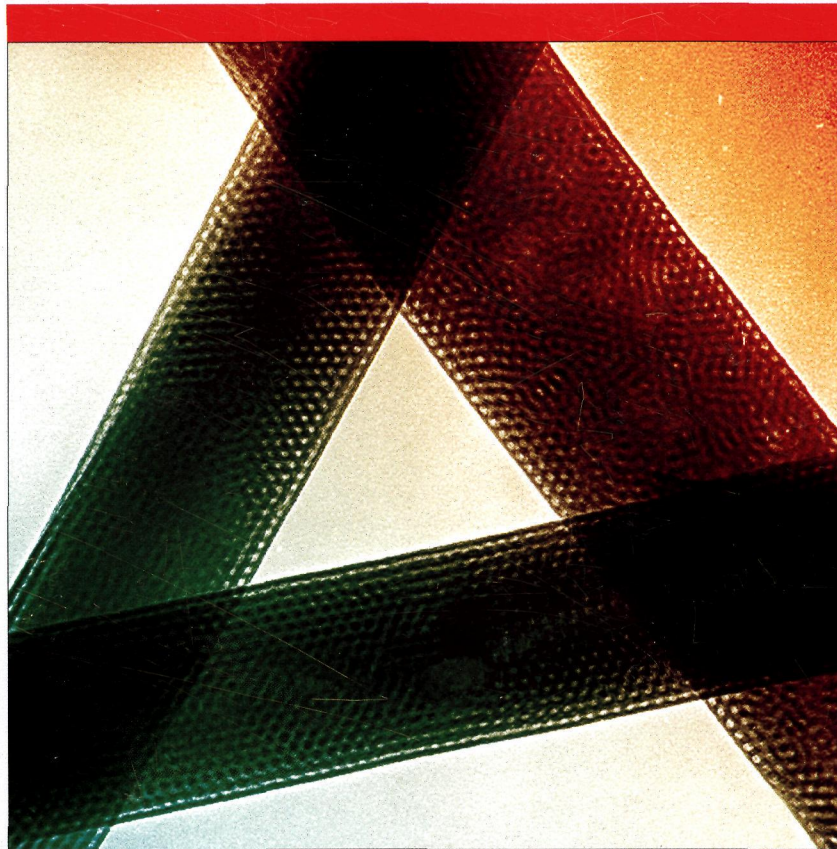


1711  
N 21

ISSN 0957-4484

# NANOTECHNOLOGY

VOLUME 24 NUMBER 25 28 JUNE 2013



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

## Featured article

Preparation of mesoporous nanofibers by vapor phase synthesis:  
control of mesopore structures with the aid of co-surfactants

*S H Min, J Bae, J Jang and K J Lee*

**IOP** Publishing

***Editorial***

250201 Physical behaviour at the nanoscale: a model for fertile research Anna Demming

***Papers***

***Biology and medicine***

255101 The anti-hepatoma effect of nanosized Mn–Zn ferrite magnetic fluid hyperthermia associated with radiation *in vitro* and *in vivo* Mei Lin, Dongsheng Zhang, Junxing Huang, Jia Zhang, Wei Xiao, Hong Yu, Lixin Zhang and Jun Ye

***Electronics and photonics***

255201 On the physical properties of memristive, memcapacitive and meminductive systems Massimiliano Di Ventra and Yuriy V Pershin

***Patterning and nanofabrication***

255301 Reorganizing and shaping of embedded near-coalescence silver nanoparticles with off-resonance femtosecond laser pulses G Baraldi, J Gonzalo, J Solis and J Siegel

255302 Nanoimprinting ultrasmall and high-aspect-ratio structures by using rubber-toughened UV cured epoxy resist Young Jae Shin, Yi-Kuei Wu and L Jay Guo

255303 Direct imprint of nanostructures in metals using porous anodic alumina stamps Xianzhong Lang, Teng Qiu, Kailin Long, Di Han, Haiyan Nan and Paul K Chu

255304 Thermal annealing as an easy tool for the controlled arrangement of gold nanoparticles in block-copolymer thin films Ana Ledo-Suárez, Cristina Elena Hoppe, Massimo Lazzari, M Arturo Lopez Quintela and Ileana Alicia Zucchi

255305 Fabrication of hierarchical micro–nanotopographies for cell attachment studies M J López-Bosque, E Tejada-Montes, M Cazorla, J Linacero, Y Atienza, K H Smith, A Lladó, J Colombelli, E Engel and A Mata

***Energy at the nanoscale***

255401 Formulations and processing of nanocrystalline TiO<sub>2</sub> films for the different requirements of plastic, metal and glass dye solar cell applications Valerio Zardetto, Gabriele De Angelis, Luigi Vesce, Valentina Caratto, Claudia Mazzuca, Jacek Gasiorowski, Andrea Reale, Aldo Di Carlo and Thomas M Brown

***Materials: synthesis or self-assembly***

255601 Template-free synthesis of a  $\text{CdSnO}_3 \cdot 3\text{H}_2\text{O}$  hollow-nanocuboid photocatalyst *via* a facile microwave hydrothermal method Guodong Liu, Shijing Liang, Weiming Wu, Rui Lin, Na Qing, Ruowen Liang and Ling Wu

255602 Preparation of mesoporous nanofibers by vapor phase synthesis: control of mesopore structures with the aid of co-surfactants Sa Hoon Min, Joonwon Bae, Jyongsik Jang and Kyung Jin Lee

255603 Fabrication and properties of  $\text{TiO}_2$  nanofilms on different substrates by a novel and universal method of Ti-ion implantation and subsequent annealing Feng Ren, Xiao-Dong Zhou, Yi-Chao Liu, Yong-Qiang Wang, Guang-Xu Cai, Xiang-Heng Xiao, Zhi-Gao Dai, Wen-Qing Li, Shao-Jian Yan, Wei Wu, Chao Zhang, Hong-Wei Ni and Chang-Zhong Jiang

255604 Laser-assisted solid-state synthesis of carbon nanotube/silicon core/shell structures M Mahjouri-Samani, Y S Zhou, L Fan, Y Gao, W Xiong, K L More, L Jiang and Y F Lu

### ***Materials: properties, characterization or tools***

255701 Coherent GdN clusters in epitaxial GaN:Gd thin films determined by transmission electron microscopy Mingjian Wu (吴明健) and Achim Trampert

255702 Synthesis of N-doped microporous carbon via chemical activation of polyindole-modified graphene oxide sheets for selective carbon dioxide adsorption Muhammad Saleh, Vimlesh Chandra, K Christian Kemp and Kwang S Kim

255703 Study of charge separation and interface formation in a single nanorod  $\text{CdS}-\text{Cu}_x\text{S}$  heterojunction solar cell using Kelvin probe force microscopy Saatviki Gupta, Yogita Batra, B R Mehta and V R Satsangi

255704 Friction force microscopy: a simple technique for identifying graphene on rough substrates and mapping the orientation of graphene grains on copper OPEN ACCESS A J Marsden, M Phillips and N R Wilson

255705 Visualizing the electrochemical reaction of ZnO nanoparticles with lithium by *in situ* TEM: two reaction modes are revealed Qingmei Su, Zimin Dong, Jun Zhang, Gaohui Du and Bingshe Xu

255706 Experimental determination of mode correction factors for thermal method spring constant calibration of AFM cantilevers using laser Doppler vibrometry Richard S Gates, William A Osborn and Jon R Pratt

255707 Rate-independent dissipation and loading direction effects in compressed carbon nanotube arrays J R Raney, F Fraternali and C Daraio

255708 Effect of twist and porosity on the electrical conductivity of carbon nanofiber yarns S Chawla, M Naraghi and A Davoudi