

Millersville University Team, Millersville University, Millersville, PA 17551

ABSTRACT

In the School of Science and Mathematics, we believe in the philosophy that participation in research is a transformative part of a student's undergraduate education. Working under the mentorship of a faculty member, the undergraduate student is provided the opportunity to work on projects designed to augment their learning experiences, and to help reinforce concepts learned in the classroom. In addition, they allow the students to put into practice their critical thinking and experimental skills. Furthermore, participation in a research project develops independence and intellectual maturity. Students are encouraged to present the results of their research at Millersville's Undergraduate Research Symposium, at local, regional, and national scientific meetings of the American Chemical Society, or other scientific and mathematical societies.

Since participation in undergraduate research with a faculty mentor is well acknowledged as a contributor to student retention and as a valuable mechanism to direct students towards specific career paths, it is the purpose of the Millersville University CUR Team to plan, develop, and implement ways to institutionalize undergraduate research at the University. This poster provides a brief summary of the successes, challenges, and plans to make this a reality.

MISSION STATEMENT

Develop a culture of inquiry across all disciplines by infusing genuine research experiences throughout all undergraduate curricula beginning very early in the college years.



SUCCESSSES

- ❖ Five STEM departments have developed new freshman year inquiry courses, all with some element of experimentation.
- ❖ Development of a new event entitled, "*A Showcase for the Scholarly & Creative Work of Millersville University Students*" (for all disciplines across campus).
- ❖ Continue to ascertain the possibility of leveraging our Center for Academic Excellence to provide faculty with information and professional development.
- ❖ University Research Newsletter.
- ❖ Research Funding Opportunities:
 - Undergraduate Student Research Grant (Sponsored Programs & Research Administration)
 - Neimeyer-Hodgson Research Grant (MU Alumni Association)
 - Noonan Endowment Grant
- ❖ School of Science & Mathematics Undergraduate Research Symposium.

CHALLENGES

- ❖ Developing a shared university vision for undergraduate research.
- ❖ Faculty time to develop and implement additional research experiences.
- ❖ How to maintain a university environment that nourishes and fosters the advancement of undergraduate research.
- ❖ The current contract gives no instructional load for directing undergraduate research, which is at least as demanding as teaching a regular course. Our 24 hour teaching loads discourage faculty involvement in undergraduate research, especially at the assistant/associate professor level where research productivity is expected for promotion.

CREATIVE SOLUTIONS

- ❖ Continue to reinforce the importance of undergraduate research.
- ❖ How to include undergraduate research in "Performance Measures" (ie., PASSHE Performance Funding Program).
- ❖ How to include the importance of undergraduate research in our University's Strategic Plan.

TEAM MEMBERS

- ❖ Dr. Steven M. Bonser (Team Leader, Department of Chemistry)
- ❖ Dr. Robert T. Smith (Dean, School of Science & Mathematics, Professor, Mathematics)
- ❖ Dr. Jeffrey P. Adams (Associate Provost, Academic Affairs)
- ❖ Dr. René Munoz (Director, Sponsored Programs & Research Administration)
- ❖ Dr. Ronald N. Umble (Professor, Mathematics)
- ❖ Dr. Barry G. David (Professor & Chair, Applied Engineering, Safety & Technology)



FUTURE WORK

- ❖ Inventory of Schools/Departments (ie., Survey).
- ❖ **Establish an Undergraduate Research Office.**
- ❖ **Establish a summer undergraduate research program.**
- ❖ Mandatory session during the Orientation Program of new faculty.
- ❖ Maintain connections with CUR facilitators /training.
- ❖ Maintain connections with sister institutions/state systems/consortia.

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Millersville University
SEIZE THE OPPORTUNITY

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