

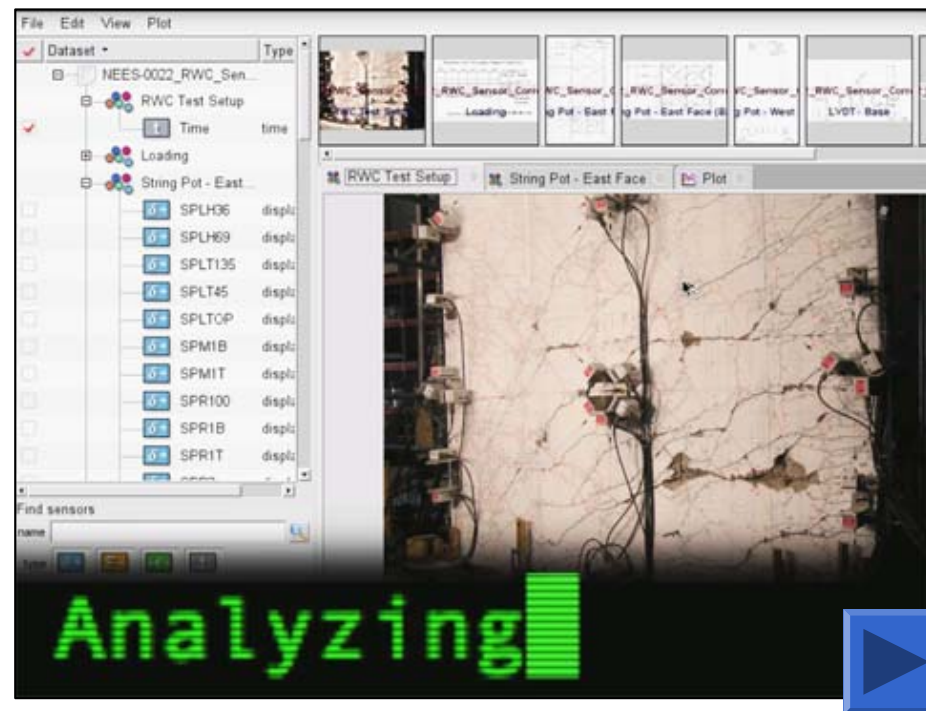
Welcome to the

# World of HUBzero

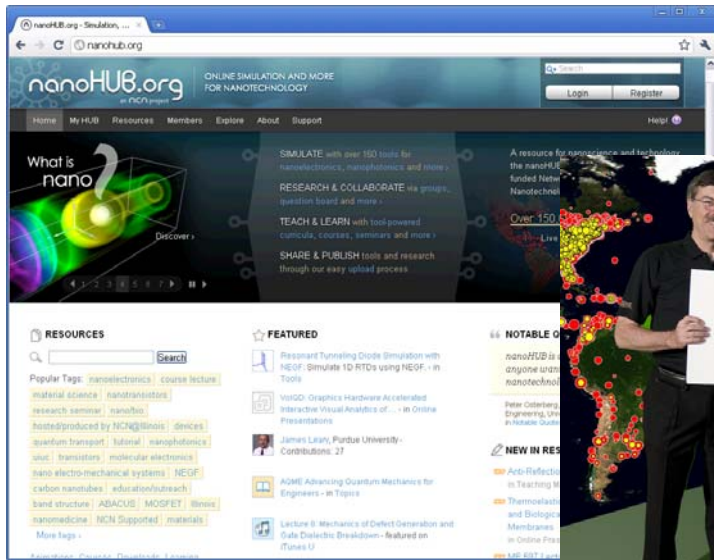
**Michael McLennan, Ph.D.**

Director, HUBzero® Platform for Scientific Collaboration  
Purdue University  
[mmclennan@purdue.edu](mailto:mmclennan@purdue.edu)

## Build Collaboratories for Research, Education, and Collaboration



# Started with nanoHUB.org



**Gerhard Klimeck**  
Purdue University

Network for  
Computational  
Nanotechnology  
Established in 2002



Awards  
EEC-0228390  
EEC-0634750  
OCI-0438246  
OCI-0721680

- 481,906** Visitors
- 234,949** Users
- 262 Simulation Tools
- 3,162 Resources
- 902 Citations
- 760 Classes at 100 Institutions



# 40+ Other Hubs



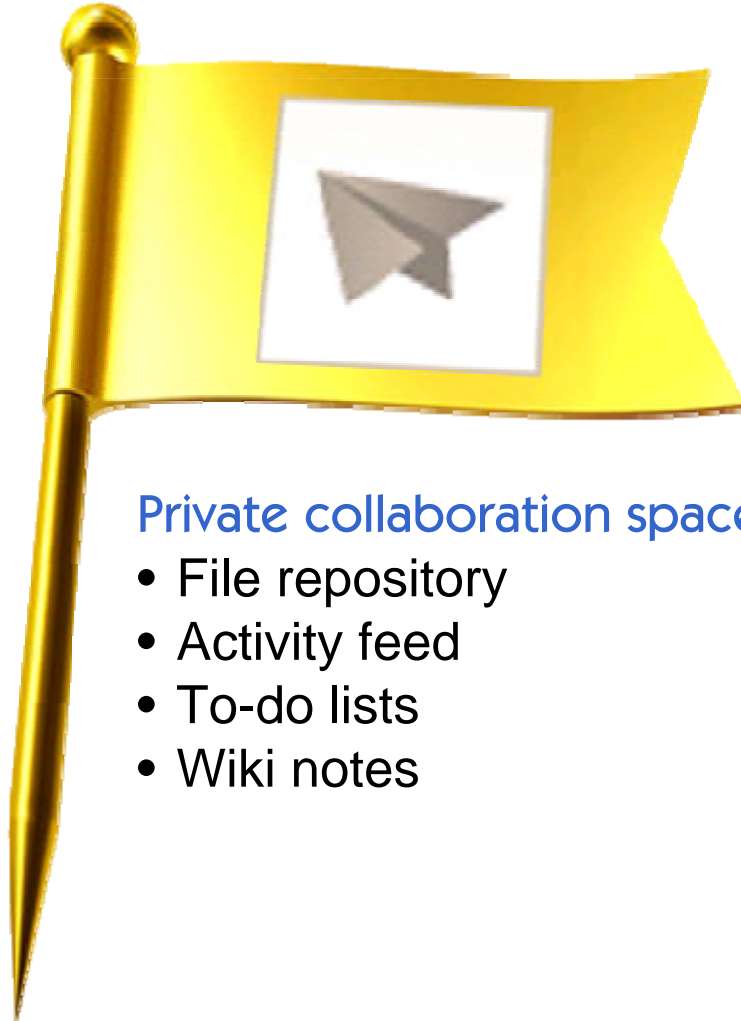
**~800,000**  
visitors total

visitors	users	Logo	Hub Name
481,906	234,949		nanoHUB.org
150,883	33,620		nees.org
60,523	32,580		GlobalHUB.org
33,447	23,425		pharmaHUB.org
23,444	5,385		vhub.org
14,667	3,393		cceHUB.org
12,550	1,224		iemhub.org
10,995	1,863		C3Bio.org
10,490	1,328		HABRIcentral.org
10,358	1,879		StemEdHub.org
9,792	3,141		ciHUB.org
9,666	1,635		cleerHUB.org



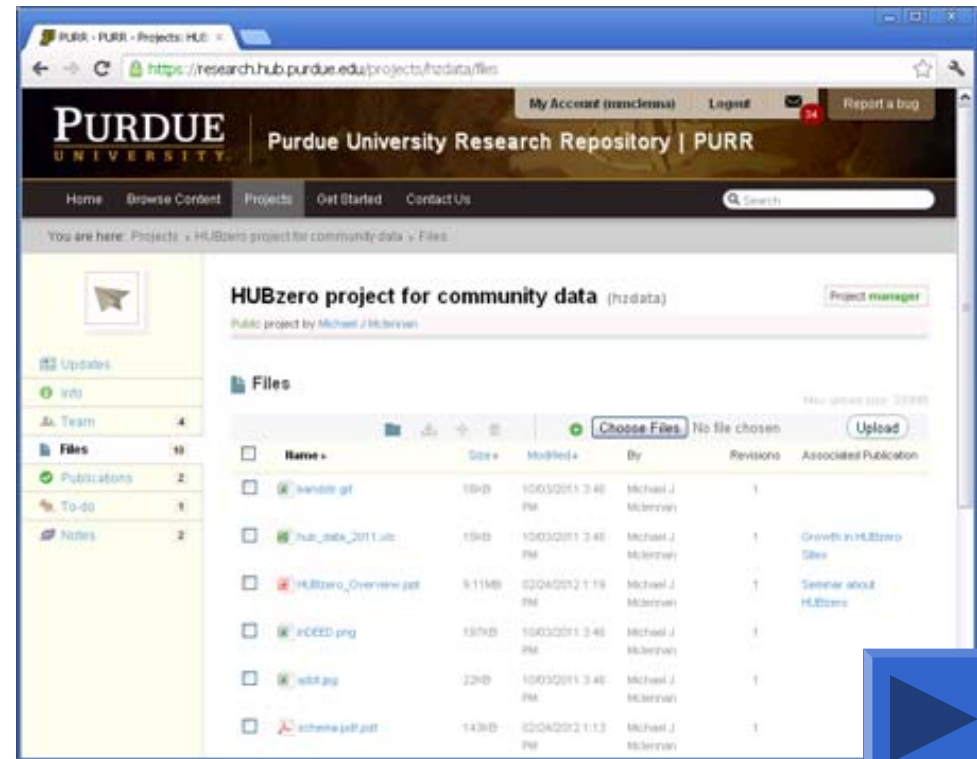
More than 40 new features!

# New Feature: Projects



## Private collaboration spaces:

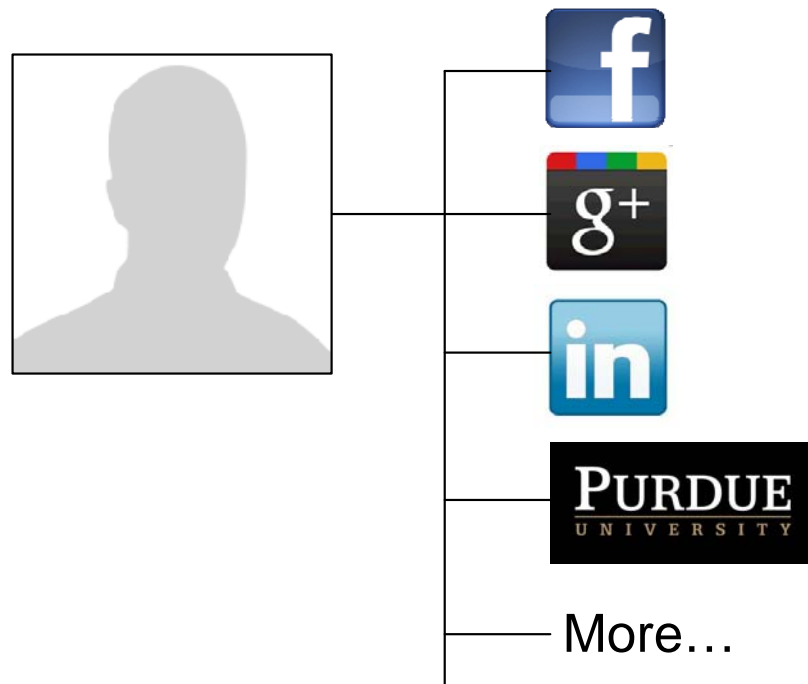
- File repository
- Activity feed
- To-do lists
- Wiki notes



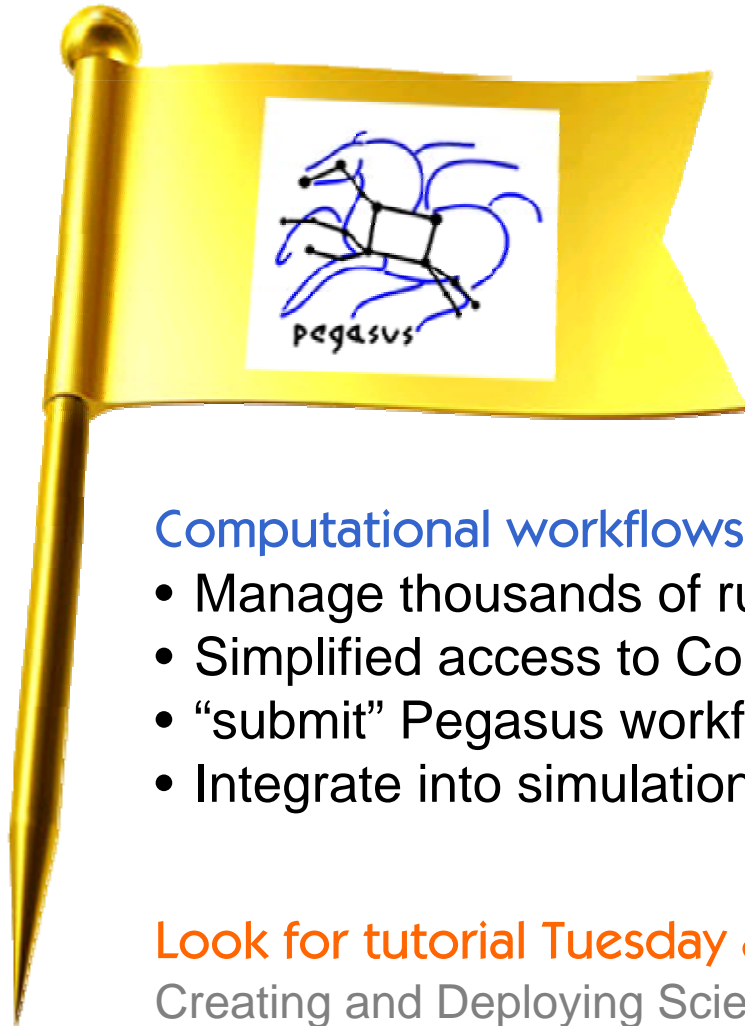
# New Feature: Federated Identity



- Log in with existing accounts
- Link multiple accounts to your profile
- ssh key for ssh/sftp access



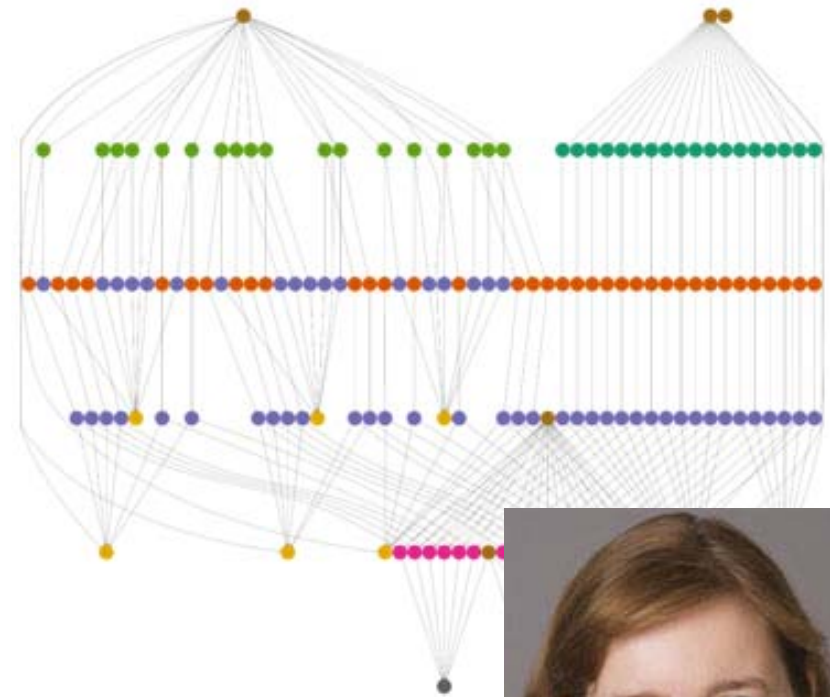
# New Feature: Pegasus



## Computational workflows:

- Manage thousands of runs
- Simplified access to Condor
- “submit” Pegasus workflows
- Integrate into simulation tools

Look for tutorial Tuesday afternoon  
Creating and Deploying Scientific Tools

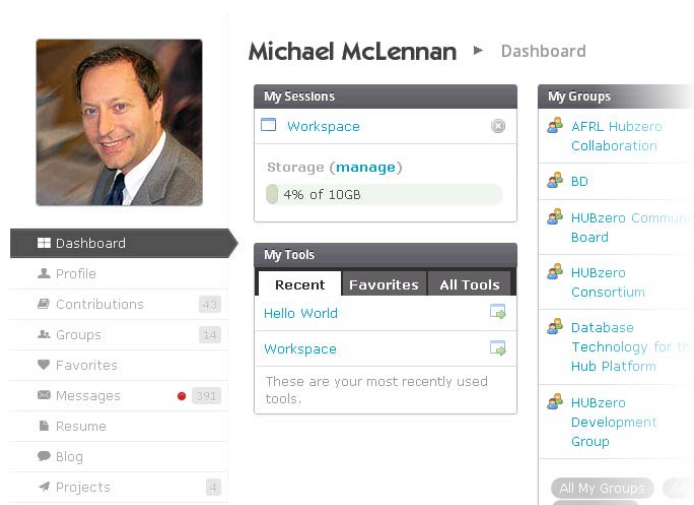


**Ewa Deelman**

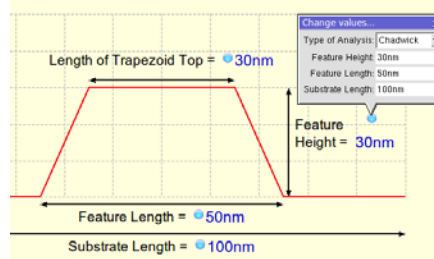
USC Information Sciences Institute



# Many, Many More



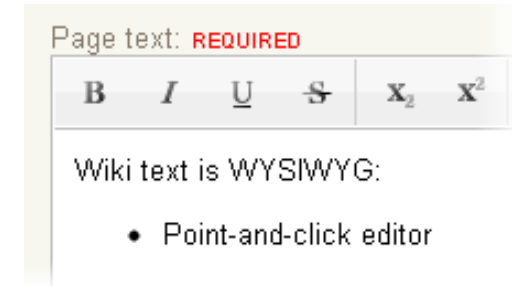
User Profiles



Rappture drawings



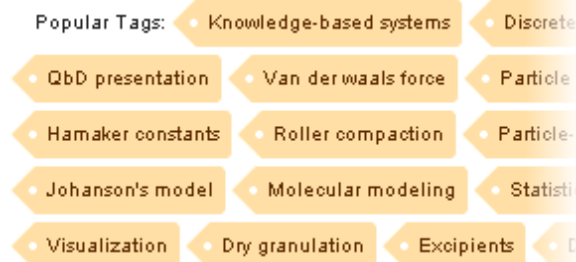
New hub template



WYSIWYG wiki editor



Uploads Scanned for Viruses



Tag hierarchies and management



eMail Gateway for Tickets/Discussions

Available on the download page



<http://hubzero.org/download>

Vmware virtual machine images  
Debian packages

# New applications: Data Management



**P**urdue  
**U**niversity  
**R**esearch  
**R**epository



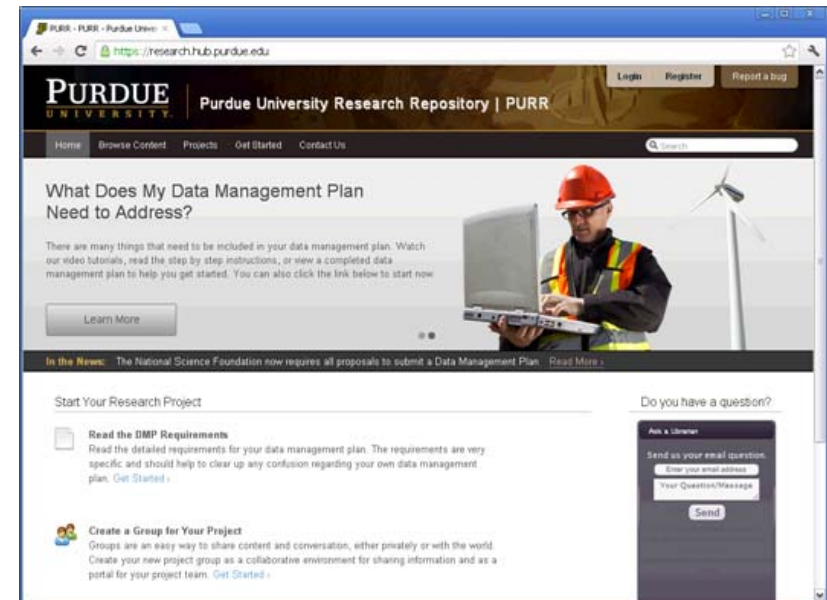
Michael  
Witt



Amy  
Hatfield



Courtney  
Matthews



<http://research.hub.purdue.edu>

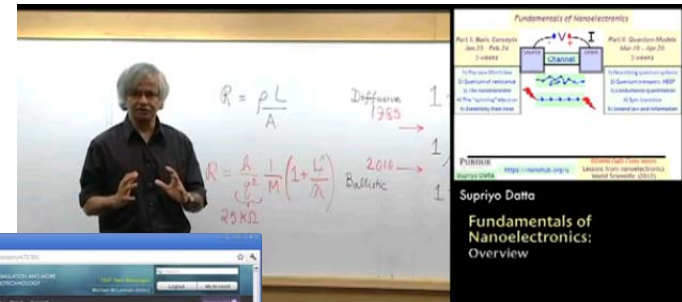
- Data management solution for the masses
- Team effort: Purdue Libraries, Sponsored Programs, VPR, HUBzero
- HUBzero project areas for private collaboration
- Publication process with Digital Object Identifiers
- Seeking ISO 16363 Certification for Trustworthy Digital Repositories

# New Applications: Online Education



<http://nanohub.org/u>

5-week Courses  
Taught Online  
**\$30 each**  
CEU credits available



4. A material with an energy momentum relation  $E(p) \sim p^\alpha$  has

- $v(E) \sim E^{1-(d/\alpha)}$
- $v(E) \sim E^{1+(d/\alpha)}$
- $v(E) \sim E^{1+(1/\alpha)}$
- $v(E) \sim E^{1-(1/\alpha)}$
- none of the above

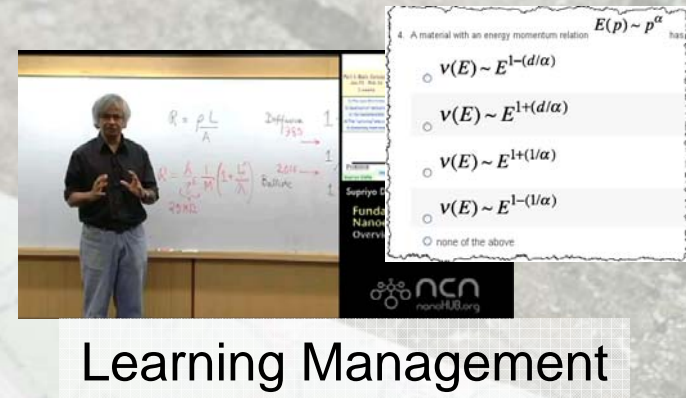
- Recorded lectures
- Simulation tools
- Discussion forum
- Exams

# What's Next?



A blue-bordered graphic containing icons for a paper airplane, a document with a green checkmark, a floppy disk, a PDF icon, a magnifying glass, and a document with a blue arrow. A blue play button icon is at the bottom right.

Projects and Publications



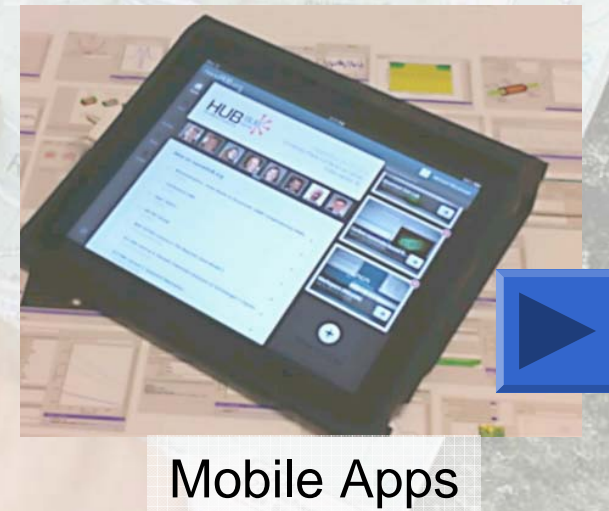
A graphic showing a man in a classroom setting with a whiteboard. The whiteboard contains the equation  $R = \frac{\rho L}{A}$  and other text. To the right is a list of multiple-choice options for a question about energy-momentum relations.

Learning Management



A graphic featuring a cardboard box with a HubZero logo sticker, a penguin wearing a red hat and yellow boots, and a hand holding a pen over a map.

Better Packaging  
Easier Upgrades



A graphic showing a tablet displaying the HubZero mobile app interface. A blue play button icon is at the bottom right.

Mobile Apps

# Global community



- Non-profit organization
- Independent owner of HUBzero code
- Promotes dissemination and outreach
- Sponsors HUBbub Conference
- Coordinates software contributions

# Join the Foundation



	Everyone	Foundation Participants
Access to HUBzero Open Source Releases	■	■
Up-to-the-minute access to HUBzero code base		■
Community interaction on HUBzero.org web site	■	■
Participation in regular technical meetings		■
Contribute code for others to use	■	■
Special recognition as "HUBzero Principal"		■

<http://hubzero.org/about/foundation>

## Monday

### Plenary Session

Noshir Contractor, Thomas Kurfess,  
Gerry McCartney, Ann Christine Catlin,  
Ewa Deelman

### Lunch

Data  
Mgmt  
Workshop

Building  
Scientific  
Tools  
(Part I)

Configuring  
& Managing  
Hubs

## Tuesday

### Plenary Session

Gerhard Klimeck, David De Roure,  
Nancy Wilkins-Diehr, Jarek Nabrzyski,  
Andy Burnett, Dawn Weisman

### Lunch

Science  
Gateways  
Workshop

Building  
Scientific  
Tools  
(Part II)

New  
Developmts  
  
Q&A with  
HUBzero  
Team

*Banquet Dinner*  
Gameshow

