Nanogenerators (2022-2025)

Browse in the web

1. **Advances in TENGs for Marine Energy Harvesting and In Situ Electrochemistry (Review)**
   Chuguo Zhang, Yijun Hao, Xiangqian Lu, Wei Su, Hongke Zhang, Zhong Lin Wang & Xiuhan Li
   Nano-Micro Lett. 17, 124 (2025). https://doi.org/10.1007/s40820-024-01640-w
2. **Wafer-Scale Vertical 1D GaN Nanorods/2D MoS2/PEDOT:PSS for Piezophototronic Effect-Enhanced Self-Powered Flexible Photodetectors (Article)**
   Xin Tang, Hongsheng Jiang, Zhengliang Lin, Xuan Wang, Wenliang Wang & Guoqiang Li
   Nano-Micro Lett. 17, 56 (2025). https://doi.org/10.1007/s40820-024-01553-8
3. **Defect Engineering with Rational Dopants Modulation for High-Temperature Energy Harvesting in Lead-Free Piezoceramics (Article)**
   Kaibiao Xi, Jianzhe Guo, Mupeng Zheng, Mankang Zhu & Yudong Hou
   Nano-Micro Lett. 17, 55 (2025). https://doi.org/10.1007/s40820-024-01556-5
4. **Unleashing the Potential of Electroactive Hybrid Biomaterials and Self-Powered Systems for Bone Therapeutics (Review)**
   Shichang Liu, Farid Manshaii, Jinmiao Chen, Xinfei Wang, Shaolei Wang, Junyi Yin, Ming Yang, Xuxu Chen, Xinhua Yin & Yunlei Zhou
   Nano-Micro Lett. 17, 44 (2025). https://doi.org/10.1007/s40820-024-01536-9
5. **Ultra-High Sensitivity Anisotropic Piezoelectric Sensors for Structural Health Monitoring and Robotic Perception (Article)**
   Hao Yin, Yanting Li, Zhiying Tian, Qichao Li, Chenhui Jiang, Enfu Liang & Yiping Guo
   Nano-Micro Lett. 17, 42 (2025). https://doi.org/10.1007/s40820-024-01539-6
6. **Advances in Graphene-Based Electrode for Triboelectric Nanogenerator (Review)**
   Bin Xie, Yuanhui Guo, Yun Chen, Hao Zhang, Jiawei Xiao, Maoxiang Hou, Huilong Liu, Li Ma, Xin Chen & Chingping Wong
   Nano-Micro Lett. 17, 17 (2025). https://doi.org/10.1007/s40820-024-01530-1
7. **Gel-Based Triboelectric Nanogenerators for Flexible Sensing: Principles, Properties, and Applications (Review)**
   Peng Lu, Xiaofang Liao, Xiaoyao Guo, Chenchen Cai, Yanhua Liu, Mingchao Chi, Guoli Du, Zhiting Wei, Xiangjiang Meng & Shuangxi Nie
   Nano-Micro Lett. 16, 206 (2024). https://doi.org/10.1007/s40820-024-01432-2
8. **Compliant Iontronic Triboelectric Gels with Phase-Locked Structure Enabled by Competitive Hydrogen Bonding (Article)**
   Guoli Du, Yuzheng Shao, Bin Luo, Tao Liu, Jiamin Zhao, Ying Qin, Jinlong Wang, Song Zhang, Mingchao Chi, Cong Gao, Yanhua Liu, Chenchen Cai, Shuangfei Wang & Shuangxi Nie
   Nano-Micro Lett. 16, 170 (2024). https://doi.org/10.1007/s40820-024-01387-4
9. **Moisture-Electric–Moisture-Sensitive Heterostructure Triggered Proton Hopping for Quality-Enhancing Moist-Electric Generator (Article)**

Ya'nan Yang, Jiaqi Wang, Zhe Wang, Changxiang Shao, Yuyang Han, Ying Wang, Xiaoting Liu, Xiaotong Sun, Liru Wang, Yuanyuan Li, Qiang Guo, Wenpeng Wu, Nan Chen & Liangti Qu Nano-Micro Lett. 16, 56 (2024). https://doi.org/10.1007/s40820-023-01260-w

10. **A Review of Contact Electrification at Diversified Interfaces and Related Applications on Triboelectric Nanogenerator（Review)**

    Jun Hu, Mitsumasa Iwamoto & Xiangyu Chen

    Nano-Micro Lett. 16, 7 (2024). https://doi.org/10.1007/s40820-023-01238-8

11. **MXene Lubricated Tribovoltaic Nanogenerator with High Current Output and Long Lifetime (Article)**

    Wenyan Qiao, Linglin Zhou, Zhihao Zhao, Peiyuan Yang, Di Liu, Xiaoru Liu, Jiaqi Liu, Dongyang Liu, Zhong Lin Wang & Jie Wang

    Nano-Micro Lett. 15, 218 (2023). https://doi.org/10.1007/s40820-023-01198-z

12. **Harvesting Environment Mechanical Energy by Direct Current Triboelectric Nanogenerators (Review)**

    Chuncai Shan, Kaixian Li, Yuntao Cheng & Chenguo Hu

    Nano-Micro Lett. 15, 127 (2023). https://doi.org/10.1007/s40820-023-01115-4

13. **Rational Design of Cellulosic Triboelectric Materials for Self-Powered Wearable Electronics (Review)**

    Xiangjiang Meng, Chenchen Cai, Bin Luo, Tao Liu, Yuzheng Shao, Shuangfei Wang & Shuangxi Nie

    Nano-Micro Lett. 15, 124 (2023). https://doi.org/10.1007/s40820-023-01094-6

14. **Self-Assembled Porous-Reinforcement Microstructure-Based Flexible Triboelectric Patch for Remote Healthcare (Article)**

    Hao Lei, Haifeng Ji, Xiaohan Liu, Bohan Lu, Linjie Xie, Eng Gee Lim, Xin Tu, Yina Liu, Peixuan Zhang, Chun Zhao, Xuhui Sun & Zhen Wen

    Nano-Micro Lett. 15, 109 (2023). https://doi.org/10.1007/s40820-023-01081-x

15. **Mechanoluminescent-Triboelectric Bimodal Sensors for Self-Powered Sensing and Intelligent Control (Article)**

    Bo Zhou, Jize Liu, Xin Huang, Xiaoyan Qiu, Xin Yang, Hong Shao, Changyu Tang & Xinxing Zhang

    Nano-Micro Lett. 15, 72 (2023). https://doi.org/10.1007/s40820-023-01054-0

16. **Recent Advances in One-Dimensional Micro/Nanomotors: Fabrication, Propulsion and Application (Review)**

    Yuhong Zheng, He Zhao, Yuepeng Cai, Beatriz Jurado-Sánchez & Renfeng Dong

    Nano-Micro Lett. 15, 20 (2023). https://doi.org/10.1007/s40820-022-00988-1

17. **Multidiscipline Applications of Triboelectric Nanogenerators for the Intelligent Era of Internet of Things (Review)**

    Xiaole Cao, Yao Xiong, Jia Sun, Xiaoyin Xie, Qijun Sun & Zhong Lin Wang

    Nano-Micro Lett. 15, 14 (2023). https://doi.org/10.1007/s40820-022-00981-8

18. **Human Machine Interface with Wearable Electronics Using Biodegradable Triboelectric Films for Calligraphy Practice and Correction (Article)**
    Shen Shen, Jia Yi, Zhongda Sun, Zihao Guo, Tianyiyi He, Liyun Ma, Huimin Li, Jiajia Fu, Chengkuo Lee & Zhong Lin Wang
    Nano-Micro Lett. 14, 225 (2022). https://doi.org/10.1007/s40820-022-00965-8
19. **Coupling Enhancement of a Flexible $BiFeO_3$ Film-Based Nanogenerator for Simultaneously Scavenging Light and Vibration Energies (Article)**
    Xiao Han, Yun Ji, Li Wu, Yanlong Xia, Chris R. Bowen & Ya Yang
    Nano-Micro Lett. 14, 198 (2022). https://doi.org/10.1007/s40820-022-00943-0
20. **Self-Powered, Long-Durable, and Highly Selective Oil–Solid Triboelectric Nanogenerator for Energy Harvesting and Intelligent Monitoring (Article)**
    Jun Zhao, Di Wang, Fan Zhang, Jinshan Pan, Per Claesson, Roland Larsson & Yijun Shi
    Nano-Micro Lett. 14, 160 (2022). https://doi.org/10.1007/s40820-022-00903-8
21. **High Output Performance and Ultra-Durable DC Output for Triboelectric Nanogenerator Inspired by Primary Cell (Article)**
    Shaoke Fu, Wencong He, Huiyuan Wu, Chuncai Shan, Yan Du, Gui Li, Ping Wang, Hengyu Guo, Jie Chen & Chenguo Hu
    Nano-Micro Lett. 14, 155 (2022). https://doi.org/10.1007/s40820-022-00898-2
22. **Anti-Overturning Fully Symmetrical Triboelectric Nanogenerator Based on an Elliptic Cylindrical Structure for All-Weather Blue Energy Harvesting (Article)**
    Dujuan Tan, Qixuan Zeng, Xue Wang, Songlei Yuan, Yanlin Luo, Xiaofang Zhang, Liming Tan, Chenguo Hu & Guanlin Liu
    Nano-Micro Lett. 14, 124 (2022). https://doi.org/10.1007/s40820-022-00866-w
23. **Biodegradable, Super-Strong, and Conductive Cellulose Macrofibers for Fabric-Based Triboelectric Nanogenerator (Article)**
    Sanming Hu, Jing Han, Zhijun Shi, Kun Chen, Nuo Xu, Yifei Wang, Ruizhu Zheng, Yongzhen Tao, Qijun Sun, Zhong Lin Wang & Guang Yang
    Nano-Micro Lett. 14, 115 (2022). https://doi.org/10.1007/s40820-022-00858-w
24. **A Liquid–Solid Interface-Based Triboelectric Tactile Sensor with Ultrahigh Sensitivity of 21.48 kPa^{-1} (Article)**
    Jingya Liu, Zhen Wen, Hao Lei, Zhenqiu Gao & Xuhui Sun
    Nano-Micro Lett. 14, 88 (2022). https://doi.org/10.1007/s40820-022-00831-7
25. **Ultralight Iontronic Triboelectric Mechanoreceptor with High Specific Outputs for Epidermal Electronics (Article)**
    Hai Lu Wang, Zi Hao Guo, Xiong Pu & Zhong Lin Wang
    Nano-Micro Lett. 14, 86 (2022). https://doi.org/10.1007/s40820-022-00834-4
26. **Ultra-Stable and Durable Piezoelectric Nanogenerator with All-Weather Service Capability Based on N Doped 4H-SiC Nanohole Arrays (Article)**

Linlin Zhou, Laipan Zhu, Tao Yang, Xinmei Hou, Zhengtao Du, Sheng Cao, Hailong Wang, Kuo-Chih Chou & Zhong Lin Wang

Nano-Micro Lett. 14, 30 (2022). https://doi.org/10.1007/s40820-021-00779-0

27. **A Broad Range Triboelectric Stiffness Sensor for Variable Inclusions Recognition(Article)**

Ziyi Zhao, Zhentan Quan, Huaze Tang, Qinghao Xu, Hongfa Zhao, Zihan Wang, Ziwu Song, Shoujie Li, Ishara Dharmasena, Changsheng Wu & Wenbo Ding

Nano-Micro Lett. 15, 233 (2023). https://doi.org/10.1007/s40820-023-01201-7