Materials Horizons

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See Hongze Wang, Yi Wu et al., pp. 4037-4053. Image reproduced by permission of Hongze Wang from Mater. Horiz., 2024, 11, 4037.

EDITORIAL

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Materials Horizons Emerging Investigator Series: Professor Linsey C. Seitz, Northwestern University, **USA**

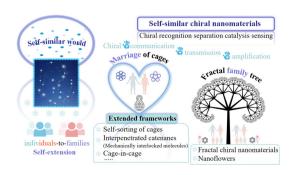


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From individuals to families: design and application of self-similar chiral nanomaterials

Tingting Hong,* Qi Zhou, Yilian Liu, Jiaqi Guan, Wenhu Zhou, Songwen Tan* and Zhiqiang Cai*





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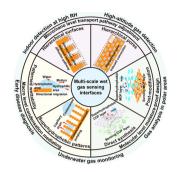


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Bioinspired multi-scale interface design for wet gas sensing based on rational water management

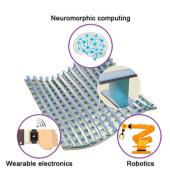
Yutian Ma, Weifeng Li, Weifang Zhang, Lei Kong, Chengyue Yu, Cen Tang, Zhongpeng Zhu,* Yupeng Chen* and Lei Jiang



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Recent advances in flexible memristors for advanced computing and sensing

Jiaming Xu, Ziwang Luo, Long Chen, Xuhui Zhou, Haozhe Zhang, Yuanjin Zheng* and Lei Wei*

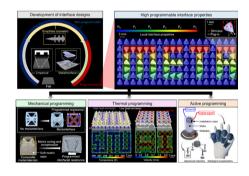


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Metainterfaces with mechanical, thermal, and active programming properties based on programmable orientation-distributed biometric architectonics

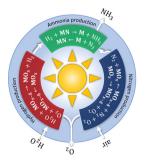
Zhenyang Gao, Hongze Wang,* Pengyuan Ren, Gengchen Zheng, Yang Lu, Bokang Peng, Zijue Tang, Yi Wu* and Haowei Wang



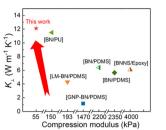
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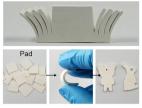
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Daniel Notter, Tiago Elias Abi-Ramia Silva, María Elena Gálvez, Brendan Bulfin and Aldo Steinfeld*



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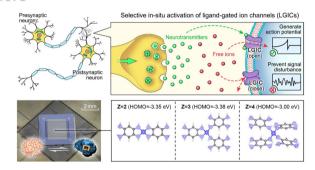




Highly oriented BN-based TIMs with high through-plane thermal conductivity and low compression modulus

Rongjie Yang, Yandong Wang, Zhenbang Zhang, Kang Xu, Linhong Li, Yong Cao, Maohua Li, Jianxiang Zhang, Yue Qin, Boda Zhu, Yingying Guo, Yiwei Zhou, Tao Cai, Cheng-Te Lin, Kazuhito Nishimura, Chen Xue,* Nan Jiang and Jinhong Yu*

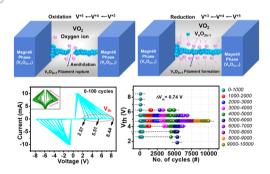
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Affective computing for human-machine interaction via a bionic organic memristor exhibiting selective in situ activation

Bingjie Guo, Xiaolong Zhong, Zhe Yu,* Zhilong He, Shuzhi Liu, Zhixin Wu, Sixian Liu, Yanbo Guo, Weilin Chen, Hongxiao Duan, Jianmin Zeng, Pingqi Gao, Bin Zhang, Qian Chen, Haidong He, Yu Chen* and Gang Liu*

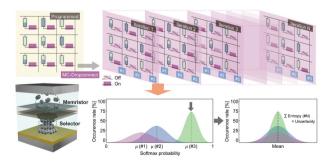
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Origin of discrete resistive switching in chemically heterogeneous vanadium oxide crystals

B. Raju Naik, Yadu Chandran, Kakunuri Rohini, Divva Verma, Shriram Ramanathan and Viswanath Balakrishnan*

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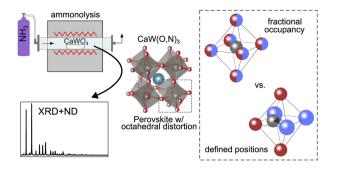
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Do Hoon Kim, Woon Hyung Cheong, Hanchan Song, Jae Bum Jeon, Geunyoung Kim and Kyung Min Kim*

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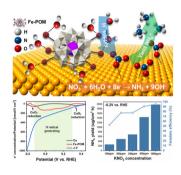
Matthew E. Sweers, Tzu-chen Liu, Jiahong Shen, Bingzhang Lu. John W. Freeland, Christopher Wolverton. Gabriela B. Gonzalez Aviles and Linsey C. Seitz*



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A hydrogen radical pathway for efficacious electrochemical nitrate reduction to ammonia over an Fe-polyoxometalate/Cu electrocatalyst

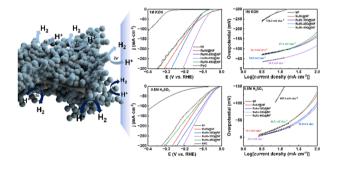
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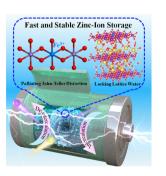
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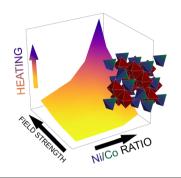
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Suppressing Jahn-Teller distortion and locking lattice water with doped Fe(III) in birnessite toward fast and stable zinc-ion batteries

Xiang Li, Yanchun Sun, Le Zhou, Haiyan Wang,* Binbin Xie,* Wen Lu, Jiqiang Ning and Yong Hu*



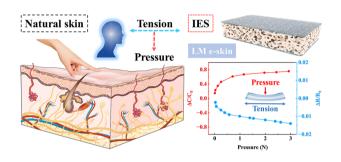
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Performance of ferrite nanoparticles in inductive heating swing adsorption (IHSA): how tailoring material properties can circumvent the design limitations of a system

Maxim De Belder, Alysson F. Morais, Natan De Vos, Luc Van Meervelt, Joeri F.M. Denayer, Johan A. Martens and Eric Breynaert*

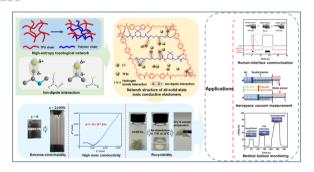
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An integrated electronic skin with biaxial sensitivity from a layered biphasic liquid metal/polymer film

Zixun Chen, Hao Peng* and Jiuyang Zhang*

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Flexible iontronics with super stretchability, toughness and enhanced conductivity based on collaborative design of high-entropy topology and multivalent ion-dipole interactions

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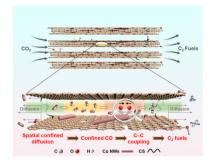
Versatile ionic liquid gels formed by dynamic covalent bonding and microphase separated structures

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Confined CO in a sandwich structure promotes C-C coupling in electrocatalytic CO₂ reduction

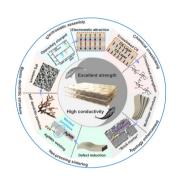
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A novel strategy to prepare high performance multifunctional composite films by combining electrostatic assembly, crosslinking, topology enhancement and sintering

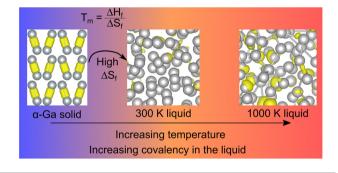
Xuezhong Zhang, Die Wu, Hongju Zhou, Dong Xiang, Haoming Sun, Chuanliang Chen, Dong Li, Yuanpeng Wu, Qiang Fu and Hua Deng*



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Resolving decades of debate: the surprising role of high-temperature covalency in the structure of liquid gallium

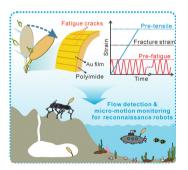
Stephanie Lambie, Krista G. Steenbergen and Nicola Gaston*



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Fatigue crack-based strain sensors achieving flow detection and motion monitoring for reconnaissance robot applications

Xu-Ping Wu, Xue-Mei Luo,* Hong-Lei Chen, Yi Man, Yao-Yao Bai, Tian-Ze Qin, Bin Zhang and Guang-Ping Zhang*



CORRECTION

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Correction: Affective computing for human-machine interaction via a bionic organic memristor exhibiting selective in situ activation

Bingjie Guo, Xiaolong Zhong, Zhe Yu,* Zhilong He, Shuzhi Liu, Zhixin Wu, Sixian Liu, Yanbo Guo, Weilin Chen, Hongxiao Duan, Jianmin Zeng, Pingqi Gao, Bin Zhang, Qian Chen, Haidong He, Yu Chen* and Gang Liu*