

# STEMEdhub.org

## Creating and Fostering an Online Community of Practice



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# Overview

- What is a community of practice?
- What is a hub?
- What is STEMEdhub?



# Community of Practice (CoPs)



- CoPs are defined by the elements of a domain of knowledge, a shared practice and a community of people passionate about this domain (Wenger 2002).
- Online CoPs are further defined as Digital Habitats (Wenger 2009).

# Digital Habitats

- Technology Steward – Discovery Learning Research Center
- Orientation focus on:
  - Content Orientation
  - Access to Expertise

# HUBzero® Platform



- Originated in 2007 out of nanoHUB sponsored by NSF (National Science Foundation)
- Combines unique middleware with Web 2.0 functionality
- Science gateway for education

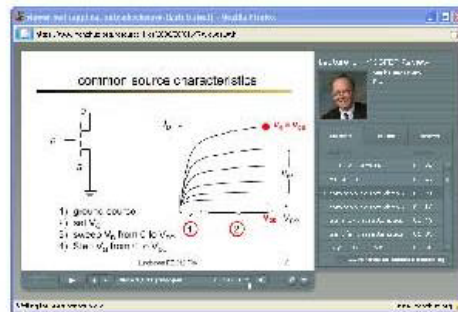
# Hubs are Inherently Educational



## ECE 612 Nanoscale Transistors (Fall 2006)

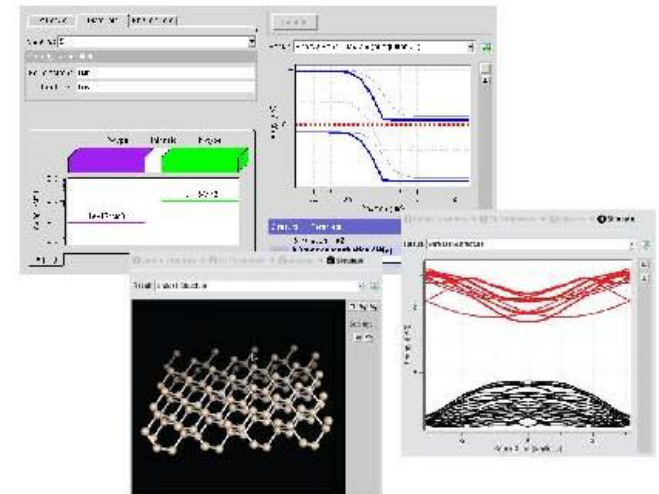
**Contributor(s)** [Mark Lundstrom](#)  
Purdue University, West Lafayette

**Abstract** **Please Note:** An updated version of this course is in production for the physics of advanced transistors



### Teaching Materials:

- Complete courses
- Tutorials and Podcasts
- Homework assignments



### Simulation tools:

- Demonstrations in class
- Homework assignments
- Class projects

# Hub Growth



- Feb 2007: 1 hub
- Feb 2008: 5 hubs
- Feb 2010: 21 hubs
- Feb 2012: 40 hubs

# STEMEdhub.org





# Visitor Numbers

Google Analytics

http://STEMEdhub.org - http://STEME...  
STEMEdhub.org [DEFAULT]



Apr 1, 2011 - Mar 27, 2012

## Visitors Overview

100.00% of total visits

Overview



3,351 people visited this site

5,295 Visits

3,351 Unique Visitors

44,229 Pageviews

8.35 Pages/Visit

00:05:31 Avg. Visit Duration

41.83% Bounce Rate

62.95% % New Visits



62.97% New Visitor  
3,334 Visits

37.03% Returning Visitor  
1,961 Visits

# Visitor Locations



Google Analytics

http://STEMEdhub.org - http://STEME...  
STEMEdhub.org [DEFAULT]

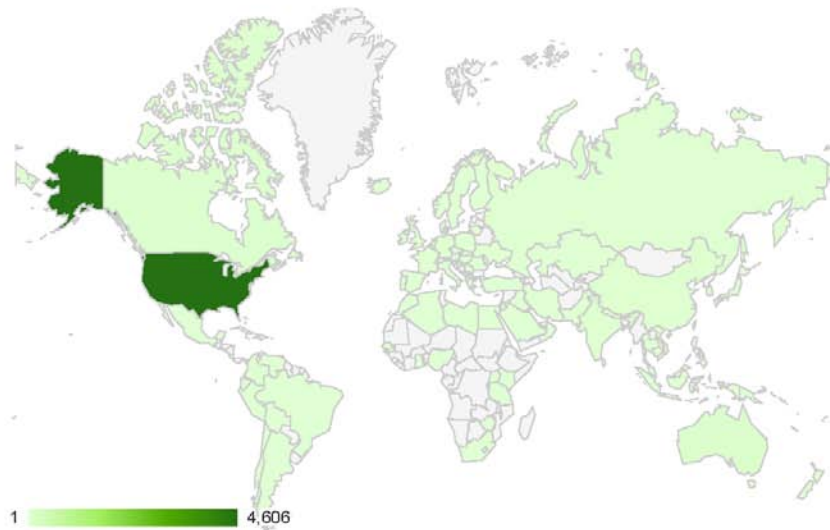
Apr 1, 2011 - Mar 27, 2012

## Location

100.00% of total visits

Map Overlay

Site Usage



Visits

**5,295**

% of Total: 100.00% (5,295)

Pages/Visit

**8.35**

Site Avg: 8.35 (0.00%)

Avg. Visit Duration

**00:05:31**

Site Avg: 00:05:31 (0.00%)

% New Visits

**62.95%**

Site Avg: 62.95% (0.00%)

Bounce Rate

**41.83%**

Site Avg: 41.83% (0.00%)

# Groups/Communities



- K-12
  - SLEDhub - Science Learning through Engineering Design for grades 3-6
  - Research Goes to School - sustainable biofuel energy into high school science, technology, and math classrooms
- Undergraduate
  - HHMI Bio- Integrating Statistical Analysis and Experimental Design into Life Science Education
  - CASPiE - The Center for Authentic Science Practice in Education is a multi-institutional collaborative effort designed to address major barriers to providing research experiences to younger undergraduate science students.

# WEB 2.0 Tools on STEMEdhub



The screenshot shows a web browser window displaying the STEMEdhub group page for the 2012 STEM Women of Color Conference. The browser's address bar shows the URL <https://stemedhub.org/groups/woc>. The page has a green header with navigation links: Home, Groups, my HUB, Resources, Members, Explore, About, Support, and a 'Need Help?' link. Below the header, a breadcrumb trail reads 'You are here: Groups > 2012 STEM Women of Color Conference'. The main content area is divided into three columns. The left column features a profile picture of a woman with a white flower in her hair and the text '2012 STEM Women of Color Conference' and 'April 1 - 3'. Below this is a 'Welcome to' message and a list of links: Overview, Sponsors, Agenda, Members, Wiki, Resources, Messages, Discussion, Blog, Wish List, Usage, and Calendar. The 'Overview' link is circled in red. The middle column contains a 'Welcome to' message, a list of links, and a 'Group manager' sidebar. The right column contains a 'Group manager' sidebar with a 'Show Manager Controls' dropdown and a list of group statistics: Managers: Ann Bessenbacher, Members: 67, Discoverability: Hidden, Policy: Invite Only, Created: 26 Mar. 2012, and Tags: Conference, HBCU, Women of Color. The footer of the page includes 'Terms of use', 'Copyright Complaints', 'Accessibility Issues', and 'Copyright © 2011 STEMEdhub.org'.

# Resources



stemedhub - Contribute - Windows Internet Explorer

https://stemedhub.org/contribute

File Edit View Favorites Tools Help

Convert Select

Favorites desktop.ini Free Hotmail Pinterest - Goodies Pinterest - Goodies (2) Sharepoint Training USB Flash Drive, 1GB - USB ... Web Slice Gallery

stemedhub - Contribute stemedhub - Resources: Tea...

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**What can I contribute?**

**Downloads**  
Spreadsheets, executables, and other items that are available for download but don't fit into other categories.  
[Learn more >](#)

**External Link**  
Useful links to external websites.  
[Learn more >](#)

**Notes**  
Notes are typically a category for any resource that might not fit any of the other categories.  
[Learn more >](#)

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**Publications**  
Articles, technical reports, theses, and other documents, usually in PDF or DOC format.  
[Learn more >](#)

**Seminars**  
A lecture of some sort, usually recorded with voice or video. It may be a graduate or undergraduate level seminar, a lecture for a class, or a tutorial presentation.  
[Learn more >](#)

**Teaching Materials**  
Supplementary materials (study notes, guides, etc.) that don't quite fit into any of the other categories.  
[Learn more >](#)

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**Tools**  
Simulation and modeling tools that can be accessed via a web browser.  
[Learn more >](#)

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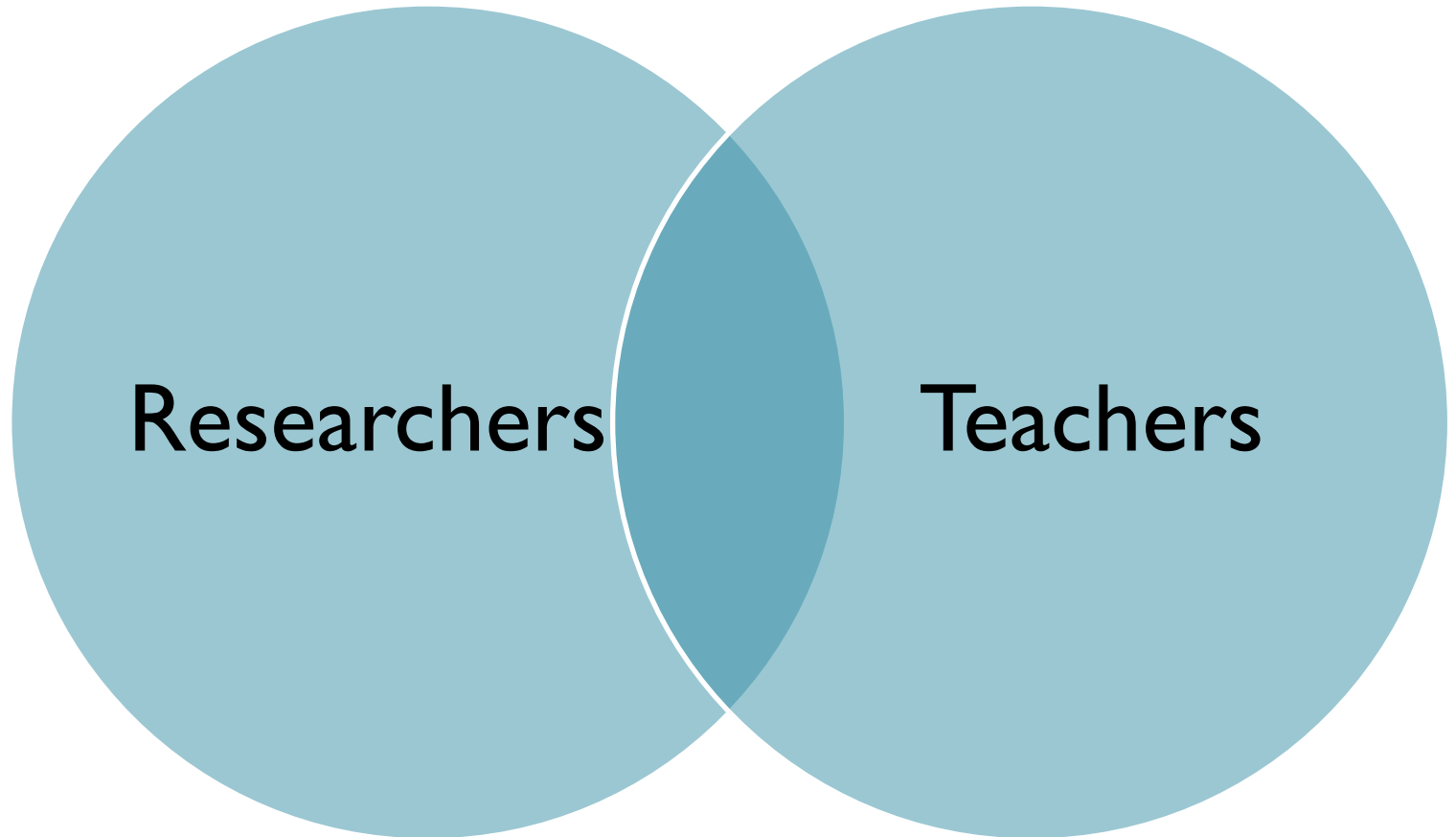
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Internet 100%



# Two-Way Sharing



# Example of Resources

- Teaching Materials-Sticky Bridges Grade 5 lesson plan, mass and structure
- Series – ALSPiSE antioxidant module (set of 8 lesson plans for the module plus data sheets)
- Seminars – Solar Power: Is it the IN thing? Teacher submitted ppt presentation

# Thank you



- Free to join
- Free to upload and download resources
- Free to participate in discussions, blogs and wikis
- Free to share important dates through calendars and events







# References

Wenger, E. (2002). Cultivating communities of practice a guide to managing knowledge. Boston, Harvard Business School Press.

Wenger, E.W., N; Smith, J.D. (2009). Digital habitats: Stewarding technology for communities. Portland, OR, CPsquare Press.

