

2103 Student Technology Fee Project Proposal

Academic Innovation Hub

1) Project Description

Overall Project Description: A central educational benefit of attending a major research university like FSU is the opportunity to participate in research. When undergraduates participate in research, it can improve their retention, grade point averages, graduation rates, and admission rates to graduate school (Pascarella & Terenzini, 2005). However, getting started in research and collaborating with others, especially those outside one's major, can be especially challenging. To address this problem and enhance instruction and education at FSU, we propose to develop the Academic Innovation Hub (AIH). AIH will be an online platform that facilitates undergraduate student participation in collaborative and interdisciplinary research and innovation.

Project Background/Justification:

Research is a high impact educational experience and is positioned to help develop students into creative problem solvers who can help address the complex and interdisciplinary problems of today's world (Kuh, 2008). Despite the tremendous benefits of participating in undergraduate research, only a minority of FSU undergraduates participate, and research activity is often limited to disciplinary boundaries. Getting started in research, finding collaborators, and engaging with those outside your major can be difficult, thereby limiting participation and innovation. As one undergraduate student said: "I wish there was a simple way for undergraduate students to find other students that share their combination of interests and would be willing to enter into collaborative research initiatives."

As far as we can tell, no platform such as this exists, and thus no university has adopted such a platform. The FSU Office of Undergraduate Research began preliminary design work on the Academic Innovation Hub platform in fall 2012, but the work stalled because of lack of needed resources and personnel. Without additional support, we will not be able to execute AIH.

Academic Innovation Hub Details:

To increase research activity and collaboration, harness the diversity and creativity of our student body, and enhance instruction and education at FSU, we propose the Academic Innovation Hub (AIH). AIH is an online research network which will facilitate academic innovation and undergraduate student participation in collaborative and interdisciplinary research. AIH will serve as an idea springboard as well as a networking and communication tool, and it will allow intelligent, creative and dedicated undergraduate students to engage in the world of academic research.

The Academic Innovation Hub will take elements from existing social networking websites to create an active and engaging platform for research. There are several key features of the AIH platform design that aim to enhance the strengths and address the shortcomings of traditional academic research engagement models:

a) *Membership*: The AIH network/platform would only be open to FSU students, faculty, and staff through FSU secure login. In the future it may also be possible to partner with other institutions, especially our peers in Florida, to enhance inter-university collaboration.

b) *Information access levels*: The Academic Innovation Hub will operate on two levels: a public level and a private level. The public level acts like an open forum- users can post research ideas and initiatives and other users can provide feedback. All members can view everything posted on the public level. Once an initiative or idea is ready for development, the user who posted it can then move it to a private “breakout” room. The idea creator can invite other individual users to join the breakout room conversation. Members can also request permission to join the team from the idea creator (similar to a “friend request” function). Access to breakout rooms would then only be available to those users designated by the idea creator. This would create the virtual research team. For example, User A posts an idea about creating a mobile device for use in the developing world. All members of the Academic Innovation Hub are able to view this idea and provide their feedback. Four members show particular interest in the project. User A invites them to join the research team. Two other members request to be added to the team and User A decides to include them. User A then removes his/her idea from the public realm. Now, only User A and the six chosen members have access to the idea. They can then use the breakout room as a group meeting and conversation space. That way, they can continue to develop the idea/initiative in a closed, controlled setting.

c) *Tagging Abilities*: Ideas and users are “tagged” according to interests and relative information. All users have certain information that is visible on the public level, including research interests. Ideas and initiatives posted are also tagged according to relevant content. This allows members to search for other members and research ideas/topics according to tagged content. For example, I am interested in the combination of civil engineering and history. By searching “civil engineering” and “history” simultaneously, I can be connected to other users who share that unique interest combination. I can then engage in conversation with them about research topics, ideas, and initiatives. This search feature would also pull up all posted ideas in which both “civil engineering” and “history” are tagged. Then I am able to join the conversations on these ideas and engage in discussions that pertain to my specific interests. Without AIH, students would have to track down students and faculty by email, which is time-consuming and inefficient, especially since may not know beforehand if others have similar interests or are looking to pursue research. The tagging function creates both precision and accuracy in the search for research partners.

d) *Scoring algorithm*: Many websites use voting and scoring algorithms to rank items according to popularity, success rate and other factors. Members of the Academic Innovation Hub would have the opportunity to score ideas by plausibility and innovation. Ideas would then be ranked according to their scores as well as the number of comments they had received. Separate lists could allow users to peruse the highest ranked ideas as well as the most popular ones. Users are also ranked by their activity on the site. The more involved a user is, the more their ranking increases. Users gain credibility by voting on the plausibility/innovation of projects, joining research teams within the site, and posting their own ideas. There will also be a function that identifies users who have consistently created or contributed to plausible, successful ideas.

2) Impact of AIH Project on Instruction

AIH would increase and energize undergraduate research activity at FSU. Currently only 23% of FSU seniors report having done some kind of undergraduate research while a student at FSU. This number is below our peer institutions which report figures closer to 30%, and well below many of top schools in the country schools with report figures closer to 100%. AIH is designed to increase undergraduate research participation (as measured in surveys and DIS/research course registration) and enrich the research experiences by facilitating collaboration and interdisciplinary projects. Moreover, research methods courses (e.g., Political Science Research Methods POS3713), research intensive courses (e.g., FOW 4540 Franco-American Cultural Wars), and capstone courses at FSU, which together enroll thousands of students each year in majors across campus, could potentially use the AIH to facilitate team based research projects and collaboration with other courses. Students in the university's Undergraduate Research Opportunity Program (IDS2920 which enrolled approximately 200 in 2013) could also benefit from this program as they seek to develop ideas and partner with others in their projects. In total, we anticipate that AIH could impact at least 15% of the entire undergraduate student body in its first two years of operation.

More generally, AIH will help foster the intellectual community that is the foundation of a research university. Informal education and instruction through peer engagement are central to a university education and it is important for research universities to engage undergraduate students in their research mission.

3) Project Plan and Timeline

Date	Task/Outcome
April/May 2013	Hire graduate and undergraduate assistants; gather additional stakeholders and contributors
May 2013	Sketch out overall site design and desired functionality
May-November 2013	Develop and finish initial beta version of the AIH
December 2013-January 2014	Gather feedback from students; testing
January-February 2014	Marketing and initial launch of AIH (initial project completion)

4) Project Relationship to Other University Activities

Garnet and Gold Scholar Society

The Garnet and Gold Scholar Society facilitates involvement and recognizes the engaged, well-rounded undergraduate student who excels within and beyond the classroom in the areas of Leadership, Internship, Service, International, and Research. An undergraduate student who meets the criteria in three of the five areas and completes a Synthesis Reflection will qualify to graduate as a member of the Garnet and Gold Scholars Society. The Academic Innovation Hub will increase the visibility of GGSS and facilitate the research area of the program.

FSU Quality Enhancement Plan

The Quality Enhancement Plan now in development focuses on developing students' critical thinking, with undergraduate research being one instructional method to do so. The focus on cultivating the intellectual prowess of students is supported by the Academic Innovation Hub, especially as students engage in collaborative, academic research projects. There is also a strategic focus by the FSU President and top administrators on becoming an entrepreneurial university. Research often serves as the foundation of entrepreneurialism and innovation.

FSU Center for Global Engagement and FSU Center for Leadership and Social Change

The AIH will help students who want to engage in public service/community-based research or creative projects, as well as those who would like to research in international locations.

FSU Honors Program

AIH will help the FSU Honors program create an active, intimate intellectual community among honors students by facilitating relationships and collaborative research and creativity among the students.

University Libraries and the Learning Studio in the William Johnston Building

Spaces in both the Learning Studio and FSU such as the Scholars Commons, study rooms, and student lounges, are designed to foster student interaction, collaboration, and active learning. Students who meet and form teams through Academic Innovation Hub can use these and other spaces on campus to develop their projects.

5) Cost of Ongoing Support

After initial development, the FSU OUR will continue to cover platform maintenance with the help of our current graduate assistant from the computer science department and undergraduate interns. We are planning to seek external funding to support our efforts in ongoing content update, platform maintenance, and development after the project is launched in March 2014.

6) Project Team

a) Dr. Joe O'Shea (Director, Office of Undergraduate Research). As the director of undergraduate research, Joe develops programming to expand and support undergraduate research at FSU. His experience will be critical to content development, functionality, and integration of AIH within the larger university. He has overseen web application development within the Office of Undergraduate Research and outside social enterprises.

b) Dr. Karen Laughlin, (Dean of Undergraduate Studies). Karen leads the Division of Undergraduate Studies, and oversees efforts to increase the academic engagement of our student body. This includes oversight of the Office of Undergraduate Research, the Honors Program, and the Office of National Fellowships. She is also a member of the Board of Directors of the Reinvention Center, a national consortium that seeks to enhance

undergraduate education and research involvement at research universities. Her consultation will be important for platform functionality and marketing.

c) Prabesh Kanel (Computer Science): Prabesh currently serves as the web administrator for the Office of Undergraduate Research, the Honors Program, and the Office of National Fellowships. He is doctoral student in Computer Science at FSU and has developed complex web applications. He will help with project oversight, technical work, and further maintenance.

d) Caroline Burnette (Civil Engineering): As an undergraduate student in Civil Engineering, Caroline was frustrated by the process of trying to find a faculty mentor and student collaborators from other departments. She helped to develop the idea for Academic Innovation Hub, and will consult on project design and functionality.

f) Doctoral and undergraduate assistants from Computer Science Department to be hired.

7) Budget Justification

There are two major categories in the AIH budget: support for student assistants and the cost of supplies for platform development and testing.

a) We wish to hire doctoral graduate assistant from the Department of Computer Science (\$23,500, including wages and employer mandated tax contributions), and an undergraduate assistant from computer science (10hrs per week during fall and spring and 20hrs per week in summer (\$5,600). The graduate student's primary responsibilities will include: platform design, development, and testing. The undergraduate assistant will be selected among undergraduate students in computer science at FSU, and he/she will assist with platform development.

b) We will need to purchase equipment for the two assistants so they may develop and test the platform. We are requesting two iMac 27-inch computers at \$1,799 each, for a total of \$3,598). FSU ITS Licensing Fees will add \$270, for a grand total for equipment of \$3,868.

Funding requested is:

OPS	\$29,100
EXP	<u>\$3,868</u>
Total Funding	\$32,968

Citations

Kuh, G.D. (2008) *High-impact educational practices: What they are, who has access to them, and why they matter*. Washington, DC: Association of American Colleges and Universities.

Pascarella, E. & Terenzini, P. (2005) *How College Affects Students, volume 2: A third decade of research*. San Francisco: Jossey-Bass.