

Nanotechnology simulation and more
Always on, around the globe



Issue 33

Houston Community College Hosts nanoHUB Workshop

Upcoming Events

[NSF Nanoscale Science and Engineering Grantees Conference](#)

When: Dec. 6-7, 2018

Where: The Westin Alexandria - Alexandria, VA

The 2018 NSF Nanoscale Science and Engineering Grantees Conference is a combination of keynotes, panels, posters, program information sessions, discussions of research trends, and principal investigator meetings with NSF program directors.

[ICNSNT 5th International Conference on Nano Science and Nanotechnology](#)

When: Dec. 12-14, 2018

Where: Colombo, Sri Lanka

ICNSNT 2018 offers an opportunity to participate a dynamic, international, interdisciplinary platform to share your knowledge and take part in scientific discussions on Nanoscience and Nano Technology including advances of the manufacturing, biotechnology, electronic, environmental and pharmaceutical markets. The Conference will strive to offer plenty of networking opportunities, providing you with the prospect to meet and interact with the leading scientists and researchers, Nano engineers, Nanoscience and Nanotechnology associations and societies, Nanoscience and Nanotechnology investors including industry professionals and government officials, as well as sponsors and exhibitors through dialogues on deployment of research outputs.

Website:
<https://nanoconference.co>

[Explore Events](#)

New Resources

[Optical Properties of Single Coaxial Nanowires - LDOS and Purcell Factor](#)

This new tool computes LDOS and Purcell Factor of a single nanowire with up to 2 shell layers using Mie-formalism.

[SEM Image Processing Tool](#)

nanoHUB continues to empower higher education faculty who want to incorporate cutting-edge nanotechnology topics into their classrooms with a workshop held in October.

Titled “An Overview of nanoHUB Instructional and Research Computational Resources for Community College and University Faculty”, the workshop reached attendees across Texas. Participants came from Houston Community College, Northwest Vista College (San Antonio), the University of Houston, Prairie View A&M University, Clarkson Aerospace, as well as the National Science Foundation’s Division of Materials Research.

The workshop was led by Dr. Tanya Faltens, Educational Content Creation Manager at the Network for Computational Nanotechnology at Purdue University, and Bartlett (Bart) M. Sheinberg, Director of the West Houston Center for Science and Engineering at HCC.

“The basis of the workshop was the ability to provide computational modeling simulations to community college and university faculty, and discuss how the resources provided by nanoHUB can be applied to instruction and research,” said Sheinberg.

Faltens and Sheinberg connected at the nanoHUB workshop on simulations for materials science and engineering at a recent conference of the American Society for Engineering Education in Salt Lake City. “I happened to meet Tanya at the workshop she was giving and said, ‘This would be a great thing to bring back to Houston,’” said Sheinberg.



During the six-hour Houston workshop, participants learned methods for using nanoHUB tools to simulate carbon nanotube geometries, band structures and electrical properties, quantum dots, and more. Other activities included sharing control of simulations with other members of a group, saving simulation results and sending them to others, accessing stored simulation results in a nanoHUB filespace using WebDAV, and getting help via nanoHUB’s ticket system.

Attendees left with the ability to use nanoHUB tools and resources in their biology, chemistry, materials science, electrical engineering, physics, and nanotechnology courses.

“I think it turned out to be a great thing, and I think we hit on something really relevant,” said Sheinberg. “Tanya and I are going to explore next steps to keep the momentum established at the conference going.”

Workshop attendees collaborated in a nanoHUB group focused on undergraduate education: https://nanohub.org/groups/ug_workshop.

Instructors interested in joining the workshop group may send a request for access to the group’s manager. Visit the link and then click the “Request Group Membership” button to get started.

Another useful starting point for anyone looking to learn how to use nanoHUB is the Education page (<http://nanohub.org/education>) which features learning communities, nanotechnology topics, and popular tools.

nanoHUB at 2018 NSF Nanoscale Science and Engineering Grantees Conference

This simulation tool allows analysis and feature detection in SEM images of graphene.

Laser Materials Processing and Nanomanufacturing

This talk, presented by Costas Grigoropoulos of the University of California, Berkeley, covers new concepts regarding ultrafast laser fabrication of three-dimensional mechanical metamaterials and the directed self-assembly of nanostructures, among other topics.

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



Professor Alejandro Strachan of the Network for Computational Nanotechnology (NCN) will deliver a presentation on nanoHUB to the audience at the 2018 NSF Nanoscale Science and Engineering Grantees Conference. The session, titled "General Purpose nanoHUB", will provide an overview of nanoHUB as well as a tutorial that will help attendees get started using nanoHUB resources. It is scheduled to take place at 5:00 p.m. on Thursday, December 6.

Additionally, representatives from NCN will be onsite at the conference to conduct 10-minute "needs assessment" talks. They would like to speak with conference attendees to better understand their experiences, requirements, and opinions. The expertise gathered will help shape nanoHUB's research and educational contributions in the coming years. If you are attending the conference and would like to assist, please email nanoHUBsocial@gmail.com so we can schedule a time to talk.

The [NSF Nanoscale Science and Engineering \(NSE\) grantee conference](#) highlights the research and education activities of ongoing NSE grant projects. Roundtable discussions promote new interdisciplinary partnerships and identify future directions for research, education, networking, business interactions, environmental health and safety, and societal impact. These interactions help to advance the goals of NSF (www.nsf.gov/nano), the U.S. National Nanotechnology Initiative (www.nano.gov), and the 21st Century Nanotechnology Research and Development Act.



The poster features the NSF logo in the top left corner. The main title, "2018 NSF Nanoscale Science and Engineering Grantees Conference", is prominently displayed in white text on a blue background. Below the title, a central image shows a complex network of glowing blue and orange fibers, representing a biological synaptic element. To the left of this image, the dates "December 6-7, 2018" and the website "www.nseresearch.org/2018/" are listed. At the bottom, a caption reads: "NSE: A biological synaptic element researched for creating nanoelectronic memory devices (R. Jha et al., U. Cincinnati)".

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