

# Bioinspiration/Cellulose/Biomass (2022-2024)

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## Bioinspiration

- 1. A Skin-Inspired Self-Adaptive System for Temperature Control During Dynamic Wound Healing (Article)**  
Yaqi Geng, Guoyin Chen, Ran Cao, Hongmei Dai, Zexu Hu, Senlong Yu, Le Wang, Liping Zhu, Hengxue Xiang & Meifang Zhu  
Nano-Micro Lett. 16, 152 (2024). <https://doi.org/10.1007/s40820-024-01345-0>
- 2. Recent Progress in Improving Rate Performance of Cellulose-Derived Carbon Materials for Sodium-Ion Batteries (Review)**  
Fujian Wang, Tianyun Zhang, Tian Zhang, Tianqi He & Fen Ran  
Nano-Micro Lett. 16, 148 (2024). <https://doi.org/10.1007/s40820-024-01351-2>
- 3. MXenes for Bioinspired Soft Actuators: Advancements in Angle-Independent Structural Colors and Beyond (Perspective)**  
Siavash Irvani & Rajender S. Varma  
Nano-Micro Lett. 16, 142 (2024). <https://doi.org/10.1007/s40820-024-01367-8>
- 4. A Selective-Response Hypersensitive Bio-Inspired Strain Sensor Enabled by Hysteresis Effect and Parallel Through-Slits Structures (Article)**  
Qun Wang, Zhongwen Yao, Changchao Zhang, Honglie Song, Hanliang Ding, Bo Li, Shichao Niu, Xinguan Huang, Chuanhai Chen, Zhiwu Han & Luquan Ren  
Nano-Micro Lett. 16, 26 (2024). <https://doi.org/10.1007/s40820-023-01250-y>
- 5. Bioinspired All-Fibrous Directional Moisture-Wicking Electronic Skins for Biomechanical Energy Harvesting and All-Range Health Sensing (Article)**  
Chuanwei Zhi, Shuo Shi, Shuai Zhang, Yifan Si, Jieqiong Yang, Shuo Meng, Bin Fei & Jinlian Hu  
Nano-Micro Lett. 15, 60 (2023). <https://doi.org/10.1007/s40820-023-01028-2>
- 6. A Flexible Tribotronic Artificial Synapse with Bioinspired Neurosensory Behavior (Article)**  
Jianhua Zeng, Junqing Zhao, Tianzhao Bu, Guoxu Liu, Youchao Qi, Han Zhou, Sicheng Dong & Chi Zhang  
Nano-Micro Lett. 15, 18 (2023). <https://doi.org/10.1007/s40820-022-00989-0>
- 7. Bioinspired MXene-Based Soft Actuators Exhibiting Angle-Independent Structural Color (Article)**  
Pan Xue, Yuanhao Chen, Yiyi Xu, Cristian Valenzuela, Xuan Zhang, Hari Krishna Bisoyi, Xiao Yang, Ling Wang, Xinhua Xu & Quan Li  
Nano-Micro Lett. 15, 1 (2023). <https://doi.org/10.1007/s40820-022-00977-4>
- 8. Animal- and Human-Inspired Nanostructures as Supercapacitor Electrode Materials: A Review (Review)**

Iftikhar Hussain, Charmaine Lamiel, Sumanta Sahoo, Muhammad Sufyan Javed, Muhammad Ahmad, Xi Chen, Shuai Gu, Ning Qin, Mohammed A. Assiri & Kaili Zhang  
Nano-Micro Lett. 14, 199 (2022). <https://doi.org/10.1007/s40820-022-00944-z>

**9. Bioinspired Injectable Self-Healing Hydrogel Sealant with Fault-Tolerant and Repeated Thermo-Responsive Adhesion for Sutureless Post-Wound-Closure and Wound Healing (Article)**

Yuqing Liang, Huiru Xu, Zhenlong Li, Aodi Zhangji & Baolin Guo  
Nano-Micro Lett. 14, 185 (2022). <https://doi.org/10.1007/s40820-022-00928-z>

**10. Touch-Responsive Hydrogel for Biomimetic Flytrap-Like Soft Actuator (Article)**

Junjie Wei, Rui Li, Long Li, Wenqin Wang & Tao Chen  
Nano-Micro Lett. 14, 182 (2022). <https://doi.org/10.1007/s40820-022-00931-4>

**11. Self-Exfoliation of Flake Graphite for Bioinspired Compositing with Aramid Nanofiber toward Integration of Mechanical and Thermoconductive Properties (Article)**

Limei Huang, Guang Xiao, Yunjing Wang, Hao Li, Yahong Zhou, Lei Jiang & Jianfeng Wang  
Nano-Micro Lett. 14, 168 (2022). <https://doi.org/10.1007/s40820-022-00919-0>

**12. Bioinspired MXene-Based User-Interactive Electronic Skin for Digital and Visual Dual-Channel Sensing (Article)**

Wentao Cao, Zheng Wang, Xiaohao Liu, Zhi Zhou, Yue Zhang, Shisheng He, Daxiang Cui & Feng Chen  
Nano-Micro Lett. 14, 119 (2022). <https://doi.org/10.1007/s40820-022-00838-0>

**13. Bioinspired Adaptive, Elastic, and Conductive Graphene Structured Thin-Films Achieving High-Efficiency Underwater Detection and Vibration Perception (Article)**

Qiling Wang, Peng Xiao, Wei Zhou, Yun Liang, Guangqiang Yin, Qiu Yang, Shiao-Wei Kuo & Tao Chen  
Nano-Micro Lett. 14, 62 (2022). <https://doi.org/10.1007/s40820-022-00799-4>

**14. Bioinspired Nanostructured Superwetting Thin-Films in a Self-supported form Enabled “Miniature Umbrella” for Weather Monitoring and Water Rescue (Article)**

Shan Li, Peng Xiao, Wei Zhou, Yun Liang, Shiao-Wei Kuo & Tao Chen  
Nano-Micro Lett. 14, 32 (2022). <https://doi.org/10.1007/s40820-021-00775-4>

**15. Bio-Inspired Microwave Modulator for High-Temperature Electromagnetic Protection, Infrared Stealth and Operating Temperature Monitoring (Article)**

Xuan Yang, Yuping Duan, Shuqing Li, Huifang Pang, Lingxi Huang, Yuanyuan Fu & Tongmin Wang  
Nano-Micro Lett. 14, 28 (2022). <https://doi.org/10.1007/s40820-021-00776-3>

## Cellulose

**1. Hollow Metal–Organic Framework/MXene/Nanocellulose Composite Films for Giga/Terahertz Electromagnetic Shielding and Photothermal Conversion (Article)**

Tian Mai, Lei Chen, Pei-Lin Wang, Qi Liu & Ming-Guo Ma

- Nano-Micro Lett. 16, 169 (2024). <https://doi.org/10.1007/s40820-024-01386-5>
2. **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>
  3. **Nanocellulose-Assisted Construction of Multifunctional MXene-Based Aerogels with Engineering Biomimetic Texture for Pressure Sensor and Compressible Electrode (Article)**  
Ting Xu, Qun Song, Kun Liu, Huayu Liu, Junjie Pan, Wei Liu, Lin Dai, Meng Zhang, Yaxuan Wang, Chuanling Si, Haishun Du & Kai Zhang  
Nano-Micro Lett. 15, 98 (2023). <https://doi.org/10.1007/s40820-023-01073-x>
  4. **Vertically Aligned Silicon Carbide Nanowires/Boron Nitride Cellulose Aerogel Networks Enhanced Thermal Conductivity and Electromagnetic Absorbing of Epoxy Composites (Article)**  
Duo Pan, Gui Yang, Hala M. Abo-Dief, Jingwen Dong, Fengmei Su, Chuntai Liu, Yifan Li, Ben Bin Xu, Vignesh Murugadoss, Nithesh Naik, Salah M. El-Bahy, Zeinhom M. El-Bahy, Minan Huang & Zhanhu Guo  
Nano-Micro Lett. 14, 118 (2022). <https://doi.org/10.1007/s40820-022-00863-z>
  5. **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  
Nanogenerator. Nano-Micro Lett. 14, 115 (2022). <https://doi.org/10.1007/s40820-022-00858-w>
  6. **Cellulose Nanopaper: Fabrication, Functionalization, and Applications (Review)**  
Wei Liu, Kun Liu, Haishun Du, Ting Zheng, Ning Zhang, Ting Xu, Bo Pang, Xinyu Zhang, Chuanling Si & Kai Zhang  
Nano-Micro Lett. 14, 104 (2022). <https://doi.org/10.1007/s40820-022-00849-x>
  7. **Functionalized Fiber-Based Strain Sensors: Pathway to Next-Generation Wearable Electronics (Review)**  
Zekun Liu, Tianxue Zhu, Junru Wang, Zijian Zheng, Yi Li, Jiashen Li & Yuekun Lai  
Nano-Micro Lett. 14, 61 (2022). <https://doi.org/10.1007/s40820-022-00806-8>

## **Biomass**

1. **Green, Sustainable Architectural Bamboo with High Light Transmission and Excellent Electromagnetic Shielding as a Candidate for Energy-Saving Buildings (Article)**  
Jing Wang, Xinyu Wu, Yajing Wang, Weiying Zhao, Yue Zhao, Ming Zhou, Yan Wu & Guangbin Ji

Nano-Micro Lett. 15, 11 (2023). <https://doi.org/10.1007/s40820-022-00982-7>

**2. Biomass-Derived Carbon Heterostructures Enable Environmentally Adaptive Wideband Electromagnetic Wave Absorbers (Article)**

Zhichao Lou, Qiuyi Wang, Ufuoma I. Kara, Rajdeep S. Mamtani, Xiaodi Zhou, Huiyang Bian, Zhihong Yang, Yanjun Li, Hualiang Lv, Solomon Adera & Xiaoguang Wang

Nano-Micro Lett. 14, 11 (2022). <https://doi.org/10.1007/s40820-021-00750-z>

**3. Biomass Microcapsules with Stem Cell Encapsulation for Bone Repair (Article)**

Lei Yang, Yuxiao Liu, Lingyu Sun, Cheng Zhao, Guopu Chen & Yuanjin Zhao

Nano-Micro Lett. 14, 4 (2022). <https://doi.org/10.1007/s40820-021-00747-8>