

# CLAS *notes*

The Newsletter of the College of Liberal Arts & Sciences



## Message From the Dean

With this issue, CLAS Notes again highlights some of the dynamic people and programs in the college: a professor searching for a cure for prostate cancer, a new bachelor's degree in environmental studies, and the work of Rowan faculty to improve math and science instruction in area schools.

These examples illustrate the College's commitment to expanding young minds, pushing the boundaries of established research, and making a difference in the larger community. The College's professors continue to be devoted to teaching and to research; the needed and appreciated contributions of alumni and friends, as well as federal grants, facilitate these efforts in the face of dwindling state funds.

With increased financial support, the College can go even further with new programs to educate young men and women. I encourage you to read this issue and learn more about what the College is doing now, and what you can do to help build its future.

We're grateful for all the contributions already given, and we welcome additional help from our alumni and friends— please see the insert for a way to participate. I look forward to communicating with you further about today's accomplishments, tomorrow's goals and the new and exciting opportunities your contributions can create for our students.

Dr. J. A. Harper, Dean

## Professor and Students Take on Prostate Cancer

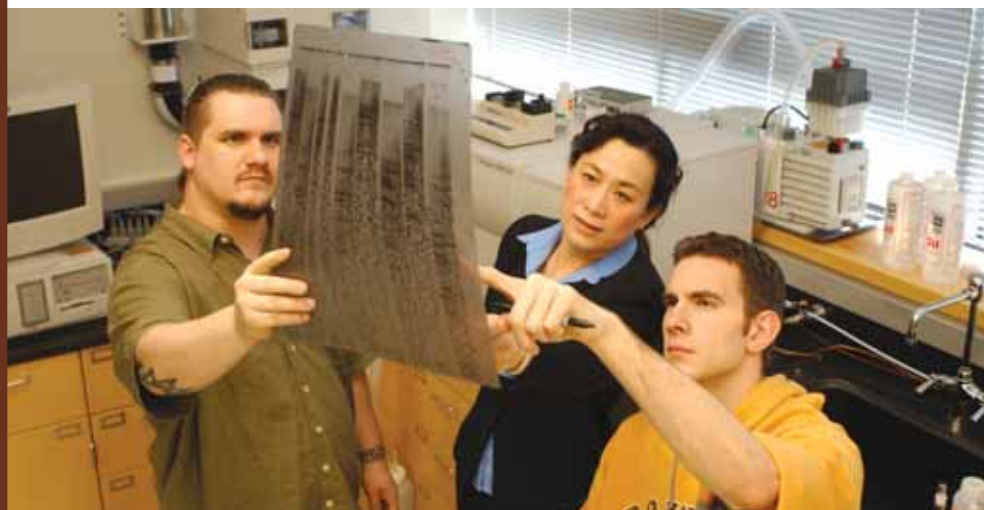
Dr. Catherine Yang, professor of chemistry and biochemistry, and her students are targeting prostate cancer, the second leading cause of cancer deaths in men. Their research focuses on understanding the proteins that influence the cancer's development and what compounds might control it.

Prostate cancer is the most common cancer in American men. In 2005, an estimated 230,110 new cases of prostate cancer will be diagnosed in the United States; the average age at diagnosis is 72 with 80 percent of the cases being diagnosed in men over 65.

Funded by a \$140,000 grant from the National Institutes of Health that runs through next year, Yang is working on experiments that will advance the understanding the pathological roles of PSA, the most abundant protein secreted from prostatic tissues in patients with prostate cancer,

relevant to the insulin-like growth factors in tumor development. A full understanding of this mechanism will lead to more effective drug designs against prostate cancer.

Yang explains that, although prostate cancer is common, there are many related molecular details that are not completely understood. In addition, the research is challenging because of the complexity of this biological system and the many scientific areas touched on, including biochemistry, molecular biology and drug design. As a result, the students involved are furthering their knowledge of the principles and techniques involved in biomedical science, Yang says, and "we are in the process characterizing the system and gaining a better understanding of the results we're getting. The lead compound we designed exhibits significant potency in suppressing the growth factor and further optimization is under way."



Rowan research into PSA should result in future prostate cancer treatments.

# Alumna Keeps Order at the United Nations

As far back as she can remember, Claudia Abate '93 wanted to work for the United Nations. A talent for languages (she now speaks four of them) and a multicultural family – a Swedish mother and Italian-American father – influenced her choice, as did participating in Trick or Treat for UNICEF. At Rowan, Abate then followed her “magic formula” of a Spanish major, political science minor, and a concentration in international relations.

Soon after her graduation the U.N. offered Abate a temporary editorial clerk position, filing documents written in the six official U.N. languages. “I would have mopped the floor just to be there,” she said. Her initial service won Abate a position as an assistant conference officer in 1994. That role has

involved her in organizing gatherings for the U.N.'s 191 member states — one memorable example of which is Colin Powell's address to rally support for the U.S. in Iraq.

Currently, Abate oversees as many as 100 meetings in a day. There is protocol to follow, such as taking attendance, or collecting ballots, and there are special projects. For example, she has handled logistics at a conference on sustainable development in South Africa and, the most important project to her personally, she has been part of the U.N. oversight for the birth of the world's newest country, East Timor.

Abate remembers her Rowan years as ones where she learned listening, leadership and organizational skills, which she feels prepared her for her current work.



**Claudia Abate's ('93)** collects votes from United Nations ambassadors.

“I'm the proof of the care of the administration, the professors, and the counselors, who helped us develop as whole individuals,” she said.

# McSiip Improves Math and Science Education

This year, McSiip, or Math, Computer and Science Instructional Improvement Program, celebrates 21 years of providing workshops, resources and mentoring to strengthen the skills of southern New Jersey math and science teachers.

“There were limited professional development opportunities for area teachers.”

Approximately \$8 million in funding has enabled McSiip to serve more than 10,000 area kindergarten through 12th grade teachers over this time.

Dr. Janet Caldwell, mathematics professor and McSiip director, founded the program because “there were limited professional development opportunities for area teachers. The University has an important role in preparing teachers, and we have an ongoing responsibility to them.”

In accordance with its initial vision,

McSiip has grown to its current role as a hub for three initiatives: the New Jersey Math and Science Partnership (NJMSP), involving university faculty and school districts; the New Jersey Statewide Systemic Initiative (NJ SSI), a resource center serving South Jersey; and the South Jersey Math Partnership (SJMP), professional development for middle school math and science teachers. Dr. Eric Milou, SJMP program director and associate professor of mathematics, notes that 100 teachers will benefit in this project's first two years through modules designed to deepen understanding of content, teaching and student assessment.

Whether enhancing teachers' skills in making mathematics accessible to students, assessing student learning, or providing sample curriculum materials, McSiip continues to be an important resource for area educators. And through being on campus, Caldwell notes, McSiip also serves as a resource for Rowan faculty and students, which adds to the energy of all involved.

**For more information about McSiip programs, call 856-256-4827.**



**McSiip programs** help area high school and middle school teachers in developing hands-on math and science learning activities.

## New Environmental Studies Program Takes Root

As the balance between rapid development and pristine forests and fields compete, Rowan University's new bachelor of arts in environmental studies, now accepting its first applications for the fall of 2006, will help fill a growing need for well-rounded, well-trained professionals in the field. The degree will provide students with the knowledge and skills to follow many paths in government, industry and academia.

“We need a population of people really aware of the environment to make changes.”

“Our students will learn how inter-related environmental issues are and how they are connected to all social and human dimensions,” said Dr. Patricia Mosto, interim associate provost, former chair of the Biological Sciences Department, and chair of the board that created the new program.

The richness of this degree comes from its interdisciplinary nature, including classes in biological sciences, chemistry and biochemistry, geography and anthropology, philosophy and religion, psychology, and sociology. Its design features a core of specially developed courses, a hands-on yearlong project, and the option of two tracks, natural sciences or social sciences. In addition, there is an ethics component, one not typically found in other environmental studies programs.

This program will train students to engage in environmental enterprise, noted Dr. Robert Newland, chair, Department of Chemistry and Biochemistry, and there will be “many doors they can go through because they will be broadly educated in environmental concerns.”

“We need a population of people really aware of the environment to make changes,” Mosto said. The Rowan bachelor's degree will help accomplish this purpose through broadening knowledge about resources and their use and abuse, in order to improve the world.

**For more information about the program, call David Clowney (856-256-4211) or Robert Newland (856-256-4502).**



The strength of a new Rowan environmental studies program grows from its interdisciplinary nature.

## Alternative Fuel Work May Ease Pressure at the Pump



Rowan CLAS students have been working to improve the production of ethanol from harvested corn plants.

Combine harvesting a green and yellow cornfield looks very different from the asphalt and metal geometry of a gas station, but work in the College of Liberal Arts & Sciences may bring them closer together.

Students and faculty from LAS and the College of Engineering, through funding from the National Science Foundation, are working to improve the efficiency and quantity of ethanol produced from the harvested green plant parts, which when treated, release sugars that ferment into fuel.

Involved students first spend one year in the Biological Sciences Department developing new bacterial strains with desired properties. Then, during their second year on the project, they work in the engineering building, evaluating their strains through test fermentations.

Turning corn plants into fuel has its challenges. Michael Ritchie '06, a biology major from Mt. Laurel, N.J., is leading his team's work on developing bacteria resistant to furfural, a toxic byproduct of the fermentation process that impedes its efficiency: “ethanol has potential to replace oil, but there are a few things that need to be worked out in order to make this economically sound. Corn stover pretreatment must include a stage that reduces the concentration of furfural,” Ritchie said.

The team believes its work can have an impact. Noted Dr. Gregory Hecht, Biological Sciences professor and department chair, “Domestic sources aren't capable of meeting the current demand in a way that will profoundly impact the retail gasoline price. If people want cheaper energy, then the sort of research we are doing is long overdue. And there's another plus: alternative fuel sources have the additional benefit of producing fewer undesirable emissions. The biggest sources of air pollution in this country are personal motor vehicles; nothing else even comes close.”

# Professor to Use Lynching to Broaden Awareness

The stories of ethnic groups and minorities in this country all need to be part of our understanding of American history, believes Dr. William Carrigan, associate professor of history, and "I'm interested in expanding the ways American history looks at race."

Research into the lynching of Mexican Americans in Texas, New Mexico, Arizona and California will support that approach, and it is aided by a new, two-year \$100,000 grant from the National Science Foundation. For the project, Carrigan is collaborating with British colleague Clive Webb, University of Sussex, a friend since their graduate school days at Emory University. The pair plans a book and a web site from these ongoing studies about the ancestors of the nation's fastest growing minority group.

Carrigan's interest in history and racial violence began with a college lecture including a horrific 1916 lynching near his hometown of Chalk Bluff, Texas. He wanted to examine "how the ordinary people of central Texas could tolerate such an act, and with the large-scale participation of so many people." His work on the topic has resulted in Richard Wentworth prize-winning book, *The Making of a Lynching Culture*, which begins with the 1916 incident and develops the perspective that historical memory can foster and reinforce a culture of violence long after more overt sources of conflict have waned.

The fabric of American history will continue to grow through Carrigan's research and add to the understanding of our past.



Dr. William Carrigan seeks to add to our understanding of American history through his research.

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Jay Harper  
Dean

Cindy Lynch  
Assistant Dean

Jin Wang  
Associate Dean

Patricia Quigley  
Editor

Cicely Enright  
Writer

Traci Belli  
Designer

Craig Terry  
Photographer

CLAS Notes is published twice a year by the College of Liberal Arts & Sciences to highlight the achievements of its faculty, staff, students and alumni. We welcome comments and suggestions. Send correspondence to:

College of Liberal Arts & Sciences  
c/o Editor - CLAS Notes  
Rowan University  
201 Mullica Hill Rd.  
Glassboro, NJ 08028-1701

**Contact:**

(856) 256-4850  
(856) 256-4921 (fax)  
[www.rowan.edu/las](http://www.rowan.edu/las)

**Postmaster:** Send address changes to:  
College of Liberal Arts & Sciences  
c/o Editor - CLAS Notes  
Rowan University  
201 Mullica Hill Rd.  
Glassboro, NJ 08028-1701

## Rowan University College of Liberal Arts & Sciences

201 Mullica Hill Road • Glassboro, NJ 08028



While studying for a semester at the Galapagos Academic Institute for the Arts and Sciences, Rowan biology students saw the unusual wildlife there such as the blue-footed booby.

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