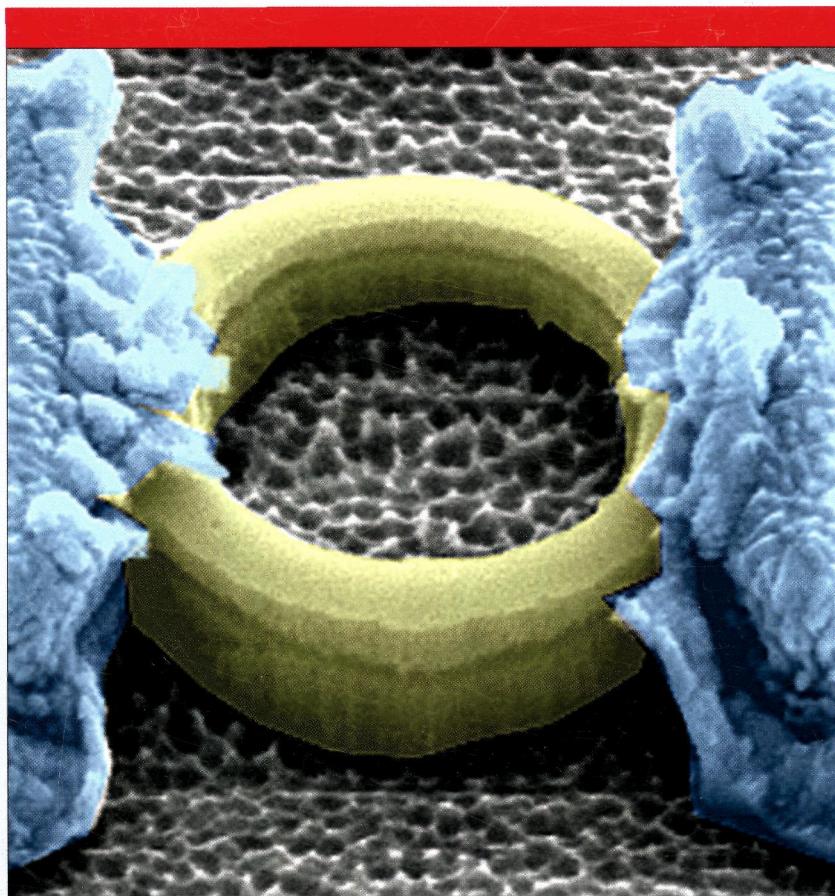


NU  
N 21

ISSN 0957-4484

# NANOTECHNOLOGY

VOLUME 24 NUMBER 24 21 JUNE 2013



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

## Featured article

A ballistic quantum ring Josephson interferometer  
A Fornieri, M Amado, F Carillo, F Dolcini, G Biasiol,  
L Sorba, V Pellegrini and F Giazotto

**Nanotechnology**  
**Volume 24**  
**Number 24, 21 June 2013**

**Papers**

**Biology and medicine**

245101 Mechanisms of chitosan-coated poly(lactic-co-glycolic acid) nanoparticles for improving oral absorption of 7-ethyl-10-hydroxycamptothecin Miao Guo, Wen-Ting Rong, Jie Hou, Dong-Fang Wang, Yu Lu, Ying Wang, Shu-Qin Yu and Qian Xu

**Electronics and photonics**

245201 A ballistic quantum ring Josephson interferometer A Fornieri, M Amado, F Carillo, F Dolcini, G Biasiol, L Sorba, V Pellegrini and F Giazotto

245202 Hydrodynamic flow in the vicinity of a nanopore induced by an applied voltage Mao Mao, Sandip Ghosal and Guohui Hu

245203 Quantum-interference transport through surface layers of indium-doped ZnO nanowires Shao-Pin Chiu, Jia Grace Lu and Juhn-Jong Lin

**Patterning and nanofabrication**

245301 Collective behavior of block copolymer thin films within periodic topographical structures M Perego, A Andreozzi, A Vellei, F Ferrarese Lupi and G Seguini

245302 Effect of molecular weight distribution on e-beam exposure properties of polystyrene Ripon Kumar Dey and Bo Cui

245303 Fabrication of ultrahigh density metal–cell–metal crossbar memory devices with only two cycles of lithography and dry-etch procedures B Y Zong, J Y Goh, Z B Guo, P Luo, C C Wang, J J Qiu, P Ho, Y J Chen, M S Zhang and G C Han

245304 Superhydrophilicity on microstructured titanium surfaces via a superficial titania layer with interconnected nanoscale pores Abu Samah Zuruzi, Yong Hwee Yeo, Adam J Monkowski, Chang Song Ding and Noel C MacDonald

245305 A damascene platform for controlled ultra-thin nanowire fabrication M Guilmain, T Labbaye, F Dellenbach, C Nauenheim, D Drouin and S Ecoffey

245306 Growth and large-scale assembly of InAs/InP core/shell nanowire: effect of shell thickness on electrical characteristics Xueyu Liu, Pengbo Liu, Hui Huang, Changxin Chen, Tiening Jin, Yafei Zhang, Xianliang Huang, Zhiyuan Jin, Xiaogan Li and Zhenan Tang

**Energy at the nanoscale**

245401 Improving the performance of quantum dot-sensitized solar cells by using TiO<sub>2</sub> nanosheets with exposed highly reactive facets Ting You, Lei Jiang, Ke-Li Han and Wei-Qiao Deng

245402 Enhanced performance of electrospun carbon fibers modified with carbon nanotubes: promising electrodes for enzymatic biofuel cells A Both Engel, A Cherifi, S Tingry, D Cornu, A Peigney and Ch Laurent

### ***Sensing and actuating***

245501 Cu impedance-based detection of superparamagnetic nanoparticles D Lago-Cachón, M Rivas, J C Martínez-García and J A García

245502 Kelvin probe microscopy and electronic transport measurements in reduced graphene oxide chemical sensors OPEN ACCESS Christopher E Kehayas, Samuel MacNaughton, Sameer Sonkusale and Cristian Staii

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

245601 Cross-linked lysozyme crystal templated synthesis of Au nanoparticles as high-performance recyclable catalysts Miao Liang, Libing Wang, Xia Liu, Wei Qi, Rongxin Su, Renliang Huang, Yanjun Yu and Zhimin He

245602 One-step synthesis of graphene via catalyst-free gas-phase hydrocarbon detonation Arjun Nepal, Gajendra P Singh, Bret N Flanders and C M Sorensen

245603 Biocompatible fluorescent nanoparticles for *in vivo* stem cell tracking Lidia Cova, Paolo Bigini, Valentina Diana, Leopoldo Sitia, Raffaele Ferrari, Ruggiero Maria Pesce, Rushd Khalaf, Patrizia Bossolasco, Paolo Ubezio, Monica Lupi, Massimo Tortarolo, Laura Colombo, Daniela Giardino, Vincenzo Silani, Massimo Morbidelli, Mario Salmona and Davide Moscatelli

245604 Synthesis of surfactant-free electrostatically stabilized gold nanoparticles by plasma-induced liquid chemistry J Patel, L Němcová, P Maguire, W G Graham and D Mariotti

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

245701 Programming nanostructured soft biological surfaces by atomic layer deposition Imre Miklós Szilágyi, Georg Teucher, Emma Häkkinen, Elina Färm, Timo Hatanpää, Timur Nikitin, Leonid Khriachtchev, Markku Räsänen, Mikko Ritala and Markku Leskelä

245702 Preparation of thermostable PBO/graphene nanocomposites with high dielectric constant Yi Chen, Qixin Zhuang, Xiaoyun Liu, Jun Liu, Shaoliang Lin and Zhewen Han

245703 Atomic layer deposition of high-*k* dielectrics on single-walled carbon nanotubes: a Raman study Luckshitha Suriyasena Liyanage, Daire J Cott, Annelies Delabie, Sven Van Elshocht, Zhenan Bao and H-S Philip Wong

245704 Multifunctional porous silicon nanopillar arrays: antireflection, superhydrophobicity, photoluminescence, and surface-enhanced Raman scattering Brian Kiraly, Shikuan Yang and Tony Jun Huang