

**FOCUSING ON THE FUTURE:  
The Four Academic Priorities of the  
College of Agriculture and Life Sciences**

*By Susan A. Henry, The Ronald P. Lynch Dean of the  
College of Agriculture and Life Sciences at Cornell University  
February 9, 2007*

Cornell University occupies a unique position as a private Ivy League, land-grant institution, and is one of the great universities in the world today. As we embark on our second century of extension, teaching and research efforts within the University, the College of Agriculture and Life Sciences (CALs) proudly proclaims its essential role in maintaining Cornell's long tradition of excellence.

Cornell has a well-deserved reputation for the contributions it makes to the changing needs of human society, not only in New York State, but throughout the world, and particularly in developing countries. CALs is proud of our flagship role in making Cornell a global land-grant university.

At the same time, as New York State's land-grant College of Agriculture and Life Sciences, we are committed to excellence in research, extension, and teaching in science and scholarship that benefits society in our state and the nation as a whole.

Beginning in Academic Year 2002 – 2003, with leadership from Senior Associate Dean Bill Fry, CALs defined a new mission for the College, reiterating our commitment to teaching, research, and extension. We articulated a vision of our role in developing leaders to address the global challenges of the 21<sup>st</sup> century.

Since the publication of our mission and vision statements in 2003 (attached), the CALs Advisory Council, CALs Department Chairs, the College leadership team along with other faculty leaders in CALs and myself, have all engaged in conversations about connecting our mission and vision to the areas of academic strength and excellence for which our College is known. In doing this, we carefully considered how our academic priorities connect our College to the priorities of the University as a whole.

We identified four academic areas that are fluid, overlapping, and interdependent. These four areas of academic priority are:

- Land-Grant Mission;
- Applied Social Sciences;
- Environmental Sciences;
- New Life Sciences.

Very few of our departments, students, or faculty would see themselves as confined to one of these areas. Most programs and departments participate in two or more.

Each of the priorities is also connected to broader themes at Cornell, enabling us to see ourselves in an interdisciplinary context, both supporting and being sustained by the University as a whole.

The interactive nature of these priorities is illustrated in the attached figure, shown as overlapping circles with the land-grant mission at the center. In each of the four areas, and in their overlap, our core undergraduate curriculum is designed to help our students become “society ready.” In each area, we also conduct basic and applied research and promote the integration of applied research and extension for the betterment of society. Because our students participate in all levels of experiential learning, our teaching programs are likewise linked to research and extension.

### **Land-Grant Mission**

I am very proud of the CALS tradition as standard-bearer for the land-grant mission at Cornell. We have a firm commitment to research and extension that benefits the citizens, communities, and economic well-being of the state of New York, the nation, and the world. The land-grant ideal has been the foundation of our academic mission since the inception of Cornell as the land-grant university of the State of New York. Importantly, through discussions led by panels convened by the Board of Trustees, the land-grant mission is now a primary focus of commitment by the entire University.

CALS’ historical roots in Cornell’s land-grant mission are in agriculture and land stewardship. Agriculture has always been connected with and dependent on progress in the life and environmental sciences. This includes advances in our understanding of the pests and diseases that affect our crops and animals, the role that agriculture plays in the environment, and the benefits of promoting biodiversity in plants and animals.

Our land-grant mission is also linked to economics—the economics of farming and businesses related to agriculture and food production—and to economic development for communities in the state of New York and the nation, as well as for developing economies throughout the world.

The land-grant mission also relates to the well-being of our urban, rural, and suburban communities. Many economic, environmental, and social issues transcend the rural-urban interface. CALS’ ability to integrate diverse disciplines enables us to fulfill our land grant mission for New York. In this respect, agriculture, environment, and life sciences are linked to applied social sciences like education, communication, development sociology and others that help frame public policy.

### **Applied Social Sciences**

Social scientists in CALS are motivated by the desire to address important social needs and public issues, and to make a positive difference in people's lives. Our applied social sciences are built on a firm foundation of disciplinary strength, and contribute to Cornell's university-wide priority of promoting excellence in the social sciences. The applied nature of our approach to social sciences and linkages to our land-grant mission distinguish CALS' programs within the spectrum of social sciences at Cornell. We are significant players and strong collaborators in the University's Institute for Social Sciences.

The applied social sciences also provide the means with which we translate our work in technical areas—including the life sciences and environmental sciences—into the public good, and communicate the results of our endeavors to the community at large. These applications include increasing public awareness of the role of technology and science in society, influencing the way we develop public and social policy, stimulating economic development, and using technological developments for the benefit of society.

CALS' involvement in the applied social sciences is most evident through our programs in applied economics, communication, education, and development sociology. For example, CALS is unique in housing Cornell's accredited Undergraduate Business Program—the largest single-department major in the College—in the Department of Applied Economics and Management.

In another example, faculty in the Department of Communication collaborated with the faculty of Computing and Information Science (CIS) to establish an interdisciplinary, inter-college major in "Information Science."

Our involvement in the applied social sciences is also evident in the research, extension, and educational programs we conduct in areas impacting public policy in a number of disciplines, including those related to natural resources, life sciences, and agriculture.

### **Environmental Sciences**

A third priority for the College is the environment. Environmental sciences are essential to the land-grant mission and focus on some of the most important issues facing society in our time. The original vision of Liberty Hyde Bailey at the founding of the New York State College of Agriculture in 1904 included land stewardship and the place of agriculture in the rural environment. Agriculture is one of the most profound human activities influencing the environment. The environmental sciences are intricately connected to the life sciences, and, as mentioned above, also link to the applied social sciences in the areas of public policy, landscape architecture, and human dimensions.

There has been a significant movement across campus to elevate the environmental sciences to a University-wide priority. CALS' strengths in ecology, biodiversity, atmospheric science, earth systems, and environmental engineering, as well as natural resource management and biological resource conservation, including soil, water, sustainable agriculture, and nutrient and

waste management, have enabled us to play a leading role in a number of University-wide initiatives.

CALS' programs span emerging interdisciplinary areas such as bio-based industries, energy and the environment, agriculture and the environment, detection and remediation of pathogens, toxins and pollutants, chemical and behavioral ecology, biogeochemistry, and biodiversity. An example of our leadership in environmental sciences at Cornell is the establishment of the interdepartmental undergraduate major "The Science of Natural and Environmental Systems." In addition, CALS has partnered with the College of Engineering on an inter-college major in Environmental Engineering.

### **New Life Sciences**

Our fourth priority, the new life sciences, constitutes the largest University-wide initiative, seeking to enhance and support interdisciplinary research, education, and collaboration among biologists, physical scientists, engineers, and computational scientists. The College of Agriculture and Life Sciences has taken a leading role in this University-wide initiative from the beginning, providing faculty leadership and a major share of new faculty hired at Cornell under this initiative.

Our College offers unique strengths to this campus-wide effort in areas such as the plant sciences, biodiversity, microbiology, biostatistics and computational biology, biological engineering, bio-nanotechnology, animal science, evolutionary biology, ecology and many applications critical to agriculture and the environment. CALS' faculty play many roles in this multidisciplinary initiative, including basic and applied research, on topics such as improving the food supply, food safety, nutrition, health, the environment, business and the economy. We bring a unique balance to the new life sciences by emphasizing very basic studies in genetics, developmental biology, neuroscience, molecular and cell biology, as well as more applied biology. We also explore the ethical, legal, and social implications emanating from new life science technologies.

As this partial list of topics makes clear, research, teaching, and extension related to life sciences includes many areas linked to environmental sciences and applied social sciences. Moreover, our work in the life sciences has unique applications that enhance the entire University initiative and ensure the link is made to Cornell's land-grant mission.

As we continue to strengthen our leadership role in these four academic priority areas, we move ever closer to achieving our vision, "To be the preeminent college for research, teaching, and extension of agriculture and the life sciences, developing leaders to address the global challenges of the 21<sup>st</sup> century."

We continue to refine and build momentum in our strategic priorities, by engaging members of the CALS' community in communication with the College leadership through annual faculty reporting, departmental strategic planning and the ongoing work of the CALS Advisory Council. We continually question

how we can best realize our vision in the 21<sup>st</sup> century and how the four priority areas can best be strengthened to support that effort.

We continuously seek information from faculty, alumni and stakeholders about how we can best fulfill our land-grant mission to society.