

### The Problem

Society looks to research for solutions to critical problems. However, there can be significant delays in transitioning research into practical applications. Though the Internet has revolutionized information sharing, including dissemination of peer-reviewed research articles through electronic libraries, only final results are typically delivered through the usual publication process. What is needed is the rapid sharing of new tools, methodologies, and data into related research areas and the rapid transition of these research products into the educational system and true applications.

### nanoHUB.org - facilitating a global knowledge community

#### Advancing and Promoting:

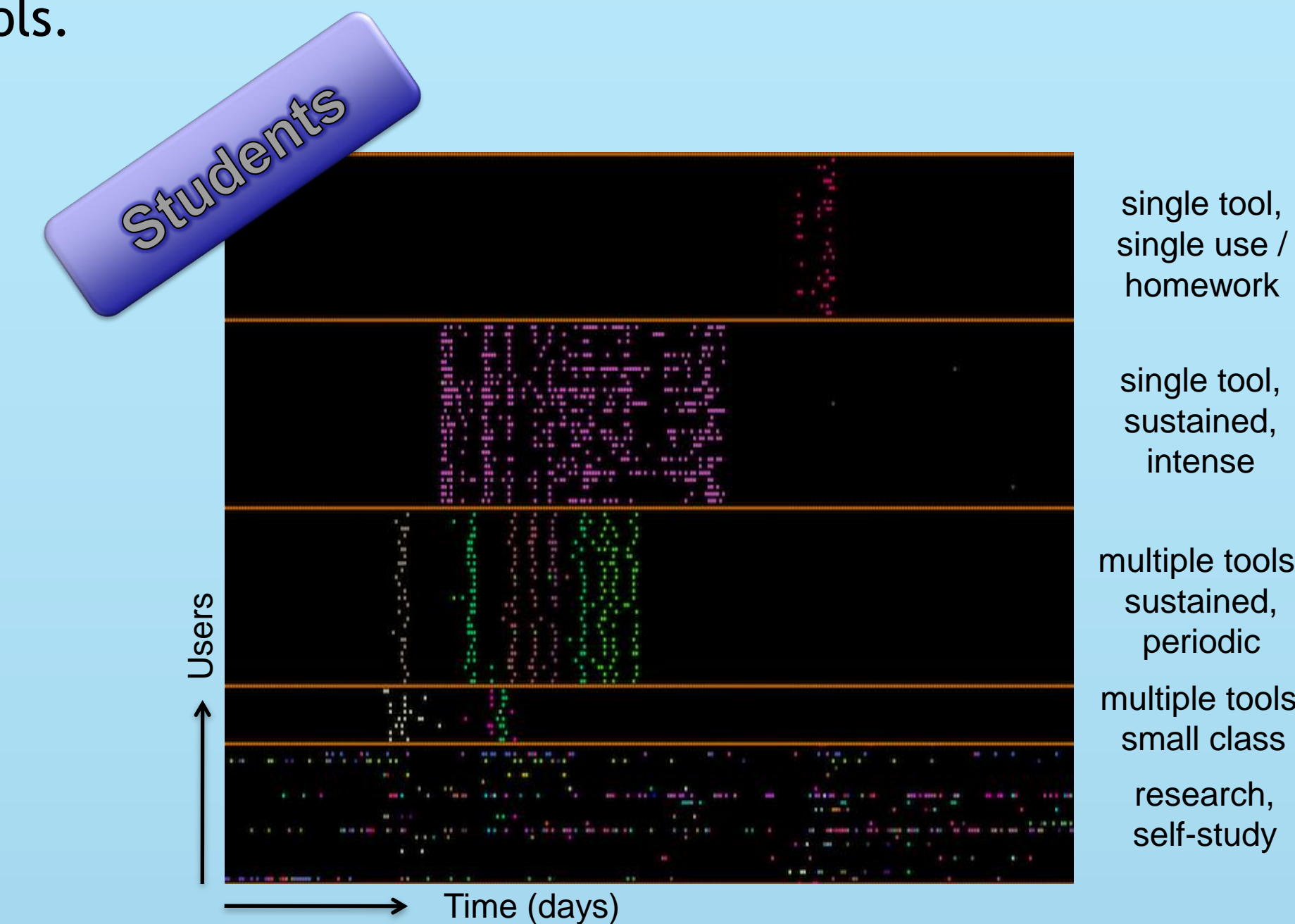
- Knowledge transfer
- Knowledge generation
- Economic impact
- Professional Development
- Community building

#### Impact

NCN continually tracks and analyzes nanoHUB usage both as a success metric and a way to understand user behavior and improve the user experience. Analysis of usage patterns clearly demonstrates orchestrated classroom use of nanoHUB simulation tools.

Bringing together and empowering content creators and content users in a collaborative, active environment

We have developed technology that enables the rapid and simple sharing of tools and insights as well as incentive systems for faculty and researchers to go the extra step to share and interact with the users of their content. Web-enabling tools such as Rappture allow a researcher to deploy working code in a user-friendly environment on the order of weeks instead of years. Scientists can easily continue to improve and upgrade their code, resulting in a sustained connection to their research products and evolving code that remains cutting-edge available to the community.



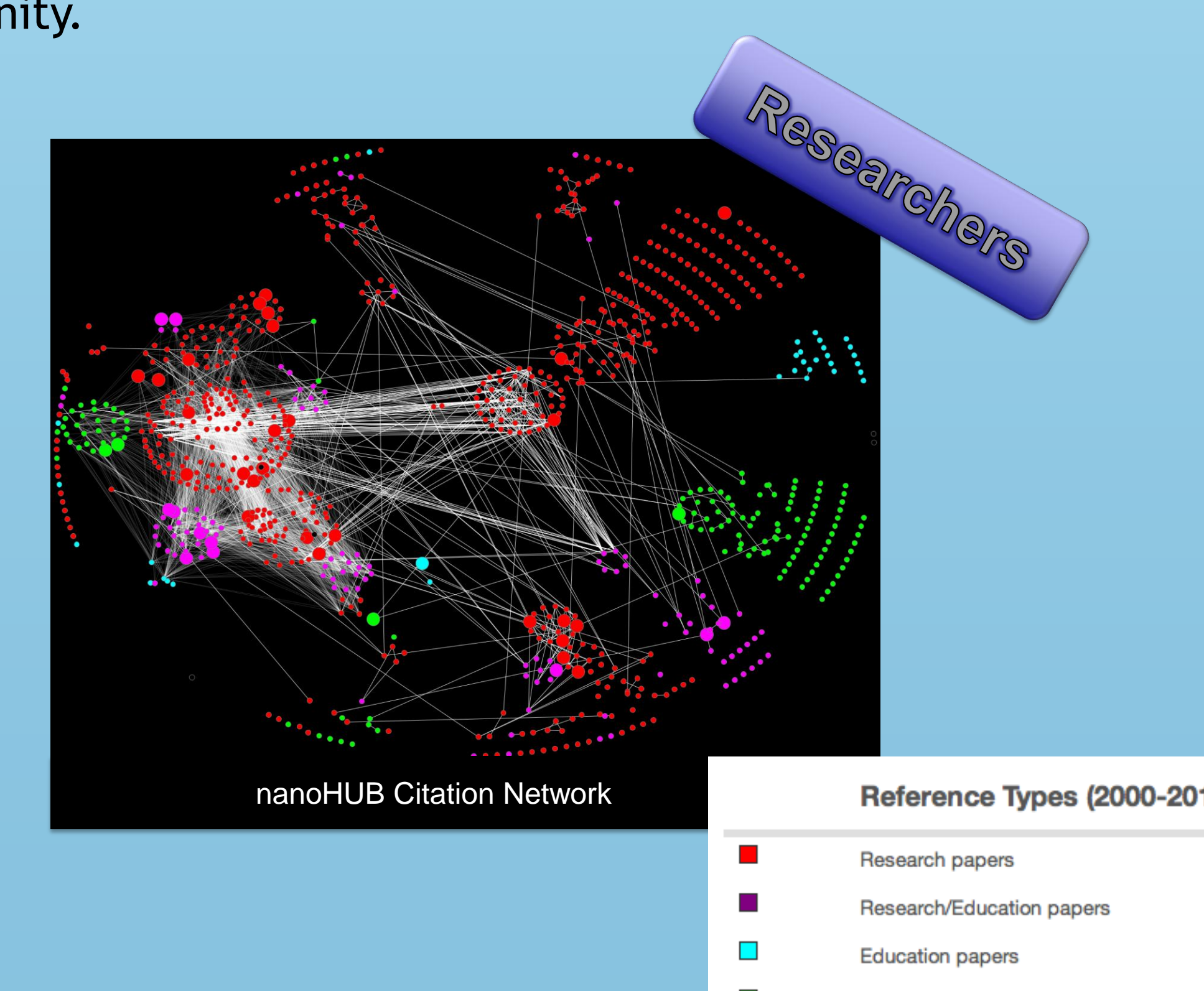
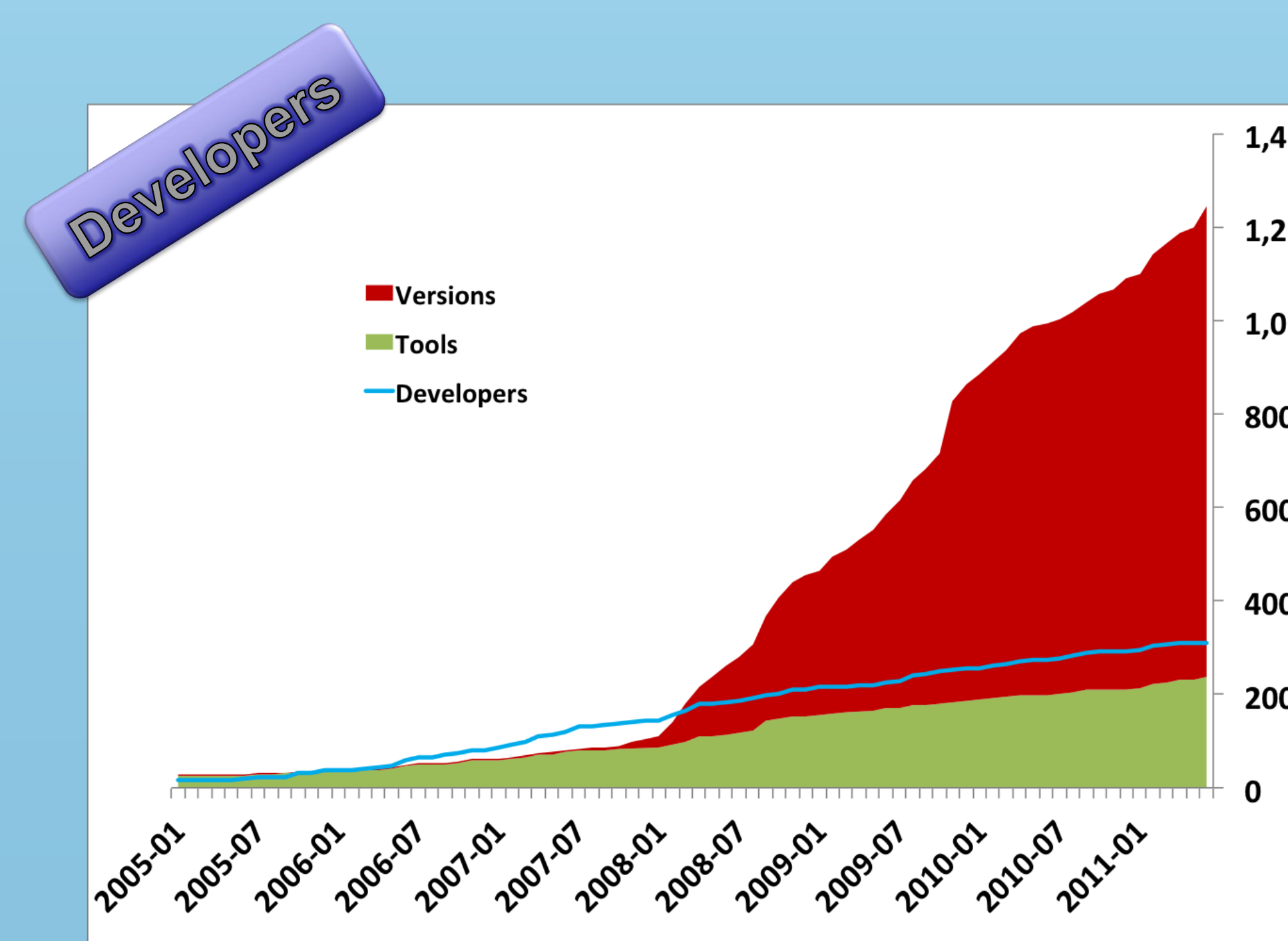
Over 60% of citations referencing nanoHUB are by authors with no affiliation to NCN, showing clear outreach into the broad community.

### Who We Are

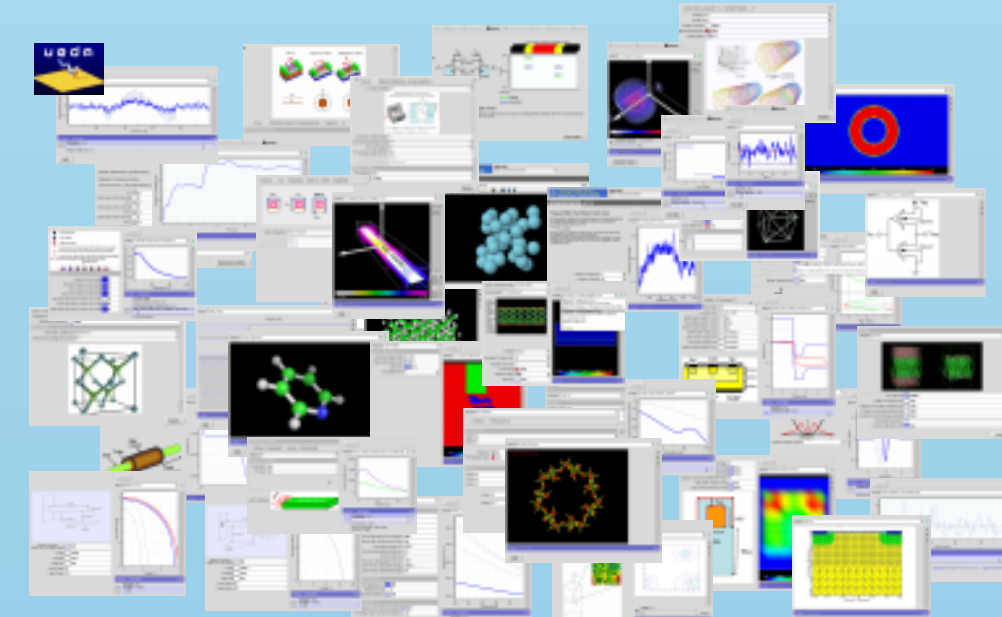
The Network for Computational Nanotechnology (NCN) has created the world's largest virtual nanotechnology user facility with the community web site nanoHUB.org. Our mission is to support the National Nanotechnology Initiative (NNI) by creating and operating an ever-evolving cyber-platform for sharing simulation and education resources. Our mission is embodied in nanoHUB.org and driven by pioneering research, education, outreach, and support for nanotechnology community formation and growth.

### What We Do

State of the art cyberinfrastructure powers nanoHUB.org and facilitates the rapid transfer of research and educational codes and content within the global nanotechnology community. NCN is dedicated to lowering the barriers for content authors as well as users by making it easy to publish and access resources on nanoHUB.org. The powerful Rappture toolkit allows code developers to easily create graphical user interfaces (GUIs) for programs coded in a variety of programming languages. nanoHUB also makes it easy for authors of other content, such as videotaped talks, presentations, and documents to easily upload and share their content with the community. Users can easily access the content, including simulation tools from anywhere in the world via a web browser.



260 simulation tools



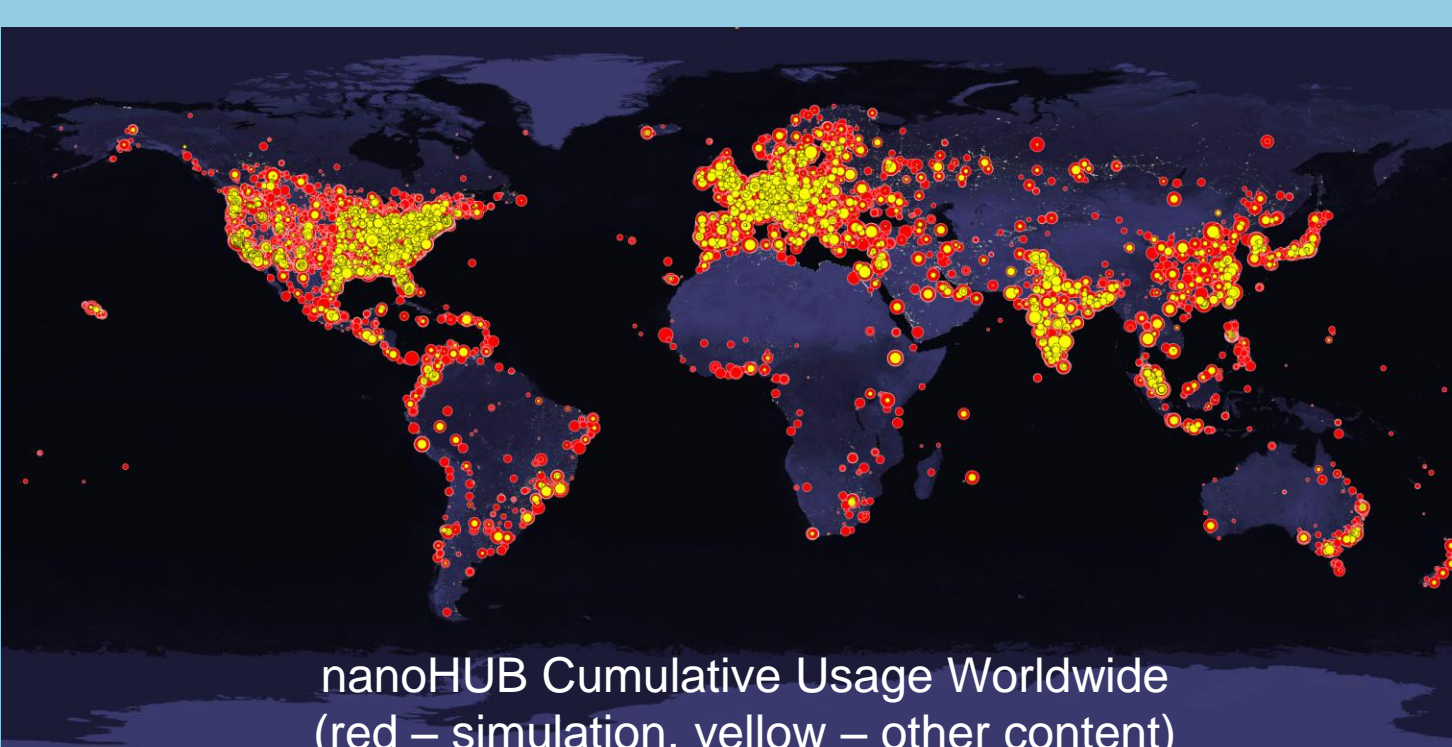
70 courses



2600 seminars and teaching materials



This rapid approach to content deployment has resulted in over 3400 resources published on nanoHUB.org, with more being added every day.



HUBzero is the underlying cyberinfrastructure extracted from nanoHUB that now powers nearly 30 HUBs in various fields of research.

