

Best of 2008 and 2009

To celebrate another successful year for *Nanotechnology*, with article downloads in excess of 1 million, we present this free-to-read showcase of the journal's most accessed papers from 2008 and 2009.

The papers have been selected by the number of times they have been accessed by members of the community, and we would like to congratulate all the authors for the value of their influential research and the significance of their papers to our readers.

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Biology and Medicine

2009

[Aqueous synthesis of type-II CdTe/CdSe core-shell quantum dots for fluorescent probe labeling tumor cells](#)

Ruosheng Zeng, Tingting Zhang, Jincheng Liu, Song Hu, Qiang Wan, Xuanming Liu, Zhiwei Peng and Bingsuo Zou

2009 *Nanotechnology* **20** 095102

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[Simultaneous mechanical stiffness and electrical potential measurements of living vascular endothelial cells using combined atomic force and epifluorescence microscopy](#)

Chiara Callies, Peter Schön, Ivan Liashkovich, Christian Stock, Kristina Kusche-Vihrog, Johannes Fels, Alexandra S Sträter and Hans Oberleithner

2009 *Nanotechnology* **20** 175104

doi: [10.1088/0957-4484/20/17/175104](https://doi.org/10.1088/0957-4484/20/17/175104)  Tag this article

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[AFM imaging of functionalized carbon nanotubes on biological membranes](#)

C Lamprecht, I Liashkovich, V Neves, J Danzberger, E Heister, M Rangl, H M Coley, J McFadden, E Flahaut, H J Gruber, P Hinterdorfer, F Kienberger and A Ebner

2009 *Nanotechnology* **20** 434001

doi: [10.1088/0957-4484/20/43/434001](https://doi.org/10.1088/0957-4484/20/43/434001)  Tag this article

2008

[Nanorobot architecture for medical target identification](#)

Adriano Cavalcanti, Bijan Shirinzadeh, Robert A Freitas Jr and Tad Hogg

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[Carbon nanopipettes for cell probes and intracellular injection](#)

Michael G Schrlau, Erica M Falls, Barry L Ziober and Haim H Bau

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Can silver nanoparticles be useful as potential biological labels?

Amanda M Schrand, Laura K Braydich-Stolle, John J Schlager, Liming Dai and Saber M Hussain

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Electronics and Photonics

2009

The effects of defects on the conductance of graphene nanoribbons

Narjes Gorjizadeh, Amir A Farajian and Yoshiyuki Kawazoe


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doi: [10.1088/0957-4484/20/1/015201](https://doi.org/10.1088/0957-4484/20/1/015201)  Tag this article

Ordered polythiophene/fullerene composite core-shell nanorod arrays for solar cell applications

Hsu-Shen Wang, Li-Hua Lin, Shih-Yung Chen, Yuh-Lin Wang and Kung-Hwa Wei

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Electrical properties of individual ZnO nanowires

M Sakurai, Y G Wang, T Uemura and M Aono

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Enhanced surface-excitonic emission in ZnO/Al₂O₃ core-shell nanowires

J-P Richters, T Voss, D S Kim, R Scholz and M Zacharias


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Nonvolatile flexible organic bistable devices fabricated utilizing CdSe/ZnS nanoparticles embedded in a conducting poly *N*-vinylcarbazole polymer layer

Dong-Ick Son, Ji-Hwan Kim, Dong-Hee Park, Won Kook Choi, Fushan Li, Jung Hun Ham and Tae Whan Kim


2008 *Nanotechnology* **19** 055204

doi: [10.1088/0957-4484/19/05/055204](https://doi.org/10.1088/0957-4484/19/05/055204)  Tag this article

Silicon nanowire-based solar cells

Th Stelzner, M Pietsch, G Andr , F Falk, E Ose and S Christiansen

2008 *Nanotechnology* **19** 295203

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Patterning and Nanofabrication

2009

Real-time nanofabrication with high-speed atomic force microscopy

J A Vicary and M J Miles

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Nanofluidic structures with complex three-dimensional surfaces

Samuel M Stavis, Elizabeth A Strychalski and Michael Gaitan

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Nanopost plasmonic crystals

T T Truong, J Maria, J Yao, M E Stewart, T-W Lee, S K Gray, R G Nuzzo and J A Rogers

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Surface plasmon-based nanopatterning assisted by gold nanospheres

Alex Heltzel, Senthil Theppakuttai, S C Chen and John R Howell


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Deep UV pattern definition in PMMA

Brian G Burke, Timothy J Herlihy Jr, Andrew B Spisak and Keith A Williams

2008 *Nanotechnology* **19** 215301

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Depositing graphene films on solid and perforated substrates

A Banerjee and H Grebel

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Quantum Phenomena

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A fully coherent electron beam from a noble-metal covered W(111) single-atom emitter

Che-Cheng Chang, Hong-Shi Kuo, Ing-Shouh Hwang and Tien T Tsong

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Thermoelectromechanical effects in quantum dots

Sunil R Patil and Roderick V N Melnik


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Atomic layer deposition of quantum-confined ZnO nanostructures

David M King, Samantha I Johnson, Jianhua Li, Xiaohua Du, Xinhua Liang and Alan W Weimer

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Proposal for a graphene-based current nanoswitch

A Cresti

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Kondo effect by controlled cleavage of a single-molecule contact

R Temirov, A Lassise, F B Anders and F S Tautz

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Transport properties of graphene nanoribbons with side-attached organic molecules

L Rosales, M Pacheco, Z Barticevic, A Latgé and P A Orellana

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Sensing and Actuating

2009

A highly sensitive ethanol sensor based on mesoporous ZnO-SnO₂ nanofibers

Xiaofeng Song, Zhaojie Wang, Yongben Liu, Ce Wang and Lijuan Li

2009 *Nanotechnology* **20** 075501

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Carbon nanotube-based ethanol sensors

Sean Brahim, Steve Colbern, Robert Gump, Alex Moser and Leonid Grigorian

2009 *Nanotechnology* **20** 235502

Gas sensing properties of single conducting polymer nanowires and the effect of temperature

Yaping Dan, Yanyan Cao, Tom E Mallouk, Stephane Evoy and A T Charlie Johnson

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Multiwalled carbon nanotube film for strain sensing

X Li, C Levy and L Elaadi


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An Au/Si hetero-nanorod-based biosensor for *Salmonella* detection

Junxue Fu, Bosoon Park, Greg Siragusa, Les Jones, Ralph Tripp, Yiping Zhao and Yong-Jin Cho

2008 *Nanotechnology* **19** 155502

doi: [10.1088/0957-4484/19/15/155502](https://doi.org/10.1088/0957-4484/19/15/155502)  Tag this article

Carbon nanotube–TiO₂ hybrid films for detecting traces of O₂

E Llobet, E H Espinosa, E Sotter, R Ionescu, X Vilanova, J Torres, A Felten, J J Pireaux, X Ke, G Van Tendeloo, F Renaux, Y Paint, M Hecq and C Bittencourt

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Materials: synthesis or self-assembly

2009

Self-aligned growth of single-walled carbon nanotubes using optical near-field effects

W Xiong, Y S Zhou, M Mahjouri-Samani, W Q Yang, K J Yi, X N He, S H Liou and Y F Lu

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Templated growth of graphenic materials

Nolan W Nicholas, L Matthew Connors, Feng Ding, Boris I Yakobson, Howard K Schmidt and Robert H Hauge

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Ultrafast VLS growth of epitaxial β -Ga₂O₃ nanowires

E Auer, A Lugstein, S Löffler, Y J Hyun, W Brezna, E Bertagnolli and P Pongratz

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Phase-pure TiO₂ nanoparticles: anatase, brookite and rutile

D Reyes-Coronado, G Rodríguez-Gattorno, M E Espinosa-Pesqueira, C Cab, R de Coss and G Oskam

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doi: [10.1088/0957-4484/19/14/145605](https://doi.org/10.1088/0957-4484/19/14/145605)  Tag this article

Rapid synthesis of aligned zinc oxide nanowires

Husnu Emrah Unalan, Pritesh Hiralal, Nalin Rupesinghe, Sharvari Dalal, William I Milne and Gehan A J Amaratunga

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High-yield synthesis and optical response of gold nanostars

Pandian Senthil Kumar, Isabel Pastoriza-Santos, Benito Rodríguez-González, F Javier García de Abajo and Luis M Liz-Marzán

2008 *Nanotechnology* **19** 015606

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Effective elastic mechanical properties of single layer graphene sheets

F Scarpa, S Adhikari and A Srikantha Phani

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Fabrication of porous carbon nanofibers and their application as anode materials for rechargeable lithium-ion batteries

Liwen Ji and Xiangwu Zhang

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Measuring the surface-enhanced Raman scattering enhancement factors of hot spots formed between an individual Ag nanowire and a single Ag nanocube

Pedro H C Camargo, Claire M Cobley, Matthew Rycenga and Younan Xia

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Characterization of nanometer-sized, mechanically exfoliated graphene on the H-passivated Si(100) surface using scanning tunneling microscopy

Kyle A Ritter and Joseph W Lyding

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Inkjet printing of single-walled carbon nanotubes and electrical characterization of the line pattern

Jin-Won Song, Joondong Kim, Yeo-Hwan Yoon, Byung-Sam Choi, Jae-Ho Kim and Chang-Soo Han

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Industrially synthesized single-walled carbon nanotubes: compositional data for users, environmental risk assessments, and source apportionment

D L Plata, P M Gschwend and C M Reddy

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