

**UW System Board of Regents  
April 11, 2003**

**Faculty/Undergraduate Student Research  
on UW WiSys Campuses**



**E. Seymour, et al., “Establishing the Benefits  
of Research Experiences for Undergraduates”  
(paper presented to NSF workshop on “Exploring the  
Concept of Undergraduate Research Centers,” 3/31/03-4/1/03)**

Students surveyed at four liberal arts colleges indicated that research facilitated:

1. Higher-order inquiry skills
2. Confirmation of career choices
3. Transition from personal to professional development
4. Strengthened confidence in research skills and knowledge.



## **Sample undergraduate research at UW campuses**

Professor James Cook, UW-Milwaukee

Professor Brian Smith, UW-River Falls

Professor Diane Caporale, UW-Stevens Point



**Professor James Cook (center), UW-Milwaukee, with students viewing a pharmacophore model for benzodiazepines.**





## **Professor James Cook, Department of Chemistry, UW-Milwaukee**

Nearly 60 PhD graduates from his lab over 28 years  
Successfully employed in pharmaceutical industry and academia.

Also works with graduate and undergraduate students on **synthetic chemistry**.

Disclosed numerous potential patents to WiSys over the last two years, one of which concerns treatment for depression and is under option with a large pharmaceutical company.

Professor Cook has received support from the National Institute of Mental Health and the National Institute On Alcohol Abuse and Alcoholism.





**Professor Brian Smith, UW-River Falls, with  
students in a plant biology lab.**





## **Professor Brian Smith, Department of Plant & Earth Science UW-River Falls**

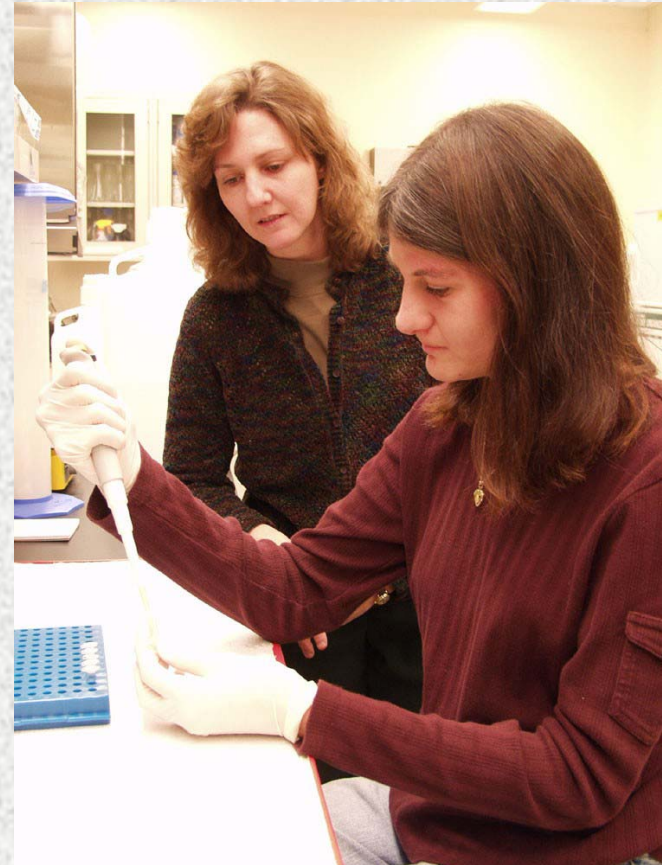
Work focuses on plant breeding with implications for fruit growers throughout the state.



Undergraduate researchers work with Professor Smith on projects that are funded by the Wisconsin Berry Growers Association, the Wisconsin Department of Agriculture, and the USDA, to name a few.

Students develop expertise in breeding new plant varieties that will thrive in a northern climate, which ultimately provides a stock resource for state growers.

**Professor Diane Caporale, UW-Stevens Point,  
with a student (foreground) working on tick research**





## Professor Diane Caporale, Department of Biology UW-Stevens Point

Work with 7 undergraduate researchers focuses on DNA research with applications to Lyme disease.

Receives funding through a very competitive grant from the National Institutes of Health.

She and her students recently discovered a highly-mutated strain of Lyme disease, which will call for development of new vaccines

An article by one of her students, Curtis Johnson, is published in the current issue of the on-line publication, ***The UWSP Journal***. This derives from Curtis' research with Professor Caporale.



## **Implications for economic development**

Caporale group's work may lead to development of a new vaccine for Lyme disease, affecting the biotechnology industry.

Cook's group currently has disclosures under consideration with WiSys, with applications in the pharmaceutical industry.

Smith and his students are working in areas with a direct impact on Wisconsin fruit growers.





## **Measures of excellence at UW comprehensive campuses**

UW-Eau Claire: First in the nation among comprehensives for graduates who go on to complete doctoral programs in chemistry.

UW-Stevens Point: Second in the nation among comprehensives for graduates who go on to complete doctoral programs in biological sciences.



## **Wide-ranging work at the comprehensives, beyond the sciences**

- Sociology faculty & students conducting for-fee research
- Interior Architecture students conducting mall-use studies
- Business faculty developing software for stock analysis
- Communication faculty developing a new music catalog

Faculty and students across the comprehensive campuses, across disciplines, contributing to economic strength of communities.