

HUBzero Workshop, November 7, 2008

nanoHUB.org

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how it started

The screenshot shows the PUNCH website interface. At the top left is the PUNCH logo. To its right is the text "Purdue University Network Computing Hubs Online Computing for Engineering and Science". Below this is a navigation menu on the left and a main content area with a grid of tool categories. A callout box points to the "MolecularV" tool, describing its function.

PUNCH Purdue University Network Computing Hubs
Online Computing for Engineering and Science

Menu

- Home
- Getting started
- About PUNCH
- Policies
- Statistics
- System map
- Credits
- Sponsors
- People
- Contact us

Computational Electronics **Computer Architecture** **Parallel Programming** **VLSI Design**

Login to use tools or **Request** free account.

Tools

Adept	Demon	Device	FastCap
FastHenry	Fish-1D	MOSCV	Medici
Minimos	Moca	MolecularV	Prophet
SDemon	SMASH	Schred	Sequal
Spice2G	Suprem3	TSuprem4	
UIFullBand	UTMarlowe4.0	UTMinimos	
Uirode			

Laboratories

Electromagnetics	Fabrication	Heterostructures	Nanoelectronics
Silicon	Solar Cells		

General / Productivity Tools

Ansys 5.5	Matlab 5.3	Mentor Graphics	StarOffice
Xfig 3.2			

Demo Tools

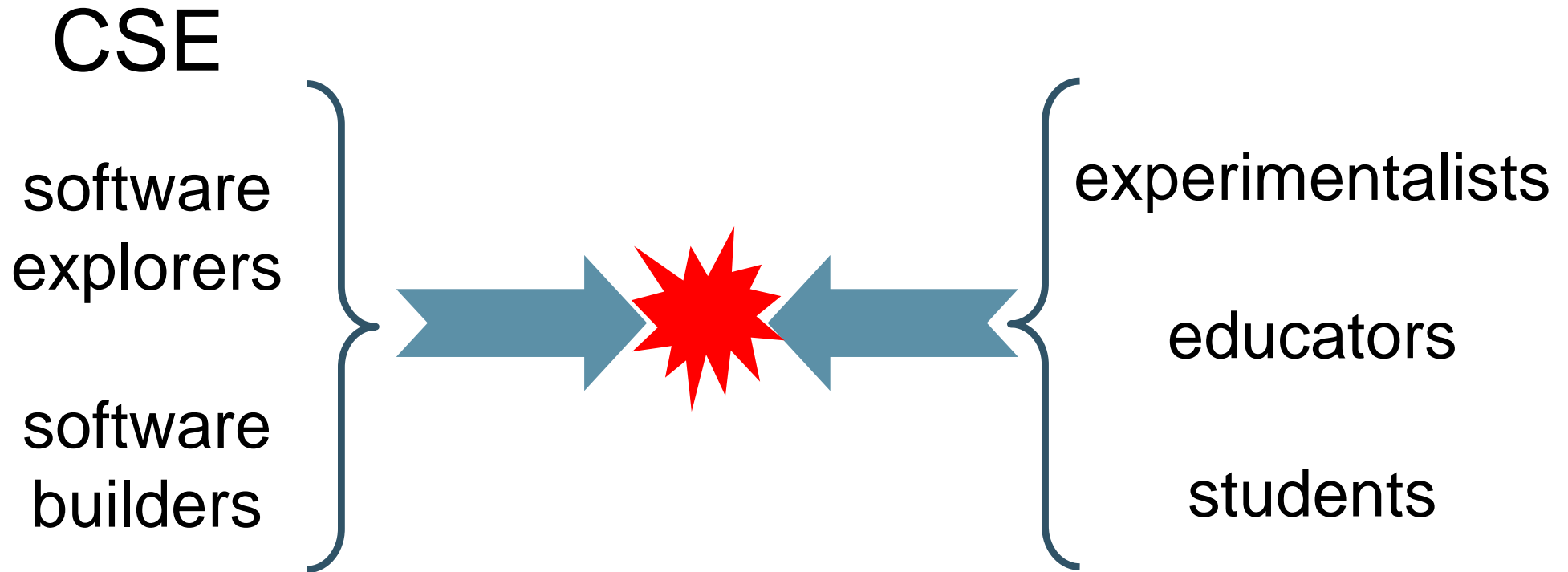
GNU Chess			
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Calculates Density of States, Transmission Function, Resistance and Conductance Spectrum of molecular systems

>7M hits (1994 - 2002)

Nirav Kapadia, José Fortes, Mark Lundstrom

NCN mission



why?

- 1) Foster collaborations
- 2) Accelerate the diffusion of knowledge
- 3) Give researchers and educators impact

cyberinfrastructure

www.nanoHUB.org

-simulation
-data? -equipment?

The screenshot shows the nanoHUB.org website homepage. At the top, it says "nanoHUB online simulation and more" with the NCH logo. Below the navigation bar, there's a banner for "Over 60,000 annual users" and a "Take a tour" button. The main content area is divided into four columns: "Simulate" (listing tools for nanoelectronics, NEMS/Nanofluidics, and Nano-Bio Devices), "Research" (listing seminars, workshops, and collaborations), "Teach & Learn" (listing tool-powered curricula and introductory tutorials), and "Contribute" (listing content upload and feedback options). At the bottom, there are sections for "Events", "Announcements", and "What's New on nanoHUB".

This block contains two screenshots. The top one is for "CNTbands 2.0", a simulation tool for Carbon Nanotubes. It shows a "Structure" dropdown set to "Carbon Nanotube", a "Simulation Method" of "Pz orbital", and a "Result" of "Energy vs. Axial Wave Vector". The bottom screenshot is from a Microsoft Internet Explorer browser window showing an online course titled "Transistors". It features a video player, a schematic diagram of a transistor with labels for Source, Drain, Insulator, and Channel, and a list of bullet points explaining channel region current and V_g effects. The course is presented by "Prof. Data".

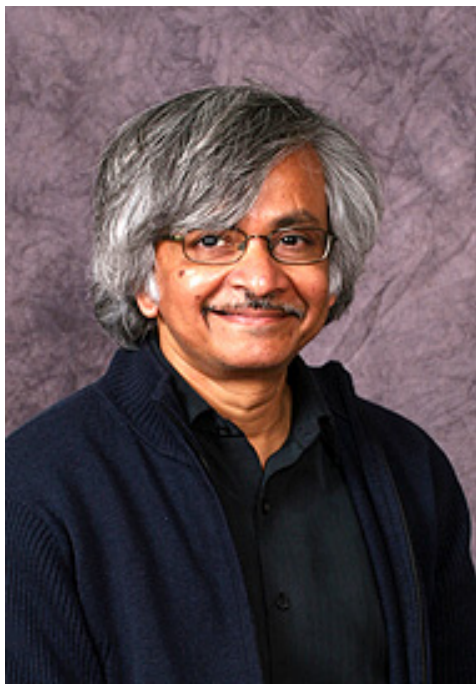
online courses

+ online meetings, Q and A, reviews,
SW development tools, statistics,
etc....

The screenshot shows a "NanoSystems Biology" research seminar. It features a 3D visualization of a biological structure, possibly a nanowire or a similar device, with a yellow circle highlighting a specific region. The interface includes a play/pause button and other controls, suggesting it's a video-based presentation.

*research
seminars*

Supriyo Datta



Supriyo Datta

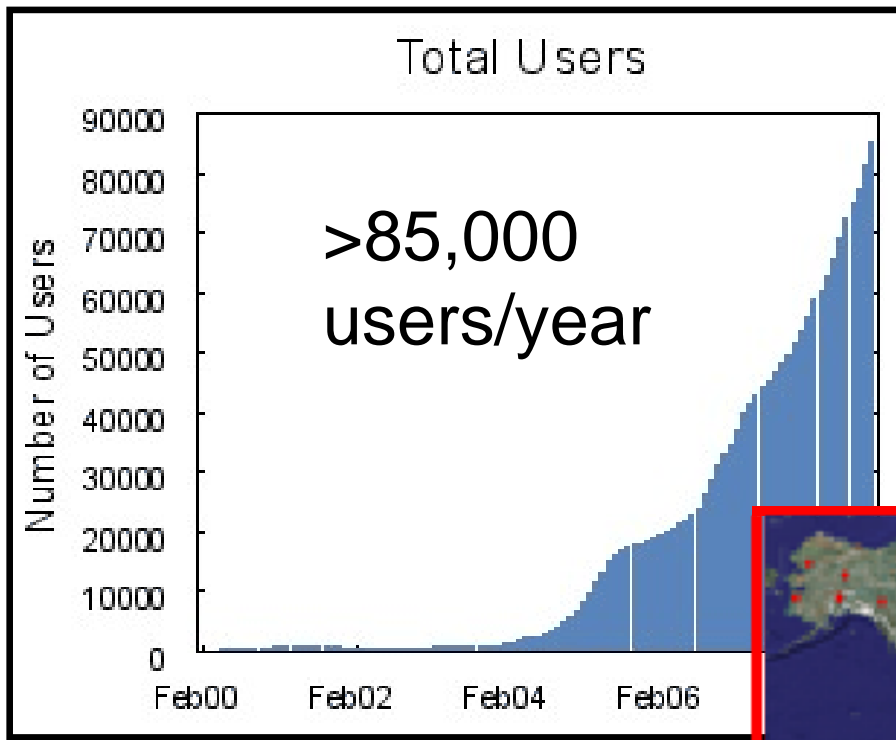
Concepts in Quantum Transport
From Atom to Transistor
Fundamentals of Nanoelectronics
Electronics from the Bottom Up

...

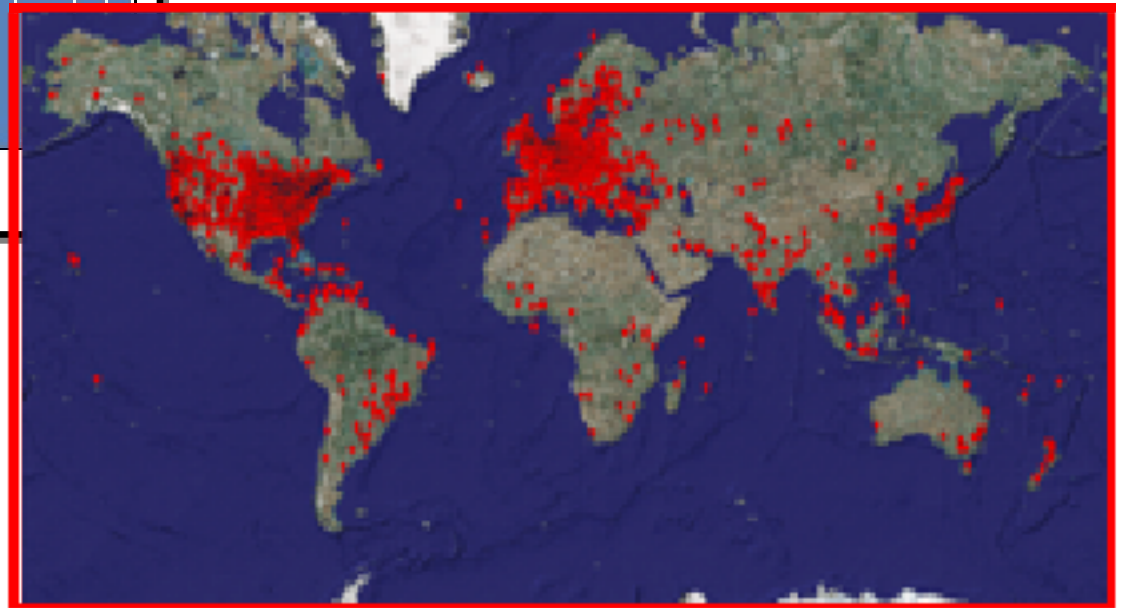
16,065 nanoHUB users/viewers last year

'datta' is *the* most popular search term on the nanoHUB

impact



41% USA



benefits for PI's, programs, universities

- visibility and global presence
- impact
- more effective collaborations / partnership