-plucked rotor for efficient exploitation of ultralow-frequency mechanical energy”. *Renewable Energy*, 179, Pages 339-350, December 2021.

<https://doi.org/10.1016/j.renene.2021.06.139>

[101] Kangqi Fan*, Jiayu Hao, Chenyu Wang, Chao Zhang, Weidong Wang*, and **Fei Wang***, “An eccentric mass-based rotational energy harvester for capturing ultralow-frequency mechanical energy,” *Energy Conversion and Management*, vol. 241, Aug. 2021.

<https://doi.org/10.1016/j.enconman.2021.114301>

[100] Yiming Wang, Xiaohui Leng, Changhui Zhao*, and **Fei Wang***, “Tunable Humidity-Sensing Performance of Graphene Oxide With Leaf-Vein-Like Multiwall Carbon Nanotube Conductive Networks,” *IEEE Sensors Journal*, vol. 21, no. 17, pp. 18469–18476, Sep. 2021.

<https://doi.org/10.1109/JSEN.2021.3089902>

[99] Rajendran Ramachandran, Thangavel Sakthivel, Minzhang Li, Haiquan Shan, Zong-Xiang Xu* and **Fei Wang***, “Efficient degradation of organic dye using Ni-MOF derived NiCo-LDH as peroxymonosulfate activator,” *Chemosphere*, 271, 128509, May 2021.

<https://doi.org/10.1016/j.chemosphere.2020.128509>

[98] Minzhang Li, Rajendran Ramachandran*, Thangavel Sakthivel, **Fei Wang***, Zong-Xiang Xu*, “Siloxene: An advanced metal-free catalyst for efficient photocatalytic reduction of aqueous Cr(VI) under visible light,” *Chemical Engineering Journal*, Vol. 421, Part 1, 129728, 1 October 2021.

<https://doi.org/10.1016/j.cej.2021.129728>

[97] Mingxiang Zhang, Shiyin Zhao, Zhicheng Zhao, Shun Li*, and **Fei Wang***, “Piezocatalytic effect induced hydrogen production from water over non-noble metal Ni deposited ultralong GaN nanowires,” *ACS Applied Materials & Interfaces*, Vol. 13, pp.10916–10924, 2021.

<https://doi.org/10.1021/acsami.0c21976>

[96] Manimuthu Veerappan, Xiaohui Leng, Dan Luo, and **Fei Wang***, “Dandelion flower like GaN humidity sensor: Fabrication and its excellent linearity towards entire relative humidity range,” *IEEE Sensors Journal*, Vol. 21, 3, 2581-2588, Feb. 1, 2021.

<https://doi.org/10.1109/JSEN.2020.3025026>

[95] Kun Hu, Bin Zhou, Fei Wang, Zhengbao Yang, Min Wang*, “Influence of effective electrode coverage on the energy harvesting performance of piezoelectric cantilevers,” *Energy Conversion and Management*, vol. 248, Nov. 2021.

<https://doi.org/10.1016/j.enconman.2021.114758>

[94] Kangqi Fan, Pengwei Xia, Yiwei Zhang, Hengheng Qu, Geng Liang, Fei Wang, and Lei Zuo, “Achieving high electric outputs from low-frequency motions through a double-string-spun rotor,” *Mechanical Systems and Signal Processing*, 155, 107648, 2021.

<https://doi.org/10.1016/j.ymssp.2021.107648>

[93] Xiaoxue Du, Yanjun Liu, Fei Wang, Dongyu Zhao*, Helen F. Gleeson*, and Dan Luo*, “A Fluorescence Sensor for Pb²⁺ Detection Based on Liquid Crystals and Aggregation-Induced Emission Luminogens,” *ACS Appl. Mater. Interfaces*, 13, 22361-22367, 2021.

<https://doi.org/10.1021/acsami.1c02585>

2020 [17]

[92] Anxin Luo, Yulong Zhang, Xiangtian Dai, Yifan Wang, Weihang Xu, Yan Lu, Min Wang, Kangqi Fan* and **Fei Wang***, “An inertial rotary energy harvester for vibrations at ultra-low frequency with high energy conversion efficiency,” *Applied Energy*, 279, 115762, 2020.

<https://doi.org/10.1016/j.apenergy.2020.115762>

[91] Changhui Zhao*, Huimin Gong, Gaoqiang Niu, and **Fei Wang***, “Ultrasensitive SO₂ sensor for sub-ppm detection using Cu-doped SnO₂ nanosheet arrays directly grown on chip,” *Sensors and Actuators B: Chemical*, Vol. 324, 128745, 1 December 2020.

<https://doi.org/10.1016/j.snb.2020.128745>

[90] Rajendran Ramachandran, Yangchun Lan, Zong-Xiang Xu*, and **Fei Wang***, “Construction of NiCo-Layered Double Hydroxide Microspheres from Ni-MOFs for High-Performance Asymmetric Supercapacitors,” *ACS Applied Energy Materials*, 3 (7), 6633-6643, 2020.

<https://doi.org/10.1021/acsaem.0c00790>

[89] Rajendran Ramachandran; Qikun Hu; Krishnamoorthy Rajavel; Pengli Zhu; Changhui Zhao; **Fei Wang***; and Zong-Xiang Xu*, “Non-peripheral octamethyl-substituted copper (II) phthalocyanine nanorods with MXene sheets: An excellent electrode material for symmetric supercapacitor with enhanced electrochemical performance,” *Journal of Power Sources*, 471, 228472, 30 September 2020.

<https://doi.org/10.1016/j.jpowsour.2020.228472>

[88] Kangqi Fan*, Hengheng Qu, Yipeng Wu, Tao Wen, and **Fei Wang***, “Design and development of a rotational energy harvester for ultralow frequency vibrations and irregular human motions,” *Renewable Energy*, Vol. 156, pp. 1028-1039, August 2020.

<https://doi.org/10.1016/j.renene.2020.04.117>

[87] Yulong Zhang, Anxin Luo, Yifan Wang, Xiangtian Dai, Weihang Xu, and **Fei Wang***, “Rotational electromagnetic energy harvester for human motion application at low frequency,” *Applied Physics Letters*, Vol.116, Issue 5, 053902, 02-04-2020. (selected as the **Featured Article**)

<https://doi.org/10.1063/1.5142575>

This article is also reported by the *AIP SciLight* as: "Rotational energy harvester powers devices using human motions"

<https://doi.org/10.1063/10.0000796>

[86] Huimin Gong, Changhui Zhao*, Gaoqiang Niu, Wei Zhang and **Fei Wang***, “Construction of 1D/2D α -Fe₂O₃/SnO₂ Hybrid Nanoarrays for Sub-ppm Acetone Detection,” *Research*, vol. 2020, 2196063, 11 pages, 2020.

<https://doi.org/10.34133/2020/2196063>

[85] Xinge Guo, Yulong Zhang, Kangqi Fan, Chengkuo Lee and **Fei Wang***, “A Comprehensive Study of Non-linear Air Damping and "Pull-in" Effects on the Electrostatic Energy Harvesters,” *Energy Conversion and Management*, Vol. 203, 112264, 2020.

<https://doi.org/10.1016/j.enconman.2019.112264>

[84] Chengjie Ge, Rajendran Ramachandran and **Fei Wang***, “CeO₂-Based Two-Dimensional Layered Nanocomposites Derived from a Metal-Organic Framework for Selective Electrochemical Dopamine Sensors,” *Sensors*, 20, 4880, 2020.

<https://doi.org/10.3390/s20174880>

[83] Rajendran Ramachandran, Xiaohui Leng, Changhui Zhao, Zong-Xiang Xu*, and **Fei Wang***, “2D

siloxene sheets: A Novel Electrochemical sensor for Selective Dopamine Detection,” *Applied Materials Today*, Vol 18, 100477, March 2020.

<https://doi.org/10.1016/j.apmt.2019.100477>

[82] Tianqi Zhang, Haodong Tang, Shuling Zhou, Shihao Ding, Xiangtian Xiao, Zuoliang Wen, Gaoqiang Niu, Xiaobing Luo, **Fei Wang**, Xiao Wei Sun, Guichuan Xing, and Kai Wang*, “Factors influencing the working temperature of quantum dot light-emitting diodes,” *Optics Express*, Vol. 28, Issue 23, pp. 34167-34179, 2020.

<https://doi.org/10.1364/OE.410393>

[81] Balachandran Subramanian, Manimuthu Veerappan, Karthikeyan Rajan, Zheming Chen, Chengzhi Hu,* **Fei Wang**, Feng Wang,* and Mingshu Yang, “Fabrication of Hierarchical Indium Vanadate Materials for Supercapacitor Application,” *Global Challenges*, 4, 2000002, 2020.

<https://doi.org/10.1002/gch2.202000002>

[80] Yangchun Lan, Gaoqiang Niu, **Fei Wang**, Dehu Cui*, and Zhuofeng Hu*, “SnO₂-Modified Two-Dimensional CuO for Enhanced Electrochemical Reduction of CO₂ to C₂H₄,” *ACS Applied Materials & Interfaces*, 12 (32), 36128-36136, 2020.

<https://doi.org/10.1021/acsami.0c09240>

[79] Zecong Fang, Yi Ding, Zhichao Zhang, **Fei Wang**, Zuankai Wang, Hao Wang and Tingrui Pan, “Digital microfluidic meter-on-chip,” *Lab on a Chip*, ,20, 722-733, 2020.

<https://doi.org/10.1039/C9LC00989B>

[78] Junlei Wang, Linfeng Geng, Kai Yang, Liya Zhao, **Fei Wang**, and Daniil Yurchenko, “Dynamics of the double-beam piezo–magneto–elastic nonlinear wind energy harvester exhibiting galloping-based vibration,” *Nonlinear Dynamics*, **100**, pages1963–1983, 2020.

<https://doi.org/10.1007/s11071-020-05633-3>

[77] Kai Yang, Kewei Su, Junlei Wang, Fei Wang, Guobiao Hu, and Oleg Gaidai, “Performance evaluation of a dual-piezoelectric-beam vibration energy harvester with a lever and repulsive magnets,” *Smart Materials and Structures*, Vol. 29, 075010, 2020.

<https://doi.org/10.1088/1361-665X/ab83ce>

[76] Xin Qi, Hua Xu, Xiu-Qi Wang, Wei-Gang Ma, Chao Qiu, Meng An, Guang Zhang, **Fei Wang**, Xing Zhang and Amine Bermak, “Effective Surface Emissivity and Heat Dissipation Among Integrated Bamboo-like Super-Black Vertical Carbon Nanotube Array Electrodes in Silicon Via Holes,” *Carbon*, Vol.158, pp. 846-856, 2020.

<https://doi.org/10.1016/j.carbon.2019.11.068>

2019 [17]

[75] Smitha Ankanahalli Shankaregowda, Rumana Farheen Sagade Muktar Ahmed, Chandrashekar Bananakere Nanjegowda, Jingwei Wang, Shi Rong Guan, Madhusudan Puttaswamy, Abbas Amini, Yulong Zhang, Dejun kong, Krishnaveni Sannathammegowda*, **Fei Wang***, and Chun Cheng*, “Single-Electrode Triboelectric Nanogenerator Based on Economical Graphite Coated Paper for Harvesting Waste Environmental Energy,” *Nano Energy*, 66, 104141, 2019.

<https://doi.org/10.1016/j.nanoen.2019.104141>

[74] Yushen Hu, Anxin Luo, Junlei Wang and **Fei Wang***, “Voltage Regulation and Power Management for Wireless Flow Sensor Node Self-powered by Energy Harvester with Enhanced Reliability,” *IEEE Access*, Vol. 7, pp. 154836-154843, 2019.

<https://doi.org/10.1109/ACCESS.2019.2948973>

[73] Feiyang Liu[#], Yulong Zhang[#], Oscar Dahlsten*, and **Fei Wang***, “Intelligently chosen interventions have potential to outperform the diode bridge in power conditioning,” *Scientific Reports*, Vol. **9**, 8994, 2019.

<https://doi.org/10.1038/s41598-019-45103-4>

[72] Bananakere Chandrashekar, Yingchun Wu, Nianduo Cai, Yunlong Li, Ankanahalli Shankaregowda Smitha, Ziyu Huang, Weijun Wang, Run Shi, Jingwei Wang, Shiyuan Liu, **Fei Wang*** and Chun Cheng*, “A Universal Stamping Method of Graphene Transfer for Conducting Flexible and Transparent Polymers,” *Scientific Reports*, Vol. **9**, 3999, 2019.

<https://doi.org/10.1038/s41598-019-40408-w>

[71] Mingxiang Zhang, Changhui Zhao, Huimin Gong, Gaoqiang Niu, and **Fei Wang***, “Porous GaN Submicron-rods for Gas Sensor with High Sensitivity and Excellent Stability at High Temperature,” *ACS Applied Materials & Interfaces*, 11, 36, 33124-33131, 2019.

<https://doi.org/10.1021/acsami.9b09769>

[70] Gaoqiang Niu, Changhui Zhao, Huimin Gong, Zhitao Yang, Xiaohui Leng and **Fei Wang***, “NiO Nanoparticle-Decorated SnO₂ Nanosheets for Ethanol Sensing with Enhanced Moisture Resistance,” *Microsystems & Nanoengineering (Nature Publishing Group)*, Vol. 5, Article number: 21, 2019.

<https://doi.org/10.1038/s41378-019-0060-7>

[69] Changhui Zhao, Huimin Gong, Gaoqiang Niu, and **Fei Wang***, “Electrospun Ca-doped In₂O₃ nanotubes for ethanol detection with enhanced sensitivity and selectivity,” *Sensors and Actuators B: Chemical*, **299**, 1269, 2019.

<https://doi.org/10.1016/j.snb.2019.126946>

[68] Jinglong Bai, Changhui Zhao, Huimin Gong, Qiao Wang, Baoyu Huang, Gengzhi Sun, Yanrong Wang, Jinyuan Zhou, Erqing Xie*, and **Fei Wang***, “Debye-length controlled gas sensing performances in NiO@ZnO p-n junctional core-shell nanotubes,” *Journal of Physics D: Applied Physics*, Vol. 52, 2019.

<https://doi.org/10.1088/1361-6463/ab182f>

[67] Xiaohui Leng, Yiming Wang and **Fei Wang***, “Alcohols assisted hydrothermal synthesis of defect-rich MoS₂ and their applications in humidity sensing,” *Advanced Materials Interfaces*, Vol. 6, 1900010, 2019. **(featured as cover image)**

<https://doi.org/10.1002/admi.201900010>

[66] Rajendran Ramachandran, Changhui Zhao, Muniyandi Rajkumar, Krishnamoorthy Rajavel, Pengli Zhu, Wenlu Xuan, Zong-Xiang Xu*, and **Fei Wang***, “Porous Nickel oxide microsphere and Ti₃C₂T_x hybrid derived from metalorganic framework for battery-type supercapacitor electrode and nonenzymatic H₂O₂ sensor,” *Electrochimica Acta*, Vol. 322, 134771, 1 November 2019.

<https://doi.org/10.1016/j.electacta.2019.134771>

[65] Rajendran Ramachandran[#], Qikun Hu[#], **Fei Wang***, Zong-Xiang Xu*, “Synthesis of N-CuMe₂Pc nanorods/Graphene Oxide nanocomposite for symmetric supercapacitor electrode with excellent cyclic stability,” *Electrochimica Acta*, Vol. 298, pp. 770-777, 1 March 2019.

<https://doi.org/10.1016/j.electacta.2018.12.163>

[64] Yuncai Chen, Haw Jiunn Woo, Muhammad Rizwan, Rosiyah binti Yahya, Dehu Cui, Dan Luo, Lang Chen, Abdul Kariem Mohd Arof*, and **Fei Wang***, “Nanoscale Morphology Control of Na-Rich Prussian Blue Cathode Materials for Sodium Ion Batteries with Good Thermal Stability,” *ACS Applied Energy Materials*, 2, 12, 8570-8579, 2019. **(featured as cover article.)**

<https://doi.org/10.1021/acsaem.9b01491>

[63] Yizhe Sun, Qiang Su, Heng Zhang, Fei Wang, Shengdong Zhang*, Shuming Chen*, “Investigation on Thermally Induced Efficiency Roll-Off: Toward Efficient and Ultrabright Quantum-Dot Light-Emitting Diodes,” *ACS Nano*, 13, 10, 11433-11442, 2019.

<https://doi.org/10.1021/acsnano.9b04879>

[62] Kangqi Fan, Meiling Cai, **Fei Wang**, Lihua Tang, Junrui Liang, Yipeng Wu, Hengheng Qu, and Qinxue Tan, “A string-suspended and driven rotor for efficient ultra-low frequency mechanical energy harvesting,” *Energy Conversion and Management*, Volume 198, 111820, 15 October 2019.

<https://doi.org/10.1016/j.enconman.2019.111820>

[61] Xiaofang Niu, Yanjun Liu, **Fei Wang**, and Dan Luo, “Highly sensitive and selective optical sensor for lead ion detection based on liquid crystal decorated with DNAzyme,” *Optics Express*, Vol. 27, Issue 21, pp. 30421-30428, 2019.

<https://doi.org/10.1364/OE.27.030421>

[60] Ruochen Liao, Xiyun Zhan, Xiaowan Xu, Yanjun Liu, **Fei Wang** and Dan Luo, “Spatially and electrically tunable random lasing based on a polymer-stabilised blue phase liquid crystal-wedged cell,” *Liquid Crystals*, 2019.

<https://doi.org/10.1080/02678292.2019.1673842>

[59] Xiaoxue Du, Yong Li, Yanjun Liu, **Fei Wang** and Dan Luo, “Electrically switchable bistable dual frequency liquid crystal light shutter with hyper-reflection in near infrared,” *Liquid Crystals*, 2019.

<https://doi.org/10.1080/02678292.2019.1597190>

2018 [25]

[58] Yulong Zhang, Tianyang Wang, Anxin Luo, Yushen Hu, Xinxin Li, and **Fei Wang***, “Micro electrostatic energy harvester with both broad bandwidth and high normalized power density,” *Applied Energy*, Vol. 212, pp. 362–371, 2018. (*ESI Top 1% Highly Cited Paper*)

<https://doi.org/10.1016/j.apenergy.2017.12.053>

[57] Yulong Zhang, Yushen Hu, Xinge Guo, and **Fei Wang***, “Micro energy harvester with dual electrets on sandwich structure optimized by air damping control for wireless sensor network application,” *IEEE Access*, vol. 6, pp. 26779-26788, 15 May 2018.

<https://doi.org/10.1109/ACCESS.2018.2836381>

[56] Yingchun Wu, Yushen Hu, Ziyu Huang, Chengkuo Lee, and **Fei Wang***, “Electret-material enhanced triboelectric energy harvesting from airflow for self-powered wireless temperature sensor network,” *Sensors and Actuators A: Physical*, Vol. 271, pp. 364–372, 2018.

<https://doi.org/10.1016/j.sna.2017.12.067>

[55] Changhui Zhao, Jinglong Bai, Huimin Gong, Sheng Liu, and **Fei Wang***, “Tailorable Morphology of Core-Shell Nanofibers with Surface Wrinkles for Enhanced Gas-Sensing Properties,” *ACS Applied Nano Materials*, 1, pp. 6357–6367, 2018.

<https://doi.org/10.1021/acsanm.8b01573>

[54] Changhui Zhao, Huimin Gong, Weizong Lan, Rajendran Ramachandran, Hu Xu, Sheng Liu, and **Fei Wang***, “Facile synthesis of SnO₂ hierarchical porous nanosheets from graphene oxide sacrificial scaffolds for high-performance gas sensors,” *Sensors and Actuators B: Chemical*, Vol. 258, pp. 492–500, 2018.

<https://doi.org/10.1016/j.snb.2017.11.167>

[53] Huimin Gong, Changhui Zhao, and **Fei Wang***, “On-chip growth of SnO₂/ZnO core-shell nanosheet arrays for ethanol detection,” *IEEE Electron Device Letters*, vol. 39, pp. 1065-1068, 2018.

<https://doi.org/10.1109/LED.2018.2832644>

[52] Changhui Zhao, **Fei Wang***, and Sheng Liu, "Structural transformation of Mo-Doped In_2O_3 nanotubes by electron-beam irradiation," *IEEE Transactions on Nanotechnology*, Vol. 17, pp. 705-708, July 2018.

<https://doi.org/10.1109/TNANO.2017.2786552>

[51] Changhui Zhao, Weizong Lan, Huimin Gong, Jinglong Bai, Rajendran Ramachandran, Sheng Liu, and **Fei Wang***, "Highly sensitive acetone-sensing properties of Pt-decorated CuFe_2O_4 nanotubes prepared by electrospinning," *Ceramics International*, Vol. 44, pp 2856-2863, 15 February 2018.

<https://doi.org/10.1016/j.ceramint.2017.11.032>

[50] Xiaohui Leng, Dan Luo, Zongxiang Xu, and **Fei Wang***, "Modified graphene oxide/Nafion composite humidity sensor and its linear response to the relative humidity," *Sensors and Actuators B: Chemical*, Vol. 257, pp. 372–381, March 2018.

<https://doi.org/10.1016/j.snb.2017.10.174>

[49] Wenlu Xuan, Rajendran Ramachandran, Changhui Zhao, and **Fei Wang***, "Influence of synthesis temperature on Cobalt metal-organic framework (Co-MOF) formation and its electrochemical performance towards supercapacitor electrodes," *Journal of Solid State Electrochemistry*, 22:3873–3881, 2018.

<https://doi.org/10.1007/s10008-018-4096-7>

[48] Rajendran Ramachandran, Changhui Zhao, Dan Luo, Kai Wang and **Fei Wang***, "Synthesis of copper benzene-1, 3, 5-tricarboxylate metal organic frameworks with mixed phases as the electrode material for supercapacitor applications," *Applied Surface Science*, Vol. 460, 1, pp. 33-39, December 2018.

<https://doi.org/10.1016/j.apsusc.2017.11.271>

[47] Rajendran Ramachandran, Krishnamoorthy Rajavel, Wenlu Xuan, Daohui Lin, and **Fei Wang***, "Influence of $\text{Ti}_3\text{C}_2\text{T}_x$ (MXene) intercalation pseudocapitance on electrochemical performance of Co-MOF binder-free electrode," *Ceramics International*, vol. 44, pp. 14425–14431, 2018.

<https://doi.org/10.1016/j.ceramint.2018.05.055>

[46] Rajendran Ramachandran, Changhui Zhao, Dan Luo, Kai Wang and **Fei Wang***, "Morphology-dependent electrochemical properties of cobalt-based metal organic frameworks for supercapacitor electrode materials," *Electrochimica Acta*, Vol. 267, pp. 170–180, 20 March 2018.

<https://doi.org/10.1016/j.electacta.2018.02.074>

[45] Rajendran Ramachandran, Wenlu Xuan, Changhui Zhao, Xiaohui Leng, Dazhi Sun, Dan Luo, and **Fei Wang***, "Enhanced electrochemical properties of cerium metal-organic framework based composite electrodes for high-performance supercapacitor application," *RSC Advances*, 8, pp. 3462–3469, 2018.

<https://doi.org/10.1039/C7RA12789H>

[44] Zong Liu, Siyin Qin, Xingwei Chen, Dazhu Chen and **Fei Wang***, "PDMS-PDMS micro channels filled with phase-change material for chip cooling," *Micromachines*, vol. 9, 165 (14p), 2018.

<http://dx.doi.org/10.3390/mi9040165>

[43] X. Xu, Y. Liu, **F. Wang** and D. Luo, "Narrow linewidth and temperature insensitive blue phase liquid crystal films," in *IEEE Photonics Journal*, vol. 10, no. 6, pp. 1-7, Dec. 2018.

<https://doi.org/10.1109/JPHOT.2018.2879091>

[42] Yujia Zhang, Zhitao Zhou, Zhen Fan, Shaoqing Zhang, Faming Zheng, Keyin Liu, Yulong Zhang, Zhifeng Shi, Liang Chen, Xinxin Li, Ying Mao, **Fei Wang**, Yun-Lu Sun, and Tiger H. Tao, "Self-Powered Multifunctional Transient Bioelectronics," *Small*, Vol14, Issue35, pp. 1802050, August

29, 2018.

<https://doi.org/10.1002/sml.201802050>

[41] Yong Li, Yanjun Liu, **Fei Wang**, Dan Luo, and Xiaowei Sun, “High-performance dichroic dye-doped flexible cholesteric polymer film optical filter for laser protection application,” *Optics Express*, Vol. 26, Issue 18, pp. 23000-23007 (2018).

<https://doi.org/10.1364/OE.26.023000>

[40] Robert Sokolovskij, Jian Zhang, Elina Iervolino, Changhui Zhao, Fabio Santagata, **Fei Wang**, Hongyu Yu, Pasqualina M. Sarro, and Guo Qi Zhang, “Hydrogen sulfide detection properties of Pt-gated AlGaIn/GaN HEMT-sensor,” *Sensors and Actuators B: Chemical*, vol. 274, pp. 636-644, 20 November 2018.

<https://doi.org/10.1016/j.snb.2018.08.015>

[39] Yuncai Chen, H.J. Woo, M.Z. Kufian, L.P. Teo, **Fei Wang**, Changhui Zhao, and A.K. Arof, “Synthesis of low vacancies PB with high electrochemical performance using a facile method,” *Materials Technology*, accepted, 2018.

<https://doi.org/10.1080/10667857.2018.1493835>

[38] Jia-hua Liu, Xiao-ying Xu, Weibang Lu, Xinbo Xiong, Xing Ouyang, Changhui Zhao, **Fei Wang**, Si-yin Qin, Jiao-ling Hong, Jiao-ning Tang, and Da-Zhu Chen, “A high performance all-solid-state flexible supercapacitor based on carbon nanotube fiber/carbon nanotubes/polyaniline with a double core-sheathed structure,” *Electrochimica Acta*, vol. 283, pp. 366-373, 1 September 2018.

<https://doi.org/10.1016/j.electacta.2018.06.158>

[37] Han Wu, Qiongfeng Shi, **Fei Wang**, Aaron Voon-Yew Thean, and Chengkuo Lee, “Self-powered cursor using a triboelectric mechanism,” *Small Methods*, 2018, 1800078.

<https://doi.org/10.1002/smt.201800078>

[36] Kristoffer G. Kalhauge, Henrik H. Henrichsen, **Fei Wang**, Ole Hansen and Dirch H. Petersen, “Vibration tolerance of micro-electrodes,” *Journal of Micromechanics and Microengineering*, vol. 28, 095010, 6 June 2018.

<http://dx.doi.org/10.1088/1306-6439/aac58e>

[35] Xiaofang Niu, Yuanbo Zhong, Rui Chen, **Fei Wang**, Yanjun Liu, Dan Luo, “A “turn-on” fluorescence sensor for Pb²⁺ detection based on graphene quantum dots and gold nanoparticles,” *Sensors and Actuators B: Chemical*, Vol. 255, pp. 1577-1581, February 2018.

<https://doi.org/10.1016/j.snb.2017.08.167>

[34] Santagata Fabio, Jianwen Sun, Elina Iervolino, Hongyu Yu, **Fei Wang**, Guoqi Zhang, P.M. Sarro, and Guoyi Zhang, “System in Package (SiP) Technology: Fundamentals, Design and Applications,” *Microelectronics International*, Vol. 35, Issue: 4, pp. 231-243, 2018.

<https://doi.org/10.1108/MI-09-2017-0045>

2017 [6]

[33] Tianqi Zhang, Haodong Tang, Shang Li, Zuoliang Wen, Xiangtian Xiao, Yulong Zhang, **Fei Wang***, Kai Wang*, and Dan Wu, “Highly Efficient Chip Scale Package LED Based on Surface Patterning,” *IEEE Photonics Technology Letters*, Vol. 29, Issue. 20, pp 1703-1706, Oct.15, 2017.

<https://doi.org/10.1109/LPT.2017.2738100>

[32] Xiaohui Leng, Weinan Li, Dan Luo and **Fei Wang***, “Differential structure with graphene oxide for both humidity and temperature sensing,” *IEEE Sensors Journal*, Vol. 17, No. 14, pp 4357-4364, July 15, 2017.

<https://doi.org/10.1109/JSEN.2017.2712717>

[31] R. Kumuthini, R. Ramachandran, H.A. Therese, and **Fei Wang***, “Electrochemical properties of electrospun MoS₂@C nanofiber as electrode material for high-performance supercapacitor application,” *Journal of Alloys and Compounds*, 705, pp 624–630, 25 May 2017.

<https://doi.org/10.1016/j.jallcom.2017.02.163>

[30] Rajendran Ramachandran, Murugan Saranya, Andrews Nirmala Grace, **Fei Wang***, “MnS nanocomposites based on doped graphene: simple synthesis by wet chemical route and improved electrochemical properties as electrode material for supercapacitors,” *RSC Advances*, 7, pp 2249-2257, 2017.

<https://doi.org/10.1039/C6RA25457H>

[29] Xiaofang Niu, Yuanbo Zhong, Rui Chen, **Fei Wang**, and Dan Luo, “Highly sensitive and selective liquid crystal optical sensor for detection of ammonia,” *Optics Express*, Vol. 25, No. 12, 13549, 12 Jun 2017.

<https://doi.org/10.1364/OE.25.013549>

[28] Feng Li, Hong Wang, Dominik Kufer, Liangliang Liang, Weili Yu, Erkki Alarousu, Chun Ma, Yangyang Li, Zhixiong Liu, Changxu Liu, Nini Wei, **Fei Wang**, Lang Chen, Omar F. Mohammed, Andrea Fratalocchi, Xiaogang Liu, Gerasimos Konstantatos, and Tom Wu “Ultrahigh carrier mobility achieved in photoresponsive hybrid perovskite films via coupling with single-walled carbon nanotubes,” *Advanced Materials*, 2017, 1602432.

<https://doi.org/10.1002/adma.201602432>

2016 [6]

[27] Shanshan Li, Andrea Crovetto, Zhuoteng Peng, Ai Zhang, Ole Hansen, Mingjiang Wang, Xinxin Li, and **Fei Wang***, “Bi-resonant structure with piezoelectric PVDF films for energy harvesting from random vibration sources at low frequency,” *Sensors and Actuators A: Physical*, 247, 547–554, 2016.

<https://doi.org/10.1016/j.sna.2016.06.033>

[26] Yulong Zhang, Tianyang Wang, Ai Zhang, Zhuoteng Peng, Dan Luo, Rui Chen, and **Fei Wang***, “Electrostatic energy harvesting device with dual resonant structure for wideband random vibration sources at low frequency,” *Review of Scientific Instruments*, 87, 125001 (2016).

<http://dx.doi.org/10.1063/1.4968811>

[25] Shanshan Li, Zhuoteng Peng, Ai Zhang, and **Fei Wang***, “Dual resonant structure for energy harvesting from random vibration sources at low frequency,” *AIP Advances* 6, 015019 (2016).

<https://doi.org/10.1063/1.4941353>

[24] Yixin Xu, Anxin Luo, Ai Zhang, Yulong Zhang, Bin Tang, Kai Wang and **Fei Wang***, “Spray Coating of Polymer Electret with Nano Particles for Electrostatic Energy Harvesting,” *Micro & Nano Letters*, 11, 640-644, 2016.

<http://dx.doi.org/10.1049/mnl.2016.0336>

[23] Murugan Saranya, Rajendran Ramachandran, and **Fei Wang***, “Graphene-zinc oxide (G-ZnO) nanocomposite for electrochemical supercapacitor applications,” *Journal of Science: Advanced Materials and Devices*, Volume 1, Issue 4, pp 454–460, (2016).

<https://doi.org/10.1016/j.jsamd.2016.10.001>

[22] Xiaofang Niu, Dan Luo, Rui Chen, **Fei Wang**, Xiaowei Sun, and Haitao Dai, “Optical biosensor based on liquid crystal droplets for detection of cholic acid,” *Optics Communications*, 381, 286-291, 2016.

<https://doi.org/10.1016/j.optcom.2016.07.016>

2014 [4]

[21] Andrea Crovetto, **Fei Wang***, and Ole Hansen, “Modeling and optimization of an electrostatic energy harvesting device,” *IEEE/ASME Journal of Microelectromechanical Systems*, Vol. 23, No. 5, pp. 1141-1155, 2014.

<https://doi.org/10.1109/JMEMS.2014.2306963>

[20] **Fei Wang**, and Ole Hansen, “Electrostatic energy harvesting device with out-of-the-plane gap closing scheme,” *Sensors and Actuators A – Physical*, 211, 131–137, 2014.

<https://doi.org/10.1016/j.sna.2014.02.027>

[19] Mads Boll, Mikkel R. Lotz, Ole Hansen, **Fei Wang**, Daniel Kjær, Peter Bøggild, and Dirch H. Petersen, “Sensitivity analysis explains quasi-1D current transport in 2D materials,” *Physical Review B*, 90, 245432, 2014.

<https://doi.org/10.1103/PhysRevB.90.245432>

[18] Daniel W. Koon, **Fei Wang**, Dirch Hjorth Petersen and Ole Hansen, “Sensitivity of resistive and Hall measurements to local inhomogeneities: Finite-field, intensity, and area corrections,” *Journal of Applied Physics*, 116, 133706 (2014).

<http://dx.doi.org/10.1063/1.4896947>

Before 2013 [17]

[17] Daniel W. Koon, **Fei Wang**, Dirch Hjorth Petersen, and Ole Hansen, “Sensitivity of resistive and Hall measurements to local inhomogeneities,” *Journal of Applied Physics*, 114, 163710, 2013.

<https://doi.org/10.1063/1.4826490>

[16] Andrea Crovetto, **Fei Wang***, and Ole Hansen, “An electret-based energy harvesting device with a wafer-level fabrication process,” *Journal of Micromechanics and Microengineering*, 23, 114010 (10pp), 2013.

<http://dx.doi.org/10.1088/0960-1317/23/11/114010>

[15] **Fei Wang**, and Ole Hansen, “Invisible surface charge pattern on inorganic electrets,” *IEEE Electron Device Letters*, Volume 34, No. 8, pp. 1047-1049, 2013.

<https://doi.org/10.1109/LED.2013.2269991>

[14] **Fei Wang**, Christian Bertelsen, Gustav Skands, Thomas Pedersen, and Ole Hansen, “Reactive ion etching of polymer materials for an energy harvesting device,” *Microelectronics Engineering*, Volume 97, pp. 227–230, 2012.

<https://doi.org/10.1016/j.mee.2012.03.016>

[13] **Fei Wang**, Wu Yuan, Ole Hansen, and Ole Bang, “Selective filling of photonic crystal fibers using focused ion beam milled microchannels,” *Optics Express*, Vol. 19, Issue 18, pp. 17585–17590, 2011.

<https://doi.org/10.1364/OE.19.017585>

[12] Wu Yuan, and **Fei Wang***, Alexey Savenko, Dirch Hjorth Petersen, and Ole Bang, “Optical fiber milled by focused ion beam and its application for Fabry-Pérot refractive index sensor,” *Review of Scientific Instruments*, 82, 076103 (3pp), 2011.

<http://dx.doi.org/10.1063/1.3608111>

[11] **Fei Wang**, Dirch H Petersen, Helle V Jensen, Christian Hansen, Dennis Mortensen, Lars Friis and Ole Hansen, “Three-way flexible cantilever probes for static contact,” *Journal of Micromechanics and Microengineering*, Volume 21, Issue 8, 085003 (8pp), 2011. (featured as the **Cover Image**)

<https://doi.org/10.1088/0960-1317/21/8/085003>

[10] **Fei Wang**, Dirch H. Petersen, Torben M. Hansen, Toke R. Henriksen, Peter Bøggild, and Ole Hansen, "Sensitivity study of micro four-point probe measurements on small samples," *Journal of Vacuum Science & Technology B (JVST B)*, Vol. 28, No. 1, pp. C1C34-C1C40, 2010.

<https://doi.org/10.1116/1.3224889>

[9] **Fei Wang**, Xinxin Li, Rong Cheng, Kewei Jiang, and Songlin Feng, "Silicon cantilever arrays with by-pass metal through-silicon-via (TSV) tips for micromachined IC testing probe cards," *Microelectronics Engineering*, 86, pp. 2211-2216, 2009.

<https://doi.org/10.1016/j.mee.2009.03.037>

[8] Sune Thorsteinsson, **Fei Wang**, Dirch H. Petersen, Torben Mikael Hansen, Daniel Kjær, Rong Lin, Jang-Yong Kim, Peter F. Nielsen, and Ole Hansen, "Accurate micro four-point probe sheet resistance measurements on small samples," *Review of Scientific Instruments*, 80, 053902 (10pp), 2009. (featured as **Monthly Top 20 Most Downloaded Paper**)

<http://dx.doi.org/10.1063/1.3125050>

[7] **Fei Wang**, Rong Cheng, and Xinxin Li, "MEMS vertical probe cards with ultra densely arrayed metal probes for wafer-level IC testing," *IEEE/ASME Journal of Microelectromechanical Systems*, Vol. 18, No. 4, pp. 933-941, 2009.

<https://doi.org/10.1109/JMEMS.2009.2021815>

[6] **Fei Wang**, Xinxin Li, and Songlin Feng, "Micro-cantilever probe cards with silicon and nickel composite micromachining technique for wafer-level burn-in testing," *IEEE Transactions on Advanced Packaging*, Vol. 32, No. 2, pp. 468-477, 2009.

<https://doi.org/10.1109/TADV.2009.2013636>

[5] **Fei Wang**, Xinxin Li, and Songlin Feng, "A MEMS probe-card with 2-D dense-arrayed 'hoe'-shaped metal tips," *Journal of Micromechanics and Microengineering*, Volume 18, Issue 5, 055008 (8pp), 2008.

<https://doi.org/10.1088/0960-1317/18/5/055008>

[4] **Fei Wang**, Xinxin Li, and Songlin Feng, "MEMS cantilever type probe card for IC testing," *Chinese Journal of Sensors and Actuators*, Volume 21, Issue 3, pp. 420-423, 2008. (In Chinese)

[3] **Fei Wang**, Xinxin Li, Nanxiang Guo, Yuelin Wang, and Songlin Feng, "A silicon cantilever probe card with tip-to-pad electric feed-through and automatic isolation of the metal coating," *Journal of Micromechanics and Microengineering*, Volume 16, Issue 7, pp. 1215-1220, 2006.

<https://doi.org/10.1088/0960-1317/16/7/014>

[2] Nanxiang Guo, **Fei Wang**, and Xinxin Li, "The design and fabrication of cantilever MEMS probe card," *Instrument Technique and Sensor*, No. 4, pp. 12-14, 2006. (In Chinese)

[1] Anding Zhu, Yuxiang Liu, **Fei Wang**, and Wenhao Huang, "Calculation for optical drive of micro-propeller shaped rotor," *Opti-Electronic Engineering*, Vol. 32, pp. 13-16, 2005. (In Chinese)

PUBLICATIONS IN PEER-REVIEWED CONFERENCES:

[110] Anxin Luo, Mingjie Li, Wenxin Luo, Xiaojiang Liu, Fei Wang, "MEMS electrostatic energy harvester with rechargeable electret by built-in corona tips," in the *22th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2023)*, Kyoto, Japan, June 25-29, 2023.

[109] Shanghao Gu, Kunling Xi, Anxin Luo, and Fei Wang, "Piezoelectric energy harvester with anti-interference ability for power line monitoring application," in the *22th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2023)*, Kyoto, Japan, June 25-29, 2023.

[108] Xue Wang, Changhui Zhao, Gaoqiang Niu, and Fei Wang, "Flexible NH₃ sensor based on

polyaniline/carbon nanotubes with detection limit down to ppb-level,” in *the 22th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2023)*, Kyoto, Japan, June 25-29, 2023.

[107] Gaoqiang Niu, Yi Zhuang, Yushen Hu, Zong Liu, and Fei Wang,* “Selective discrimination of ppb-level VOCs using MOS gas sensor in pulse-heating mode with the modified Hill's model,” in *the 36rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2023)*, pp.826-829, Munich, Germany, 15-19 January 2023.

<https://doi.org/10.1109/MEMS49605.2023.10052356>

[106] Mingjie Li, Wenxin Luo, Xiaojiang Liu, Gaoqiang Niu, Fei Wang, “Wafer-Level Patterning of Tin Oxide Nanosheets for MEMS Gas Sensors,” in *the 36rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2023)*, pp.893-896, Munich, Germany, 15-19 January 2023.

<https://doi.org/10.1109/MEMS49605.2023.10052390>

[105] Yi Zhuang, Gaoqiang Niu, Lang Wu, Fei Wang, “Millisecond-Level Pulse-Heating Sensing System for MEMS-based Gas Sensors,” in *the 36rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2023)*, pp.913-916, Munich, Germany, 15-19 January 2023.

<https://doi.org/10.1109/MEMS49605.2023.10052316>

[104] Zong Liu, Yushen Hu, Gabriel E Carranza, Fei Wang, Man Wong, “An Intelligent Gas Analysis System Consisting of Sensors and a Neural Network Implemented Using Thin-Film Transistors,” in *the 36rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2023)*, pp.259-262, Munich, Germany, 15-19 January 2023.

<https://doi.org/10.1109/MEMS49605.2023.10052572>

[103] Rajendran Ramachandran; Wang Yu; Anxin Luo; Zong-Xiang Xu; **Fei Wang***, “2D Siloxene/MoS₂ Based Solid-State Symmetric Supercapacitor for Energy Harvesting-Storage System,” in *the 35rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2022)*, Virtual Conference, 09-13 January 2022.

<https://doi.org/10.1109/MEMS51670.2022.9699694>

[102] Weihai Xu, Anxin Luo, Fei Wang, “The Analysis of Magnetic Coupling Force to An Energy Harvester with Rotational Frequency Up-Conversion Structure”, in *IEEE 20th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS)*, pp.192-195, Virtual Conference, 06-08 December 2021.

<https://doi.org/10.1109/PowerMEMS54003.2021.9658330>

[101] Xinyu Ma, Xingyu Tang, Ziyue Zhang, Anxin Luo, Fei Wang, “A Rotational Electromagnetic Energy Harvester for The Ultra-low Frequency Vibration,” in *IEEE 20th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS)*, pp.12-15, Virtual Conference, 06-08 December 2021.

<https://doi.org/10.1109/PowerMEMS54003.2021.9658381>

[100] Xinge Guo, Fei Wang, Huicong Liu, Chengkuo Lee, “Multi-Functional Hybridized Units for Self-Sustainable IoT Sensing and Ultra-Low Frequency Energy Harvesting,” in *IEEE 20th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS)*, pp.64-67, Virtual Conference, 06-08 December 2021.

<https://doi.org/10.1109/PowerMEMS54003.2021.9658392>

[99] Yushen Hu, **Fei Wang***, and Man Wong*, “An Absolute Capacitive Pressure Sensor Based on A Simit-Fabricated Vacuum Cavity,” in *the 21th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2021)*, pp. 1170–1173, Virtual Conference, JUN 20-25, 2021.

<https://doi.org/10.1109/TRANSDUCERS50396.2021.9495734>

[98] Bo Wu, Minzhang Li, Zongxiang Xu, Rajendran Ramachandran, and **Fei Wang***, “Simultaneous Electrochemical Detection of Dopamine and Uric Acid with Graphene Quantum Dots Decorated Cobalt Phthalocyanine Nanocomposite,” in *the 21th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2021)*, pp. 533–536, Virtual Conference, JUN 20-25, 2021.

<https://doi.org/10.1109/TRANSDUCERS50396.2021.9495550>

[97] Gaoqiang Niu, Rajendran Ramachandran, Changhui Zhao, and **Fei Wang***, “Enhanced Formaldehyde Sensing Performance Based on SnO₂ Nanosheets/Titanium Carbide (Mxene) Composites,” in *the 21th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2021)*, pp. 831–834, Virtual Conference, JUN 20-25, 2021.

<https://doi.org/10.1109/TRANSDUCERS50396.2021.9495402>

[96] Junlong Huang, Chen Bao, Anxin Luo and **Fei Wang***, "Mechanical Energy Harvester for Smart Shared Bicycle Application," in *2021 IEEE 16th International Conference on Nano/Micro Engineered and Molecular Systems (NEMS)*, 2021, pp. 184-188, doi: 10.1109/NEMS51815.2021.9451460.

<https://doi.org/10.1109/NEMS51815.2021.9451460>

[95] Gaoqiang Niu, Changhui Zhao and **Fei Wang***, "Scalable Synthesis of SnO₂ Nanosheet Arrays on Chips for Ultralow Concentration NO₂ Detection," in *2021 IEEE 16th International Conference on Nano/Micro Engineered and Molecular Systems (NEMS)*, 2021, pp. 820-823, doi: 10.1109/NEMS51815.2021.9451385.

<https://doi.org/10.1109/NEMS51815.2021.9451385>

[94] Chen Bao, Anxin Luo, Yi Zhuang, Junlong Huang and **Fei Wang***, "A Wearable Health Monitoring System Self-powered by Human-motion Energy Harvester," in *2021 IEEE 16th International Conference on Nano/Micro Engineered and Molecular Systems (NEMS)*, 2021, pp. 990-993, doi: 10.1109/NEMS51815.2021.9451391.

<https://doi.org/10.1109/NEMS51815.2021.9451391>

[93] Wenjie Ren, Changhui Zhao, Yingming Liu and **Fei Wang***, "An In₂O₃ Nanotubes based Gas Sensor Array combined with Machine Learning Algorithms for Trimethylamine Detection," in *2021 IEEE 16th International Conference on Nano/Micro Engineered and Molecular Systems (NEMS)*, 2021, pp. 1042-1046, doi: 10.1109/NEMS51815.2021.9451424.

<https://doi.org/10.1109/NEMS51815.2021.9451424>

[92] Yushen Hu, Ye Tian, Yi Zhuang, Changhui Zhao and **Fei Wang***, “Rapid gas sensing based on pulse heating and deep learning,” in *the 34rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2021)*, **Oral Presentation**, Virtual Conference, 25 - 29 January 2021.

<https://doi.org/10.1109/MEMS51782.2021.9375312>

[91] Yifan Wang, Xiangtian Dai, Anxin Luo and **Fei Wang***, “A self-powered vehicle speed sensor based on an inertial rotary electromagnetic energy harvester,” in *the 15th IEEE International Conference on Nano/Micro Engineered & Molecular Systems (IEEE NEMS 2020)*, **Oral Presentation**, 27-30 September 2020. (Virtual due to the COVID-19 coronavirus pandemic)

<https://doi.org/10.1109/NEMS50311.2020.9265523>

[90] Yingming Liu, Changhui Zhao, Junqi Lin, Huimin Gong and **Fei Wang***, “Classification and concentration prediction of VOC gases based on sensor array with machine learning algorithms,” in *the 15th IEEE International Conference on Nano/Micro Engineered & Molecular Systems (IEEE NEMS 2020)*, **Oral Presentation**, 27-30 September 2020. (Virtual due to the COVID-19 coronavirus pandemic)

<https://doi.org/10.1109/NEMS50311.2020.9265606>

- [89] Ye Tian, Gaoqiang Niu, Yushen Hu and **Fei Wang***, “A novel pulse heating approach for gas sensors with concentration estimation through back propagation neural network,” in *the 15th IEEE International Conference on Nano/Micro Engineered & Molecular Systems (IEEE NEMS 2020)*, **Oral Presentation**, 27-30 September 2020. (Virtual due to the COVID-19 coronavirus pandemic)
<https://doi.org/10.1109/NEMS50311.2020.9265567>
- [88] Rajendran Ramachandran, Changhui Zhao, Zong-Xiang Xu* and **Fei Wang***, “Construction of NiCe-LDH nanostructure from Ni-MOF as a positive electrode material for high-performance asymmetric supercapacitor device,” in *the 15th IEEE International Conference on Nano/Micro Engineered & Molecular Systems (IEEE NEMS 2020)*, **Oral Presentation**, 27-30 September 2020. (Virtual due to the COVID-19 coronavirus pandemic)
<https://doi.org/10.1109/NEMS50311.2020.9265587>
- [87] Chengjie Ge, Rajendran Ramachandran and **Fei Wang***, “Metal-organic framework derived CeO₂ based two-dimensional layered nanocomposites for selective electrochemical dopamine detection,” in *the 15th IEEE International Conference on Nano/Micro Engineered & Molecular Systems (IEEE NEMS 2020)*, **Oral Presentation**, 27-30 September 2020. (Virtual due to the COVID-19 coronavirus pandemic)
<https://doi.org/10.1109/NEMS50311.2020.9265548>
- [86] Xiangtian Dai, Yifan Wang, Anxin Luo and **Fei Wang***, “Effect of the twist rod angles on an inertial rotary electromagnetic energy harvester,” in *the 15th IEEE International Conference on Nano/Micro Engineered & Molecular Systems (IEEE NEMS 2020)*, **Oral Presentation**, 27-30 September 2020. (Virtual due to the COVID-19 coronavirus pandemic)
<https://doi.org/10.1109/NEMS50311.2020.9265526>
- [85] **Fei Wang**, “MEMS Gas Sensors - From Nanomaterials to Microelectrodes”, in *2020 IEEE International MEMS Conference*, **Invited Talk**, Vancouver, BC, Canada, January 18-22, pp. 194-199, 2020. **(One of the 8 invited speakers and the only one from mainland this year.)**
<https://doi.org/10.1109/MEMS46641.2020.9056235>
- [84] Rajendran Ramachandran, Minzhang Li, Chengjie Ge, Zong-Xiang Xu and **Fei Wang***, “A selective electrochemical dopamine sensor based on siloxene nanosheet,” in *the 33rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2020)*, Vancouver, BC, Canada, January 18 - 22, 2020.
<https://doi.org/10.1109/MEMS46641.2020.9056325>
- [83] Gaoqiang Niu, Huiming Gong, Changhui Zhao and **Fei Wang***, “H₂S sensor based on MEMS hotplate and on-chip growth of CuO-SnO₂ nanosheets for high response, fast recovery and low power consumption,” in *the 33rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2020)*, Vancouver, BC, Canada, January 18 - 22, 2020.
<https://doi.org/10.1109/MEMS46641.2020.9056397>
- [82] Manimuthu Veerappan and **Fei Wang***, “Dandelion flower like, APTES functionalized gallium nitride microsphere for fluorescence detection of bovine serum albumin protein,” in *the 33rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2020)*, Vancouver, BC, Canada, January 18 - 22, 2020.
<https://doi.org/10.1109/MEMS46641.2020.9056337>
- [81] Anxin Luo, Yulong Zhang, Weihang Xu, Yan Lu and **Fei Wang***, “Electromagnetic energy harvester with inertial rotary structure for human motion application at ultra-low frequency,” in *the 33rd International Conference on Micro Electro Mechanical Systems (IEEE MEMS 2020)*, Vancouver, BC, Canada, January 18 - 22, 2020.

<https://doi.org/10.1109/MEMS46641.2020.9056319>

[80] Anxin Luo, Yulong Zhang, Weihang Xu, Yan Lu and **Fei Wang***, “An Inertial Rotary Electrostatic Energy Harvester for Vibration at Ultra-Low Frequency,” in *the 19th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2019)*, **Oral Presentation**, Kraków, Poland 2-6 December 2019.

[79] Yulong Zhang, Anxin Luo, Xiangtian Dai, Yifan Wang and **Fei Wang***, “A Novel Mechanical Energy Conversion Structure for Rotational Electromagnetic Energy Harvester,” in *the 19th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2019)*, **Oral Presentation**, Kraków, Poland 2-6 December 2019.

[78] Weihang Xu, Anxin Luo, Yulong Zhang, Yan Lu and **Fei Wang***, “A Voltage Multiplier Rectifier Circuit with Configurable Voltage Conversion Ratio (VCR) for Rotary Electromagnetic Energy Harvester,” in *the 19th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2019)*, Kraków, Poland 2-6 December 2019.

[77] Mingxiang Zhang, Changhui Zhao, Huimin Gong, Gaoqiang Niu and **Fei Wang***, “High sensitivity gas sensor based on porous GaN nanorods with excellent high-temperature stability,” in *the 20th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2019)*, 23-27 June 2019 - Berlin, Germany.

<https://doi.org/10.1109/TRANSDUCERS.2019.8808695>

[76] Gaoqiang Niu, Changhui Zhao, Huimin Gong, Yushen Hu, Yulong Zhang, Zhitao Zhou, Tiger H. Tao and **Fei Wang***, “A micro-hotplate for MEMS-based H₂S sensor,” in *the 20th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2019)*, 23-27 June 2019 - Berlin, Germany.

<https://doi.org/10.1109/TRANSDUCERS.2019.8808648>

[75] Manimuthu Veerappan, Xiaohui Leng, Ramachandran Rajendran and **Fei Wang***, “Hierarchical 3D dandelion flower-like GaN microsphere for humidity sensor with excellent linearity response,” in *the 20th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2019)*, 23-27 June 2019 - Berlin, Germany.

<https://doi.org/10.1109/TRANSDUCERS.2019.8808378>

[74] Huimin Gong, Changhui Zhao, Wei Zhang, Gaoqiang Niu and **Fei Wang***, “Hierarchical Assembly of α -Fe₂O₃ Nanorods on SnO₂ Nanosheet Arrays for Acetone Detection at Sub-ppm Level,” *IEEE NEMS 2019*, **Oral Presentation**, Thailand, 2019.

<https://doi.org/10.1109/NEMS.2019.8915666>

[73] Xinge Guo and **Fei Wang***, “Dynamic Analysis of Electrostatic Energy Harvesting Device with Multi-step Structure,” in the 2nd International Conference on Modeling in Mechanics and Materials (CMMM 2019), **Oral Presentation**, Suzhou, China, March 29-31, 2019.

[72] Yulong Zhang and **Fei Wang***, “FEM simulation of the air damping in perforated electrostatic vibration energy harvester,” in the 2nd International Conference on Modeling in Mechanics and Materials (CMMM 2019), Suzhou, China, March 29-31, 2019.

[71] Xiaohui Leng, Yiming Wang and **Fei Wang***, “Ethylene glycol assisted hydrothermal synthesis of molybdenum disulfide for mems humidity sensor,” in *IEEE 32nd International Conference on Micro Electro Mechanical Systems (MEMS)*, pp. 327-330, Seoul, KOREA, 27-31 January, 2019.

<https://doi.org/10.1109/MEMSYS.2019.8870654>

[70] Yulong Zhang, Yushen Hu, Meihua Wang and **Fei Wang***, “Electret based vibration energy harvester with self-healable surface charge,” in *IEEE 32nd International Conference on Micro Electro*

Mechanical Systems (MEMS), pp. 1013-1016, Seoul, KOREA, 27-31 January, 2019.

<https://doi.org/10.1109/MEMSYS.2019.8870794>

[69] Yulong Zhang, Yushen Hu, Meihua Wang and **Fei Wang***, "Self-Rechargeable Electret based on Vibration Energy Harvester," in the *18th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2018)*, **Oral Presentation**, in Daytona Beach, USA, December 4-7, 2018.

<https://doi.org/10.1088/1742-6596/1407/1/012034>

[68] Xinge Guo, Yulong Zhang and **Fei Wang***, "Dynamic Analysis of Electrostatic Energy Harvesting Device with Multi-step Structure," in the *18th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2018)*, in Daytona Beach, USA, December 4 - 7, 2018.

<https://doi.org/10.1088/1742-6596/1407/1/012076>

[67] Xiaohui Leng, Yiming Wang and **Fei Wang***, "Hydrogen evolution catalytic performance of metal doped MoS₂," in the *18th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2018)*, in Daytona Beach, USA, December 4 - 7, 2018.

<https://doi.org/10.1088/1742-6596/1407/1/012070>

[66] Wenlu Xuan, Rajendran Ramachandran, Changhui Zhao and **Fei Wang***, "Synthesis of hollow nano-structured cobalt metal-organic framework for supercapacitor electrodes," in *International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (IEEE 3M-NANO 2018)*, **Oral Presentation**, Hangzhou, 2018.

<https://doi.org/10.1109/3M-NANO.2018.8552216>

[65] Gaoqiang Niu, Lingxiang He, Zhitao Yang, Changhui Zhao, Huimin Gong, Wei He and **Fei Wang***, "A micro-hotplate for MEMS based gas sensor," in *International Conference on Electronic Packaging Technology (ICEPT 2018)*, **Oral Presentation**, Shanghai, 2018.

<https://doi.org/10.1109/ICEPT.2018.8480572>

[64] Zong Liu, Zhitao Zhou, Hu Tao and **Fei Wang***, "On-chip microchannels filled with phase-change material for thermal management," in the *International Multidisciplinary Conference on Optofluidics 2018 (IMCO 2018)*, **Oral Presentation**, Shanghai, 2018.

[63] Yulong Zhang, Xinge Guo, Zong Liu, Anxin Luo, and **Fei Wang***, "Two mechanical tuning schemes to improve the bandwidth of electret-based electrostatic energy harvester," in the *2018 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM 2018)*, **Oral Presentation**, Auckland, New Zealand, July 9- 12, 2018.

<https://doi.org/10.1109/AIM.2018.8452233>

[62] Hanning Dong, Xiaoxiang Hou, Qingfeng Zhang and **Fei Wang***, "Flexible slot-ring antenna for RF wireless energy harvesting," *2018 International Workshop on Antenna Technology (iWAT)*, Nanjing, 2018, pp. 1-4.

<https://doi.org/10.1109/IWAT.2018.8379233>

[61] Xinge Guo, Yulong Zhang and **Fei Wang***, "Optimization of electrostatic energy harvesting device with multi-step structure," in the *13th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2018)*, **Oral Presentation (Finalist of the Best Student Paper)**, Singapore, 2018.

<https://doi.org/10.1109/NEMS.2018.8556985>

[60] Yoga Zhang, Faming Zheng, Zhitao Zhou, Yulong Zhang, **Fei Wang** and Hu Tao, "A transient

triboelectric nanogenerator with optical feedback,” in the *31st IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2018)*, in Belfast, Northern Ireland, UK, January 21 - 25 2018.

<https://doi.org/10.1109/MEMSYS.2018.8346633>

[59] Yulong Zhang, Xinge Guo and **Fei Wang***, “Perforated electrode for performance optimization of electrostatic energy harvester,” in the *31st IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2018)*, in Belfast, Northern Ireland, UK, January 21 - 25 2018.

<https://doi.org/10.1109/MEMSYS.2018.8346628>

[58] Xiaohui Leng, Yiming Wang and **Fei Wang***, “Sulfonation of poly(phthalazinone ether ketone) for MEMS humidity sensor,” in the *31st IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2018)*, in Belfast, Northern Ireland, UK, January 21 - 25 2018.

<https://doi.org/10.1109/MEMSYS.2018.8346605>

[57] Yushen Hu, Jingchi Yang, Ziyu Huang, Yulong Zhang and **Fei Wang***, “Self-powered wireless sensor node for flow and temperature sensing,” in the *17th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2017)*, in Kanazawa, Japan, November 14 - 17, 2017.

<https://doi.org/10.1088/1742-6596/1052/1/012092>

[56] Yulong Zhang, Xinge Guo, Yushen Hu and **Fei Wang***, “An electrostatic energy harvester with sandwiched structure of two electret layers,” in the *17th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (Power MEMS 2017)*, in Kanazawa, Japan, November 14 - 17, 2017.

<https://doi.org/10.1088/1742-6596/1052/1/012119>

[55] Robert Sokolovskij, et.al., “Pt-AlGaIn/GaN HEMT-Sensor Layout Optimization for Enhancement of Hydrogen Detection,” in *IEEE SENSORS 2017*, **Oral Presentation**, Glasgow, Scotland, Oct. 29 – Nov. 1, 2017.

<https://doi.org/10.1109/ICSENS.2017.8234419>

[54] Yushen Hu, Jingchi Yang, Ziyu Huang, Robert Sokolovskij and **Fei Wang***, “Wireless sensor node with hybrid energy harvesting for air-flow rate sensing,” in *IEEE SENSORS 2017*, Glasgow, Scotland, Oct. 29 – Nov. 1, 2017.

<https://doi.org/10.1109/ICSENS.2017.8234161>

[53] Jinglong Bai, Changhui Zhao, Huimin Gong, and **Fei Wang***, “Enhanced Ethanol Sensing Properties of NiO@ZnO Core-Shell Nanofibers with P-N Heterojunction,” in *IEEE SENSORS 2017*, Glasgow, Scotland, Oct. 29 – Nov. 1, 2017.

<https://doi.org/10.1109/ICSENS.2017.8234325>

[52] Xiaohui Leng, and **Fei Wang***, “Modified graphene oxide/Nafion composite humidity sensor and its linear response to the relative humidity,” in *IEEE SENSORS 2017*, Glasgow, Scotland, Oct. 29 – Nov. 1, 2017.

<https://doi.org/10.1016/j.snb.2017.10.174>

[51] Xingwei Chen, Yingchun Wu, Dazhu Chen and **Fei Wang***, “PDMS based microfluidics device filling with phase-change material for energy storage and heat absorption,” in *43rd International Conference on Micro and Nano Engineering (MNE2017)*, 18-22 Sept., Braga, Portugal, 2017.

[50] Siyan Chen, Anxin Luo, and **Fei Wang***, “Surface charge patterning by laser engraving on organic electrets,” in *43rd International Conference on Micro and Nano Engineering (MNE2017)*, 18-22 Sept., Braga, Portugal, 2017.

[49] Anxin Luo, Yixin Xu, Siyan Chen, Hanning Dong, Yulong Zhang, and **Fei Wang***, “MEMS

electrostatic energy harvesting device with spray coated electret,” in *International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (IEEE 3M-NANO 2017)*, **Oral Presentation**, Shanghai, 2017.

<https://doi.org/10.1109/3M-NANO.2017.8286330>

[48] R. Sokolovskij, et.al., “Pt-AlGa_N/Ga_N HEMT-sensor for hydrogen sulfide (H₂S) detection,” in *the 31st Eurosensors Conference*, Paris, 3-6 September, 2017.

<https://doi.org/10.3390/proceedings1040463>

[47] Rajendran Ramachandran, Changhui Zhao, and **Fei Wang***, “Synthesis of {[Cu(BTC-H₂)₂·(H₂O)₂·3H₂O} nanobelt based metal organic framework for electrode material of supercapacitors,” in *9th International Conference on Materials for Advanced Technologies*, Singapore, 18-23 June, 2017.

[46] Yingchun Wu, Ziyu Huang, Yushen Hu, Zhuoteng Peng, Xinxin Li and **Fei Wang***, “Electret materials for enhanced performance of triboelectric energy scavenging from wind flow,” in *the 19th IEEE Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2017)*, **Oral Presentation**, Kaohsiung, June 18-22, 2017.

<https://doi.org/10.1109/TRANSDUCERS.2017.7994063>

[45] Yulong Zhang, Yushen Hu, Siyan Chen, Zhuoteng Peng, Xinxin Li and **Fei Wang***, “Electret based micro energy harvesting device with both broad bandwidth and high power density from optimal air damping,” in *the 19th IEEE Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2017)*, **Oral Presentation**, Kaohsiung, June 18-22, 2017.

<https://doi.org/10.1109/TRANSDUCERS.2017.7994061>

[44] Yushen Hu, Zhuoteng Peng, Ziyu Huang, Yingchun Wu, Mingjiang Wang, Xinxin Li, **Fei Wang***, “Event-driven wireless temperature sensor networks powered by air-flow based nanogenerator,” in *the 12th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2017)*, **Oral Presentation**, Los Angeles, April 9-12, 2017.

<https://doi.org/10.1109/NEMS.2017.8017053>

[43] Changhui Zhao, **Fei Wang***, Sheng Liu, Jinglong Bai, Erqing Xie, Xinxin Li, “Fabrication of MoO_x-decorated In₂O₃ nanotubes by electron-beam irradiation,” in *the 12th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2017)*, **Oral Presentation**, Los Angeles, April 9-12, 2017.

[42] Tianyang Wang, Yulong Zhang, Xingwei Chen, Anxin Luo and **Fei Wang***, “Effect of packaging pressure on energy harvesting from vibration source,” in *16th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS 2016)*, Paris, France, December 6-9, 2016.

<https://doi.org/10.1088/1742-6596/773/1/012101>

[41] Yulong Zhang, Anxin Luo, Yixin Xu, Tianyang Wang, and **Fei Wang***, “Wideband MEMS electrostatic energy harvester with dual resonant structure,” in *IEEE SENSORS 2016*, Orlando, FL, USA, Oct. 30 – Nov. 2, 2016.

<https://doi.org/10.1109/ICSENS.2016.7808945>

[40] Xiaohui Leng, Xingwei Chen, and **Fei Wang***, “Graphene oxide based sensor with differential structure for humidity and temperature detection,” in *IEEE SENSORS 2016*, **Oral Presentation**, Orlando, FL, USA, Oct. 30 – Nov. 2, 2016.

<https://doi.org/10.1109/ICSENS.2016.7808955>

[39] Tianqi Zhang, Haodong Tang†, Shang Li, Zuoliang Wen, Xiangtian Xiao, Yulong Zhang, Fei Wang

and Kai Wang, “Highly efficient chip scale package (CSP) LED based on surface patterning,” in *17th International Conference on Electronic Packaging Technology (ICEPT 2016)*, pp. 1318-1322, October 4, 2016.

<https://doi.org/10.1109/ICEPT.2016.7583366>

[38] Yulong Zhang, Anxin Luo, Yixin Xu, Tianyang Wang, Ai Zhang, and **Fei Wang***, “Electret-based electrostatic energy harvesting device with the MEMS technology,” in *the 12th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA 2016)*, **Oral Presentation**, Auckland, New Zealand, August 29 - 31, 2016.

<https://doi.org/10.1109/MESA.2016.7587152>

[37] Yulong Zhang, Anxin Luo and **Fei Wang***, “An electret-based energy harvesting device with the MEMS technology,” in *the 6th International Multidisciplinary Conference on optofluidics (Optofluidics 2016)*, July 24 - 27, 2016.

<https://doi.org/10.1109/MESA.2016.7587152>

[36] Xiaohui Leng and **Fei Wang***, “GO (graphene oxide) based humidity and temperature sensor,” in *the 6th International Multidisciplinary Conference on optofluidics (Optofluidics 2016)*, July 24 - 27, 2016.

[35] Xingwei Chen, Yingchun Wu, Jianjian Wu, Lidan Zeng, Yu Chung Tse and **Fei Wang***, “PDMS-PDMS based microfluidic device by SU-8 mold master for biological application,” in *the 6th International Multidisciplinary Conference on optofluidics (Optofluidics 2016)*, July 24 - 27, 2016.

[34] Shanshan Li, Zhuoteng Peng, Ai Zhang, Dan Luo and **Fei Wang***, “Dual resonant structure for energy harvesting from random vibration sources,” in *the 11th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2016)*, **Oral Presentation**, 2016.

<https://doi.org/10.1109/NEMS.2016.7758245>

[33] Yixin Xu, Anxin Luo, Ai Zhang, Yulong Zhang, Kai Wang and **Fei Wang***, “Spray coating of polymer electret with nano particles for stable surface charge,” in *the 11th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2016)*, **Oral Presentation**, 2016.

<https://doi.org/10.1109/NEMS.2016.7758256>

[32] Xu Gong, and **Fei Wang***, “Micro four-point probe measurement for line defects detection on 2D materials,” in *41st International Conference on Micro and Nano Engineering (MNE2015)*, 20-25 Sept., Hague, 2015.

[31] Ai Zhang, Zhuoteng Peng, Anxin Luo, Shanshan Li and **Fei Wang***, “Electrostatic energy harvesting device with broad bandwidth,” in *International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (3M-NANO 2015)*, **Oral Presentation**, Changchun, 2015.

<https://doi.org/10.1109/3M-NANO.2015.7425489>

[30] Shanshan Li, Zhuoteng Peng, Ai Zhang and **Fei Wang***, “Biresonant structure for piezoelectric energy harvester,” in *International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (3M-NANO 2015)*, **Oral Presentation**, Changchun, 2015.

<https://doi.org/10.1109/3M-NANO.2015.7425490>

[29] Qijia Cheng, Zhuoteng Peng, Jie Lin, Shanshan Li, and **Fei Wang***, “Energy harvesting from human motion for wearable devices,” in *the 10th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2015)*, Xi'an, 2015.

<https://doi.org/10.1109/NEMS.2015.7147455>

[28] Xu Gong, and **Fei Wang***, “Line defect detection on 2D materials with micro four-point probe

measurement,” in the *10th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2015)*, **Oral Presentation**, Xi’an, 2015.

<https://doi.org/10.1109/NEMS.2015.7147498>

[27] **Fei Wang***, “Micro four-point probe measurement for line defect detection,” in *5th International Conference of the Chinese Society of Micro-Nano Technology (CSMNT2014)*, Chengdu, 2014.

[26] Shaoda Zhang and **Fei Wang***, “SWNTs-based double-cantilever infrared detector,” in *5th International Conference of the Chinese Society of Micro-Nano Technology (CSMNT2014)*, Chengdu, 2014.

[25] Ai Zhang and **Fei Wang***, “Optimization of electrostatic energy harvesting device with air damping effect,” in *5th International Conference of the Chinese Society of Micro-Nano Technology (CSMNT2014)*, Chengdu, 2014.

[24] Henrik H. Henrichsen, Ole Hansen, Daniel Kjaer, Peter F. Nielsen, **Fei Wang** and Dirch H. Petersen, “Precision of single-engage micro Hall effect measurements,” in *14th International Workshop on Junction Technology*, **Invited talk**, May 18-20, 2014 Shanghai.

<https://doi.org/10.1109/IWJT.2014.6842029>

[23] Ai Zhang and **Fei Wang***, “Optimization of electrostatic energy harvesting device for wireless sensors application,” in *2014 IEEE International Conference on Consumer Electronics – China (ICCE-C)*, **Oral Presentation**, April 9-13, 2014, Shenzhen.

<https://doi.org/10.1109/ICCE-China.2014.7029858>

[22] Wei-da Liu, Lin-Xi Dong, Hai-xia Yan and **Fei Wang**, “Charge circuit for 2-series Li-ion cells battery based on ASC8512,” in *2014 IEEE International Conference on Consumer Electronics – China (ICCE-C)*, **Oral Presentation**, April 9-13, 2014, Shenzhen.

<https://doi.org/10.1109/ICCE-China.2014.7029852>

[21] Weimin Qiu, Lin-Xi Dong, **Fei Wang** and Haixia Yan, “Design of intelligent greenhouse environment monitoring system based on ZigBee and embedded technology,” in *2014 IEEE International Conference on Consumer Electronics – China (ICCE-C)*, **Oral Presentation**, April 9-13, 2014, Shenzhen.

<https://doi.org/10.1109/ICCE-China.2014.7029857>

[20] **Fei Wang**, and Ole Hansen, “Electrostatic energy harvesting device with out-of-plane gap closing scheme,” in the *17th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2013)*, June 16-20, pp.2237-2240, 2013.

<https://doi.org/10.1016/j.sna.2014.02.027>

[19] **Fei Wang**, and Ole Hansen, “Inorganic electret with enhanced charge stability for energy harvesting,” in the *8th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2013)*, April 7-10, pp.207-210, 2013.

<https://doi.org/10.1109/NEMS.2013.6559716>

[18] Andrea Crovetto, **Fei Wang***, Marco Triches, and Ole Hansen, “MEMS fabricated energy harvesting device with 2D resonant structure,” in the *12th International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS 2012)*, **Oral Presentation**, December 2-5, 2012.

<https://doi.org/10.13140/2.1.1409.6647>

[17] Wu Yuan, **Fei Wang**, and Ole Bang, “Optical fiber sensors fabricated by the focused ion beam technique,” in the *22nd International Conference on Optical Fiber Sensors (OFS-22)*, Oct. 15-19 2012.

<https://doi.org/10.1117/12.974932>

- [16] Marco Triches, **Fei Wang**^{*}, Andrea Crovetto, Anders Lei, Qiong You, Xiaoqing Zhang, and Ole Hansen, "A MEMS energy harvesting device for vibration with low acceleration," in *the 26th European conference on solid-state transducers (Eurosensors 2012)*, **Oral Presentation**, Sept. 9th-12th, 2012.
<https://doi.org/10.1016/j.proeng.2012.09.261>
- [15] D. H. Petersen, O. Hansen, **F. Wang**, F. W. Østerberg, H. H. Henriksen, P. Bøggild, R. Lin, P. F. Nielsen, T. Clarysse, E. Rosseel, and W. Vandervorst, "Micro Hall effect metrology," in *the 19th International Conference on Ion Implantation Technology (IIT2012)*, **Oral Presentation**, June 25th-29th, 2012.
- [14] Rong Lin, et.al., "Junction leakage measurements with micro four-point probes," in *the 19th International Conference on Ion Implantation Technology (IIT2012)*, June 25th-29th, 2012.
<https://doi.org/10.1063/1.4766518>
- [13] Daniel Koon, **Fei Wang**, Dirch Hjorth Petersen, and Ole Hansen, "Sensitivity of charge transport measurements to local inhomogeneities," in *Bulletin of the American Physical Society, APS March Meeting 2012*, February 27–March 2, 2012.
- [12] **Fei Wang**, Christian Bertelsen, Gustav Skands, Thomas Pedersen, and Ole Hansen, "Reactive ion etching of polymer materials for an energy harvesting devices," in *37th International Conference on Micro and Nano Engineering (MNE2011)*, **Oral Presentation**, 19-23 Sept. 2011.
<https://doi.org/10.1016/j.mee.2012.03.016>
- [11] Dirch H. Petersen, et.al., "Micro-cantilevers for non-destructive characterization of nanoglass uniformity," in *16th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers 2011)* pp. 1060-1063, 5-9 June 2011.
<https://doi.org/10.1109/TRANSDUCERS.2011.5969173>
- [10] T. Clarysse, et.al., "Micro Probe Carrier Profiling of Ultra-shallow Structures in Advanced materials", in *MRS 2010 Spring Meeting*, San Francisco, California, 5-9 April, 2010.
<http://dx.doi.org/10.1557/PROC-1252-I05-20>
- [9] **Fei Wang**, Dirch H. Petersen, Frederik W. Osterberg, and Ole Hansen, "Accuracy of micro four-point probe measurements on inhomogeneous samples: A probe spacing dependence study," in *17th Annual IEEE International Conference on Advanced Thermal Processing of Semiconductors (RTP-2009)*, **Oral Presentation**, pp. 151-156, 29 Sept.-2 Oct., 2009.
<https://doi.org/10.1109/RTP.2009.5373449>
- [8] Frederik W. Osterberg, Dirch H. Petersen, **Fei Wang**, E. Rosseel, W. Vandervorst, and Ole Hansen, "Accurate micro Hall Effect measurements on scribe line pads," in *17th Annual IEEE International Conference on Advanced Thermal Processing of Semiconductors (RTP-2009)*, **Oral Presentation**, pp. 157-162, 29 Sept.-2 Oct., 2009.
<https://doi.org/10.1109/RTP.2009.5373450>
- [7] **Fei Wang**, Dirch H. Petersen, Torben M. Hansen, Toke Riishøj Henriksen, Peter Bøggild, and Ole Hansen, "Sensitivity study of micro four-point probe measurements on small samples," in *International Workshop on INSIGHT in Semiconductor Device Fabrication, Metrology, and Modeling (INSIGHT-2009)*, 26-29 Apr. 2009.
<https://doi.org/10.1116/1.3224889>
- [6] **Fei Wang**, Rong Cheng, and Xinxin Li, "MEMS vertical probe cards with both line-arrayed and area-arrayed ultra-dense metal tips for wafer-level IC testing," in *2008 IEEE International Electron Devices Meeting (IEDM-2008)*, pp. 503-506, 15-17 Dec. 2008.
<https://doi.org/10.1109/JMEMS.2009.2021815>

[5] Lei Gu, Zhengzheng Wu, **Fei Wang**, Rong Cheng, Kewei Jiang, and Xinxin Li, “UV-LIGA metal MEMS: A promising tool to serve IC industry,” in *9th International Conference on Solid-State and Integrated-Circuit Technology (ICSICT-2008)*, pp. 2357-2360, 20-23 Oct. 2008.

<https://doi.org/10.1109/ICSICT.2008.4735052>

[4] **Fei Wang**, Xinxin Li, Songlin Feng, Tao Chen, Liguang Chen and Lining Sun, “Two-dimensional dense-arrayed probe-cards with a hoe-shaped probing-tip micromachining technique,” in *21st IEEE International Conference on Micro Electro Mechanical Systems (MEMS-2008)*, pp. 343-346, 13-17 Jan. 2008.

<https://doi.org/10.1109/MEMSYS.2008.4443663>

[3] **Fei Wang**, Xinxin Li, and Songlin Feng, “MEMS cantilever type probe card for IC testing,” in *9th Annual Domestic Conference of China Society of Micro-Nano Technology*, Shanghai, accepted as the **Best Student Paper out of 450 participants, Oral Presentation**, 20-22 Sept. 2007. (In Chinese)

[2] **Fei Wang**, Xinxin Li, Yuelin Wang, and Songlin Feng, “Simultaneous formation of through wafer electrical interconnects and highly dense & uniform nickel tips for silicon-cantilever probe-cards,” in *14th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers' 07)*, pp. 2051-2054, 10-14 June 2007.

<https://doi.org/10.1109/SENSOR.2007.4300567>

[1] Nanxiang Guo, Xinxin Li, **Fei Wang**, Yuelin Wang, and Songlin Feng, “MEMS probe cards with tip-to-pad electric feed-through and automatically isolated metal coating,” in *13th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers' 05)*, pp. 1330-1333, 5-9 June 2005.

<https://doi.org/10.1109/SENSOR.2005.1497326>

INVITED TALKS IN CONFERENCES AND WORKSHOPS:

[26] **Fei Wang**, “Micro-energy and Micro-sensing Devices for Wearable Electronic Applications”, **the first one** of the eight Oral Presentation representatives from China, in *the 2022 China-America Frontiers of Engineering symposium*, July 18-20, Irvine, California and Chengdu, China.

[25] **Fei Wang**, “Energy Harvesting Devices for Self-powered Wireless Sensing Applications,” **Invited Talk**, in *the 10th Asia-Pacific Conference of Transducers and Micro-Nano Technology 2022 (APCOT 2022)*, online virtual conference.

[24] **Fei Wang**, “MEMS Gas Sensors with Pulse Signal and Deep Learning,” **Invited Talk**, in *the ICANX SUMMIT 2022*, online virtual conference.

[23] Fei Wang, “Micro Electret with Nano Structure for Energy Harvesters,” in *the 18th IEEE International Symposium on Electrets (ISE-18)*, **Invited Talk**, Shanghai, China, Sep 24-28, 2021.

[22] **Fei Wang**, “Energy Harvesting From Vibration And Environment Sensing”, 中国微米纳米技术学会第六届青年科学家论坛（重庆）会议, **Invited Talk**, Chongqing, China, July 17-18, 2021.

[21] **Fei Wang**, “Gas Sensors based on Micro/Nano-Electro-Mechanical Systems,” 全国电子信息青年科学家系列论坛暨第三届半导体青年学术会议, **Invited Talk**, Ningbo, China, Oct 28-31, 2020.

[20] **Fei Wang**, “Micro Energy harvesting from vibration at ultra-low frequency,” in *the 15th IEEE International Conference on Nano/Micro Engineered & Molecular Systems (IEEE NEMS 2020)*, **Invited Talk**, 27-30 September 2020. (Virtual due to the COVID-19 coronavirus pandemic)

[19] **Fei Wang**, “MEMS Gas Sensors - From Nanomaterials to Microelectrodes”, in *2020 IEEE International MEMS Conference*, **Invited Talk**, Vancouver, BC, Canada, January 18 - 22, 2020. **(One of the 8 invited speakers and the only one from mainland this year.)**

- [18] **Fei Wang**, "Vibration energy harvesters for self-powered wireless sensing," in *19th IEEE International Conference on Nanotechnology (IEEE NANO 2019)*, **Invited Talk**, Macao, China, July 22-26, 2019.
- [17] **Fei Wang**, "Vibration Energy Harvester with Linear Driven Rotor," in *the 2nd International conference on vibration and energy harvesting application (VEH 2019)*, **Invited Talk**, July 13-15, Shanghai, China.
- [16] **Fei Wang**, "Nonlinearity in Electrostatic Energy Harvesting from Vibration," in the 17th national conference on nonlinear vibration and nonlinear dynamics, **Invited Talk**, Nanjing, China, May 10-12, 2019.
- [15] **Fei Wang**, "Vibration Energy Harvester with Linear Driven Rotor," in *the 3rd Chinese National Conference on Electrets (CNCE-3)*, **Invited Talk**, Nov. 23-26, 2018, Shenzhen, China.
- [14] **Fei Wang**, "Micro energy harvesters for self-powered wireless sensor networks," in *the 1st International conference on vibration and energy harvesting application (VEH 2018)*, **Keynote Talk**, Nov. 2-4, Shenzhen, China.
- [13] **Fei Wang**, "Micro-energy Harvester Based on Electret Materials," in *the 3rd Sino-German Symposium*, **Invited Talk**, Tongji University, Shanghai, China, 09-15 October 2018.
- [12] **Fei Wang**, "Energy harvesting from environment for wireless sensing," in *the 8th International Multidiscipline Conference on Optofluidics (IMCO 2018)*, **Keynote Talk**, Shanghai, August 5–8, 2018.
- [11] **Fei Wang**, "Micro Energy and Micro Sensing," in *2nd Micro-Nano Technology and Application Innovation Conference*, **Invited Talk**, Xi'an, May 18-21, 2018.
- [10] **Fei Wang**, "Vibration Based Energy Harvesting Technology for Wireless Sensing," *IEEE NEMS 2018*, **Invited Talk**, Singapore, April 22-27, 2018.
- [9] Yingchun Wu, Ziyu Huang, Yushen Hu, and **Fei Wang**, "Electret materials for enhanced performance of triboelectric energy harvesting from wind flow," in *International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (IEEE 3M-NANO 2017)*, **Invited Talk**, Shanghai, 2017.
- [8] **Fei Wang**, "MEMS energy harvesting from environment for wireless sensor application," in *the 2nd SUSTech-INRS joint workshop on sustainable technologies*, **Invited Talk**, Shenzhen, Oct. 20 - 21, 2016.
- [7] **Fei Wang**, "Plasma Etching for MEMS Devices," in *the 4th National Conference and International Symposium on the Industrial Plasma Technologies*, **Invited Talk**, Shenzhen, Oct. 20 - 23, 2016. (In Chinese)
- [6] **Fei Wang**, "Electret material for Energy Harvesting," in *the 2nd Chinese National Conference on Electrets (CNCE 2)*, **Invited Talk**, Shanghai, Sept. 25 - 28, 2016.
- [5] **Fei Wang**, "Micro energy harvesting from ambient environment," in *the 6th International Multidisciplinary Conference on optofluidics (Optofluidics 2016)*, **Invited Talk**, Beijing, July 24 - 27, 2016.
- [4] **Fei Wang**, "Energy Harvesting from Random Vibration," in *International Conference on Small Science*, **Invited Talk**, Prague, 2016.
- [3] Anxin Luo , Yixin Xu, Ai Zhang and **Fei Wang***, "Coating methods of electret materials for energy harvesting devices," in *International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (3M-NANO 2015)*, **Invited Talk**, Changchun, 2015.
- [2] **Fei Wang**, "MEMS energy harvesting devices for wireless electronics," in *International Conference on Small Science*, **Invited Talk**, Hong Kong, 2014.
- [1] **Fei Wang**, "MEMS eletrostatic energy harvesting from 3D vibration sources," in *International*

Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (3M-NANO 2014),
Invited Talk, Taipei, 2014.

PATENTS:

- [29] 汪飞, 刘笑江, 牛高强, MEMS 气体传感器及其制备方法, 申请号: 202311043837.X
- [28] 汪飞, 吴浪, 庄议, 气体浓度检测方法及其装置、系统、模型训练方法及装置, 申请号: 202310537591.5
- [27] 汪飞, 谷尚浩, 罗安信, 席坤玲, 抗环境干扰的能量采集装置及采集方法, 申请号: 202310240347.2
- [26] 汪飞, 庄议, 胡玉申, 王雪, 气体传感器检测方法、装置、系统、计算机设备, 申请号: 202111679681.5
- [25] 汪飞, 徐玮含, 罗安信, 轮胎状态监测装置及方法, 申请号: 202210941935.4
- [24] 汪飞, 李明杰, 罗文昕, 气体传感器及其制备方法, 申请号: 202210929192.9
- [23] 汪飞, 黄俊龙, 孙江永, 探针及其制备方法, 申请号: 202310694952.7 (已授权)
- [22] 汪飞, 胡玉申, 罗安信, 气敏传感装置、系统及气体检测方法, 中国发明专利, 授权公告号: CN 111879825 B, 授权公告日: 2023 年 05 月 12 日, 申请号: 202010587693.4 (已授权)
- [21] 汪飞, 胡玉申, 牛高强, 田野, 气体浓度检测方法、系统、计算机设备及存储介质, 中国发明专利, 授权公告号: CN 111521647 B, 授权公告日: 2023 年 04 月 21 日, 申请号: 202010216940X (已授权)
- [20] 汪飞, 罗安信, 孙江永, 自发电浮标系统, 中国发明专利, 授权公告号: CN112240263B, 授权公告日: 2022-11-18, 申请号: 202011017873.5 (已授权)
- [19] 汪飞, 罗安信, 王一凡, 代翔天, 无源车速传感器, 中国发明专利, 授权公告号: CN111474379B, 授权公告日: 2022-05-31, 申请号: 2020102255852 (已授权)
- [18] Fei Wang, Electrostatic energy collector and electrostatic energy collecting method, PCT 发明专利, 申请号: PCT/CN2015/092293 (已授权)
- [17] 汪飞, 胡玉申, 器件自修复系统, 中国发明专利, 授权公告号: CN109194183B, 授权公告日: 2020.02.04 申请号: 201810949179.3 (已授权)
- [16] 奥斯卡·卡尔·奥洛夫·德斯坦, 汪飞, 刘飞扬, 张玉龙, 黄绮梦, 一种环境发电处理方法, 中国发明专利, 授权公告号: CN108960531B, 授权公告日: 2021.12.18 申请号: CN201810839019.3 (已授权)
- [15] 汪飞, 冷小辉, 湿度传感器及其制备方法, 中国发明专利, 授权公告号: CN107748184B, 授权公告日: 2020-11-24, 申请号: 201710776189.7 (已授权)
- [14] 汪飞, 张玉龙, 静电能量采集器及其制备方法, 申请号: CN201710295412.6 (已授权)
- [13] 汪飞, 张玉龙, 静电能量采集器, 实用新型, 授权专利号: CN201720471632.5 (已授权)
- [12] 汪飞, 张玉龙, 振动式能量采集器及其制备方法, 中国发明专利, 授权公告号: CN106160564B, 授权公告日: 2018.07.24, 申请号: 2016106574047 (已授权)
- [11] 汪飞, 吴迎春, 发电机及其制备方法和发电机组, 中国发明专利, 授权公告号: CN106026758B 授权公告日: 2019.02.12, 申请号: 2016103271536 (已授权)
- [10] 汪飞, 张玉龙, 静电式振动能量采集器及其制备方法, 中国发明专利, 授权公告号: CN105846711B, 授权公告日: 2019.06.07, 申请号: 2016101945252 (已授权)
- [9] 汪飞, 张玉龙, 振动式能量采集器, 实用新型, 授权专利号: ZL201620869074.3 (已授权)
- [8] 汪飞, 冷小辉, 温湿度传感器及其制备方法、温湿度测量系统, 中国发明专利, 授权公告号: CN105841739B, 授权公告日: 2018.10.26, 申请号: 201610176618.2 (已授权)
- [7] 汪飞, 罗安信, 邓杨, 张绍达, 一种驻极体薄膜制备方法及其驻极体薄膜, 中国发明专利, 授权

公告号：CN105206426B，授权公告日：2017.12.15，授权专利号：CN201510567731.9（已授权）

[6] 汪飞，李闪闪，一种压电式能量采集器及压电式能量采集方法，中国发明专利，授权公告号：CN104935209B，授权公告日：2018.05.15，申请号：201510317624.0（已授权）

[5] 汪飞，张爱，一种静电式能量采集器及静电式能量采集方法，中国发明专利，授权公告号：CN104811090B，授权公告日：2017.08.29，授权专利号：ZL 2015 1 0145166.7（已授权）

[4] 汪飞，张绍达，湿度传感器，实用新型，授权专利号：201520792471.0（已授权）

[3] Fei Wang, Dirch Hjorth Petersen, Ole Hansen, Single-position hall effect measurements, WIPO Patent. (US2014015552, WO2012083955, SG191251, KR20130132558, JP2014503114, CN103380368, and EP2656056.)（已授权）

[2]李昕欣，汪飞，微机械圆片级芯片测试探卡及制作方法，中国发明专利. (授权号：ZL 2007 1 0038538.1).（已授权）

[1]李昕欣，汪飞，封松林，基于电镀工艺的微机械测试探卡及制作方法，中国发明专利. (授权号：ZL 2007 1 0173680.7)（已授权）