

Issue Four

Five in '10: nanoHUB.org's Top Five Simulation Tools as Selected by its Users

nanoHUB.org's most popular simulation tools in 2010 include one that teaches electronic bandstructure in semiconductors as well as electronic transport; a suite of tools that provides educators and students with a "one-stop shop" in semi-conductor education; and another that allows users to learn more about the intricacies of P-N junction devices.



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Quiñones Selected to Participate in NAE's Second Frontiers of Engineering Education Symposium

Dr. Stella Quiñones, nanoHUB.org contributor and Assistant Professor of Electrical and Computer Engineering at The University of Texas at El Paso, was among fifty-three of the nation's most innovative young engineering educators selected to take part in the National Academy of Engineering's second Frontiers of Engineering Education (FOEE) symposium.

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Dr. Stella Quiñones

Interview

Professor Steve Campbell's name is familiar to many within the nanotechnology community. In research he is known for his innovative approaches in using high permittivity materials for the gate insulator in deeply sealed MOSFETs. To educators he's known as an advocate of Nano-Lite, an NSF-sponsored regional center for nanotechnology that focuses on the AAS level. In the classroom he is known as the author of The Science and Technology of Microelectronic Fabrication, one of the most widely used textbooks on the subject. nanoHUB.org had a notable role in the development of the latest edition; indeed nanoHUB tools were used to verify many of the theories presented in the text.

Dedicated followers of nanoHUB.org, however, may be familiar with Dr. Campbell for his prolific use of its tools, including PADRE, ADEPT, nanoFET Lab, and ProLab-CDD, among others.

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Dr. Steve Campbell

New on nanoHUB

MOSCAP CV Profiling This real life problem based on MOSCAP allows one to understand the usage of CV profiling of MOS type of devices.

<https://nanohub.org/resources/10359>

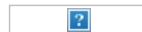
MOLpull MOLpull performs a Weighted Histogram Analysis (WHAM) using molecular dynamics (MD) for statistical sampling along an unfolding pathway. TINKER 4.2.1 and the MM3 force field 2 are used for the MD propagation. The tool is useful in computing the PMF of arbitrary molecules.

<https://nanohub.org/resources/molpull>

Nanotechnology Animation Gallery Animations and visualization are generated with various nanoHUB.org tools to enable insight into nanotechnology and nanoscience.

<https://nanohub.org/resources/8882>

Take Our Poll:



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Upcoming Events

Jan. 13: Communications Skills seminar, Purdue University, West Lafayette, Indiana --

Spring 2011 Professional Development Series for all Network for Computational Nanotechnology students opens with this presentation by Dr. Gerhard Klimeck, Director.

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Jan. 16-20: PCSI38 The 38th Conference on the Physics and Chemistry of Surfaces and Interfaces (PCSI-38) San Diego, California.

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Feb. 10 - 13: NCN All Hands Meeting, Big Ten Conference Center, Chicago, Illinois --

NCN leadership team gathers to discuss future plans. All who are supported by NCN are welcome to attend.

Apr. 5- 6: Society of Manufacturing Engineers NanoManufacturing Conference, Chicago, Illinois --

Discover the latest nanomanufacturing applications and trends in top-down fabrication and bottom-up assembly.

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Notable Quotes

"I got something which was absolutely fascinating for me. The description and examples of the NEMO-3D were so good, and the electronics wave functions visualization was unbelievably great." Shihan Sajeed, Lecturer, Department of Applied Physics, University of Dhaka, Bangladesh.
— Dec. 10, 2010.

"I have used the Nanosphere Optics Lab after my students have done experimental work so they can get a better sense of the size and spectroscopic properties associated with nanoparticles. This particular tool allows them to gain a better understanding of the ideas behind the experiments we conduct." Leanna Giancarlo, Assoc. Professor, University of Mary Washington
— Dec. 16, 2010

In Brief

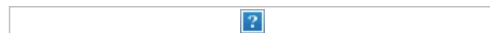
Dr. Mark Ratner, Northwestern University, recently published a paper on a molecule-sized light switch in the Dec. 31, 2010, issue of Physical Review Focus

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Dr. Stella Quiñones, University of Texas at El Paso, has received the highest form of recognition from the University of Texas System Board of Regents.

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The Network for Computational Nanotechnology and nanoHUB.org are supported by NSF.

