

# Materials Horizons

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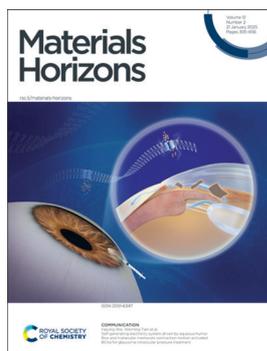
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See Zhiming Chen, Jianyi Luo, Bingpu Zhou *et al.*, pp. 418–433. Image reproduced by permission of Fengming Hu and Bingpu Zhou from *Mater. Horiz.*, 2025, 12, 418.



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See Haiying Wei, Weiming Tian *et al.*, pp. 434–450. Image reproduced by permission of Haiying Wei from *Mater. Horiz.*, 2025, 12, 434.

## EDITORIAL

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**Materials Horizons Emerging Investigator Series:**  
Dr Guang Yang, Oak Ridge National Laboratory (ORNL), USA

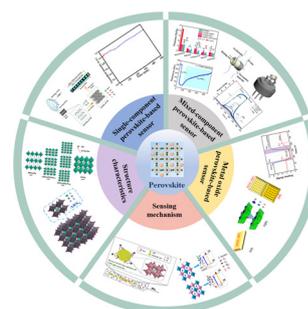


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**Recent progress of gas sensors based on perovskites**

Chenghong Wei, Ziyi Guo, Heng Wang, Shiqi Zhang,\* Dandan Hao\* and Jia Huang\*



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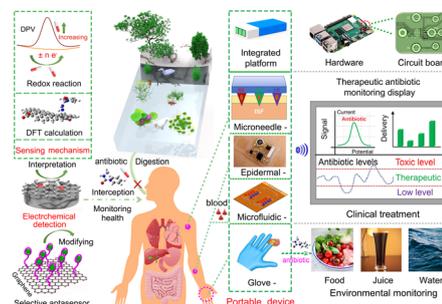
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## REVIEWS

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### Graphene-based electrochemical sensors for antibiotics: sensing theories, synthetic methods, and on-site monitoring applications

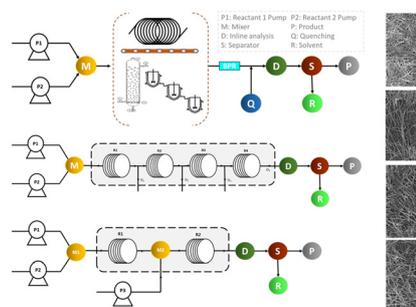
Yangguang Zhu, Chen Ye, Xiao Xiao, Zhuang Sun, Xiufen Li, Li Fu, Hassan Karimi-Maleh, Jun Chen\* and Cheng-Te Lin\*



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### Continuous flow synthesis of metal nanowires: protocols, engineering aspects of scale-up and applications

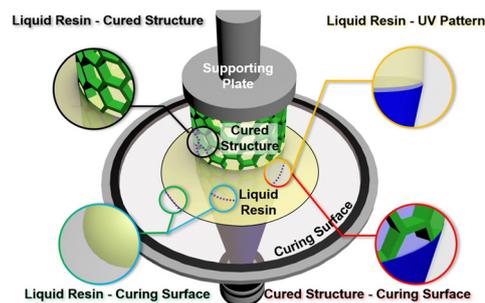
Jayesh R. Sonawane, Rajashri Jundale and Amol A. Kulkarni\*



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### Recent innovations in interfacial strategies for DLP 3D printing process optimization

Lei Wu\* and Yanlin Song\*

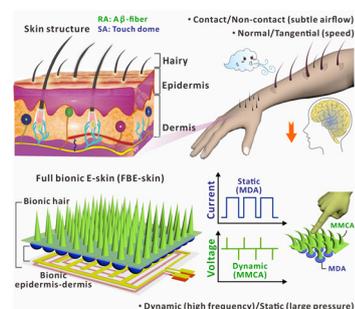


## COMMUNICATIONS

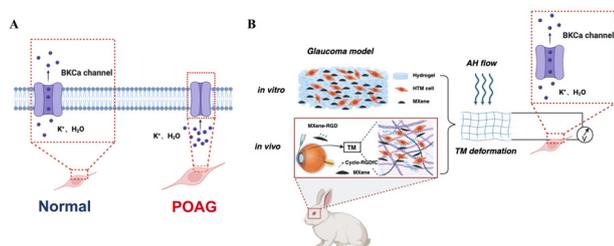
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Fengming Hu, Qian Zhou, Ruolin Liu, Yanfei Zhu, Yuanzhe Liang, Dan Fang, Bing Ji, Zhiming Chen,\* Jianyi Luo\* and Bingpu Zhou\*



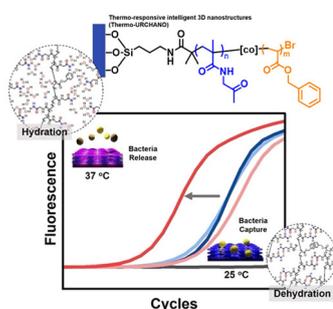
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### Self-generating electricity system driven by aqueous humor flow and trabecular meshwork contraction motion activated BCKa for glaucoma intraocular pressure treatment

Ruiqi Wang, Haiying Wei,\* Yuying Shi, Cao Wang, Zhenqiang Yu, Yijian Zhang, Yifan Lai, Jingwei Chen, Guangfu Wang and Weiming Tian\*

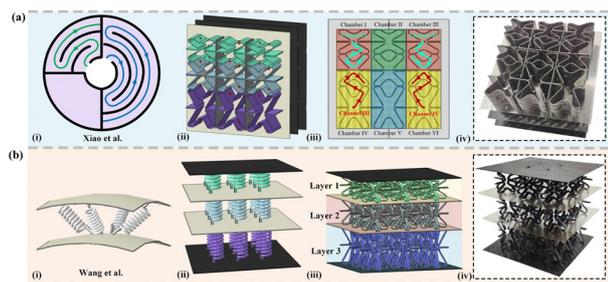
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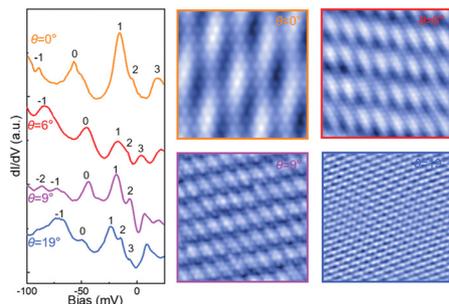
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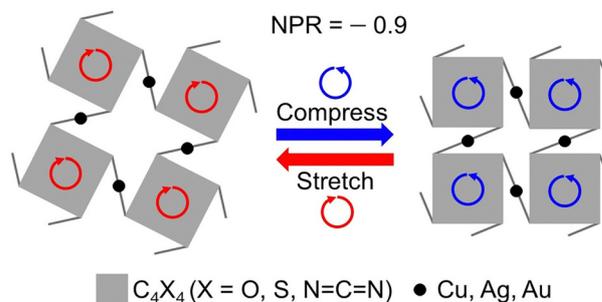
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## Two-dimensional multifunctional metal–organic frameworks with large in-plane negative Poisson ratios and photocatalytic water splitting properties

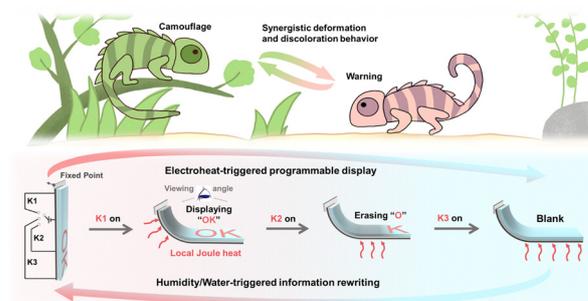
Wei Lin, Huimiao Wang, Yaling Luo, Xiaofeng Liu, ZhongJun Li, Weiduo Zhu, Xingxing Li, Zhao Chen\* and Haidi Wang\*



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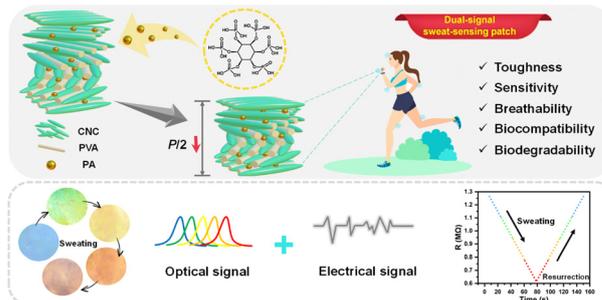
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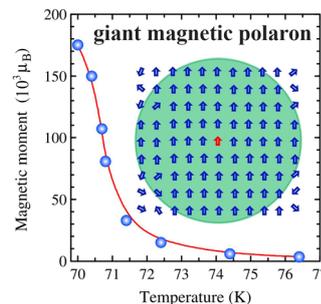
Yi Qian, Hao Wang, Zhen Qu, Qiongya Li, Dongdong Wang, Xindi Yang, Haijuan Qin, Haijie Wei, Fusheng Zhang\* and Guangyan Qing\*



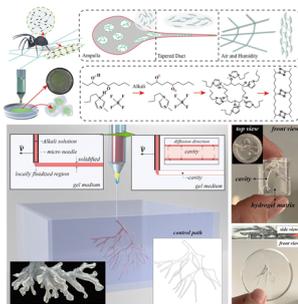
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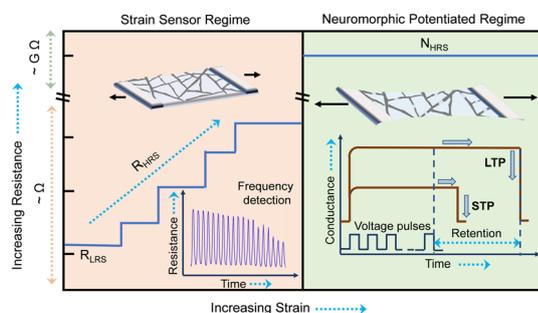
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## Spider-silk inspired ultrafast alkali-induced molecular aggregation for 3D printing arbitrary tubular hydrogels

Yang Lyu, Zhongying Ji,\* Di Liu, Xinqiang Xu, Rui Guo, Xinyan Shi and Xiaolong Wang\*

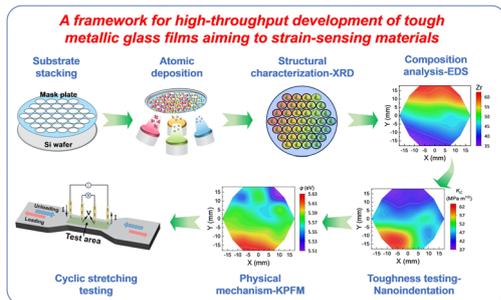
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## Stretchable hierarchical metal wire networks for neuromorphic emulation of nociception and anti-nociception

Bhupesh Yadav, Indrajit Mondal, Manpreet Kaur, Vidhyadhiraja N. S. and Giridhar U. Kulkarni\*

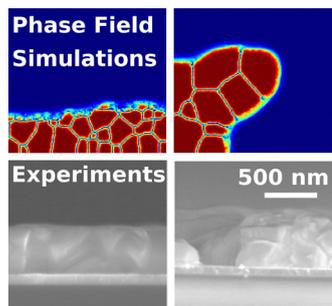
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## High-throughput development of tough metallic glass films

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## Simulation of perovskite thin layer crystallization with varying evaporation rates

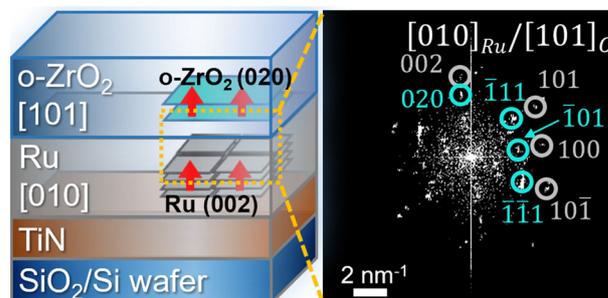
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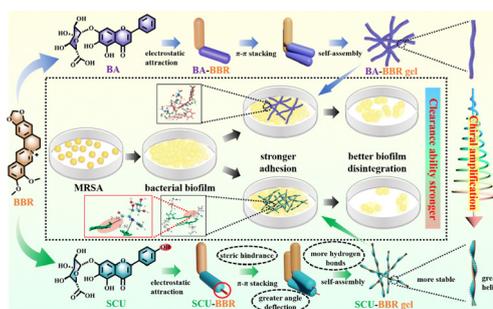
Myeongchan Ko, Ji Su Park, Soyun Joo, Seungbum Hong, Jong Min Yuk and Kyung Min Kim\*



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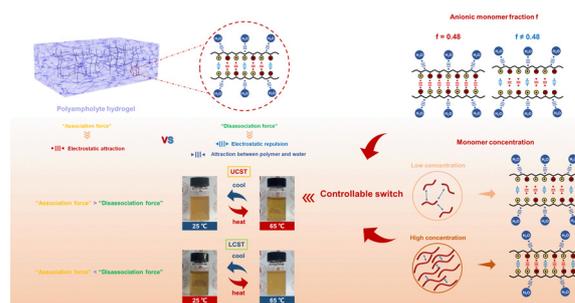
Zhijia Wang, Tong Li, Xuemei Huang, Ran Xu, Yihang Zhao, Jichang Wei, Wenmin Pi, Shuchang Yao, Jihui Lu, Xiang Zhang, Haimin Lei and Penglong Wang\*



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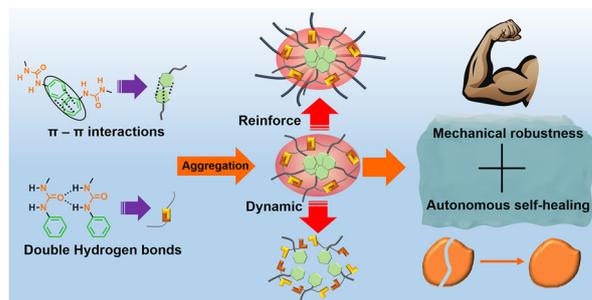
Wenhao Du,\* Shixiong Sun, Zhixin Zhao, Benbo Zhao and Xi Zhang\*



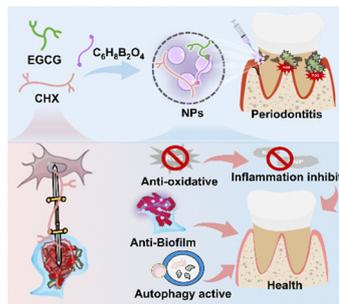
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### Autonomous self-healing and superior tough polyurethane elastomers enabled by strong and highly dynamic hard domains

Hao Jiang, Tong Yan, Meng Cheng, Zhihao Zhao, Tinglei He, Zhikun Wang, Chunling Li,\* Shuangqing Sun\* and Songqing Hu



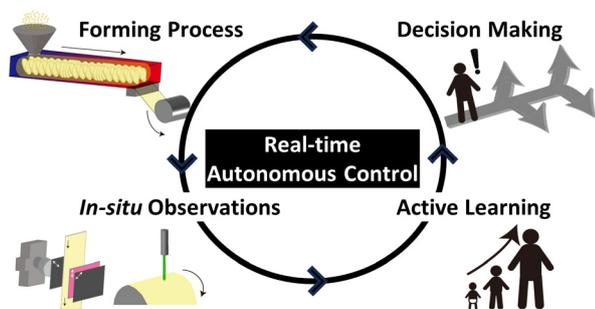
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### Two birds with one stone: natural polyphenols boosted periodontitis treatment of chlorhexidine *via* reducing toxicity and regulating microenvironments

Zhiyuan Sun, Tianyou Wang, Enni Chen, Lingyi Xu, Yi Ding,\* Zhipeng Gu\* and Shimeng Xiao\*

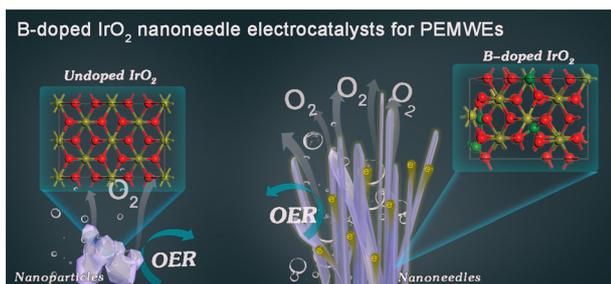
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### Real-time autonomous control of a continuous macroscopic process as demonstrated by plastic forming

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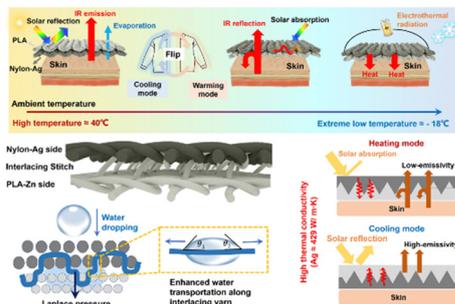
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### A porous network of boron-doped $IrO_2$ nanoneedles with enhanced mass activity for acidic oxygen evolution reactions

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### Knitting-stitching bifacial metafabrics with switchable thermal and moisture transmissibility for multimodal dynamic personal thermoregulation

Benhui Li, Mengdi Wang, Shuyu Ao, Kuan Lyu, Xuzhong Su\* and Fengxin Sun\*

