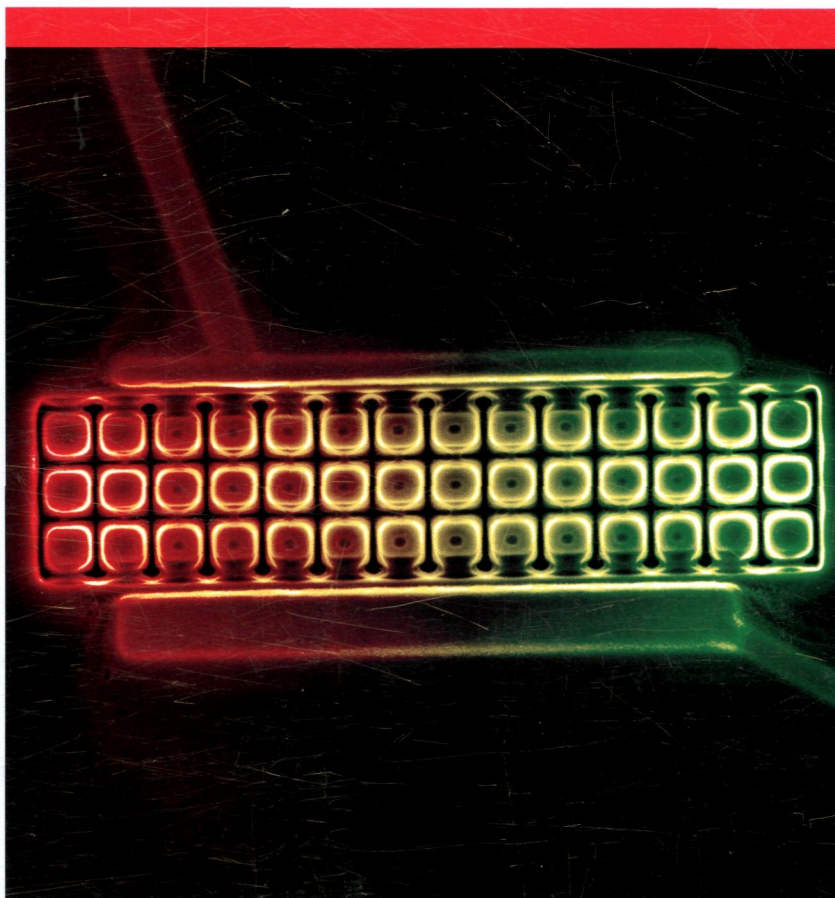


PH  
N 21

ISSN 0957-4484

# NANOTECHNOLOGY

VOLUME 24 NUMBER 17 3 MAY 2013



[iopscience.org/nano](http://iopscience.org/nano)

#### Featured article

A hybrid nanostructure array for gas sensing with  
ultralow field ionization voltage

*H Liu, B Yadian, Q Liu, C L Gan and Y Huang*

**IOP** Publishing

# NANOTECHNOLOGY

Volume 24

Number 17

3 May 2013

## PAPERS

### Biology and medicine

- 175101 **Upconverting rare-earth nanoparticles with a paramagnetic lanthanide complex shell for upconversion fluorescent and magnetic resonance dual-modality imaging**  
Yan Wang, Lei Ji, Bingbo Zhang, Peihao Yin, Yanyan Qiu, Daqian Song, Juying Zhou and Qi Li
- 175102 **Probing the location of displayed cytochrome b<sub>562</sub> on amyloid by scanning tunnelling microscopy**  
C J Forman, N Wang, Z Y Yang, C G Mowat, S Jarvis, C Durkan and P D Barker

### Electronics and photonics

- 175201 **Efficient quantum dot light-emitting diodes with solution-processable molybdenum oxide as the anode buffer layer**  
Shaojian He, Shusheng Li, Fuzhi Wang, Andrew Y Wang, Jun Lin and Zhan'ao Tan
- 175202 **Ferroelectric polymer-gated graphene memory with high speed conductivity modulation**  
Hyeon Jun Hwang, Jin Ho Yang, Young Gon Lee, Chunhum Cho, Chang Goo Kang, Soo Cheol Kang, Woojin Park and Byoung Hun Lee

### Patterning and nanofabrication

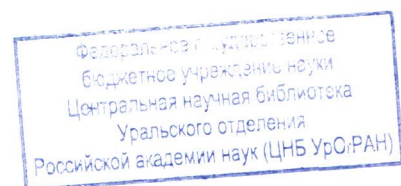
- 175301 **A hybrid nanostructure array for gas sensing with ultralow field ionization voltage**  
Hai Liu, Boluo Yadian, Qing Liu, Chee Lip Gan and Yizhong Huang
- 175302 **Synthesis of nanowires via helium and neon focused ion beam induced deposition with the gas field ion microscope**  
H M Wu, L A Stern, J H Chen, M Huth, C H Schwalb, M Winhold, F Porrati, C M Gonzalez, R Timilsina and P D Rack
- 175303 **Selective area growth of In(Ga)N/GaN nanocolumns by molecular beam epitaxy on GaN-buffered Si(111): from ultraviolet to infrared emission**  
S Albert, A Bengoechea-Encabo, M A Sánchez-García, X Kong, A Trampert and E Calleja
- 175304 **Aluminum oxide mask fabrication by focused ion beam implantation combined with wet etching**  
Zhengjun Liu, Kari Iltanen, Nikolai Chekurov, Kestutis Grigoras and Ilkka Tittonen
- 175305 **Chemical tuning of PtC nanostructures fabricated via focused electron beam induced deposition**  
Harald Plank, Thomas Haber, Christian Gspan, Gerald Kothleitner and Ferdinand Hofer

### Energy at the nanoscale

- 175401 **High efficiency photoelectrochemical water splitting and hydrogen generation using GaN nanowire photoelectrode**  
B AlOtaibi, M Harati, S Fan, S Zhao, H P T Nguyen, M G Kibria and Z Mi
- 175402 **Hybrid energy harvester based on nanopillar solar cells and PVDF nanogenerator**  
Dae-Yeong Lee, Hyunjin Kim, Hua-Min Li, A-Rang Jang, Yeong-Dae Lim, Seung Nam Cha, Young Jun Park, Dae Joon Kang and Won Jong Yoo
- 175403 **Thermoelectric properties of a quantum dot array connected to metallic electrodes**  
David M-T Kuo and Yia-Chung Chang

### Sensing and actuating

- 175501 **Plastic protein microarray to investigate the molecular pathways of magnetic nanoparticle-induced nanotoxicity**  
Yingshuai Liu, Xuelian Li, Shujuan Bao, Zhisong Lu, Qing Li and Chang Ming Li



**Materials: synthesis or self-assembly**

**175601 Alternative low-cost approach to the synthesis of magnetic iron oxide nanoparticles by thermal decomposition of organic precursors**

I O Perez De Berti, M V Cagnoli, G Pecchi, J L Alessandrini, S J Stewart, J F Bengoa and S G Marchetti

**175602 The pH-controlled morphology transition of polyaniline from nanofibers to nanospheres**

Jiahua Shi, Qiang Wu, Runming Li, Yin Xu Zhu, Yujun Qin and Congzhen Qiao

**Materials: properties, characterization or tools**

**175701 Centimeter-long Ta<sub>3</sub>N<sub>5</sub> nanobelts: synthesis, electrical transport, and photoconductive properties**

X C Wu, Y R Tao, L Li, Y Bando and D Golberg

**175702 Controllable synthesis of ZnO nanoparticles with high intensity visible photoemission and investigation of its mechanism**

Yunbo Lv, Wen Xiao, Weiyan Li, Junmin Xue and Jun Ding