



Nanotechnology simulation and more.
Always on, around the globe.

Issue 12

Simulations Provide Insight Into Emerging Nanoelectronic Device

Prof. Alejandro Strachan and group members Nicolas Onofrio and David Guzman used advanced atomistic simulations to understand the operation of electro-metallization cells. These resistance switching devices are very attractive for memory and logic applications in electronics due to their ultra-fast switching speeds and possible miniaturization to the nanometer scales that could enable faster and higher capacity memory.

The simulations, detailed in a paper published in [Nature Materials](#), provide unprecedented detail regarding the operation of these cells. "An atomic-level mechanistic understanding of the switching process provides new guidelines for materials optimization" - Explains Strachan, Professor of Materials Engineering at Purdue and Deputy Director of the Network for Computational Nanotechnology (NCN) and Purdue Center for Predictive Materials and Devices (c-PRIMED).



Come Talk to Us!

nanoHUB will be at The Mineral, Metals, and Materials Society (TMS) 144th Annual Meeting and Exhibition - which brings together thousands of business leaders, engineers, scientists and other professionals in the materials field for a superb exchange of technical knowledge leading to solutions in the workplace and in society.

When: March 15 - 19, 2015

Where: Walt Disney World, Orlando, FL

Booth number: 428



Site Updates

It is our mission to continually work on improving nanoHUB.org to provide you with the best experience. We recently released the HUBzero Branch 1.3.1, which includes the following updates:

- Collections
 - Collect blog posts, courses, forum threads, and wish-list items.
 - Specify a collection's layout to appear as a grid or a list.
 - Specify a collection's order by creation date or defining order.
- Group Calendars now support all day events.
- "My To-Do Items" module has been added to members dashboard.
- Projects
 - Check out the "To-do" plugin new look. Now you can view items in a table or pinboard format.
 - Use emoticons in the project updates feed.
 - Create public links to project notes. These links allow project notes to be shared with people outside of a project.



Announcements



Fundamentals of Nanoelectronics: Basic Concepts

The course is taught by Purdue's Professor Supriyo Datta on the MIT online platform (edX)

Date: March 26 - May 21 (8 weeks).

[Registration is still open!](#)

Upcoming Events

[Science on Tap - Along for the Ride: Reflections on the Past, Present, and Future of Nanoelectronics](#)

Presenter: Professor Mark Lundstrom

When: March 26, 2015

[More events](#)

Featured Tools



Nanowire

Simulate 3D nanowire transport in the effective mass approximation with phonon scattering and 3D Poisson self-consistent solution



Nano Heatflow

Study the transfer of energy between the vibrational modes of a carbon nanotube

FOLLOW US



LINK TO US

Link your homepages to nanoHUB.org. [Click here](#)

ABOUT US

[Contact Us](#) [Unsubscribe](#)

The Network for Computational Nanotechnology and nanoHUB.org are supported by the National Science Foundation.

