

# The College of Agriculture and Life Sciences

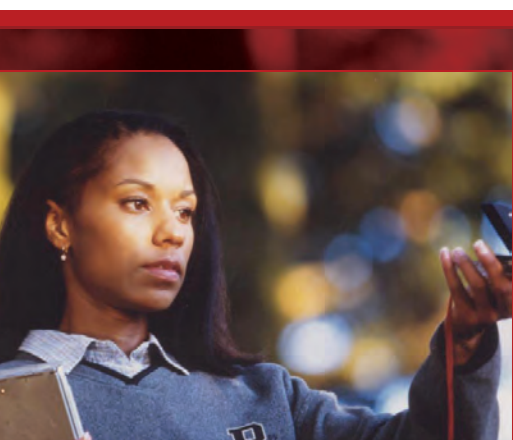
Developing leaders. Improving lives. Shaping the future.

## The Land Grant Ethic:

Purpose, Philosophy and Practice  
of Public Scholarship

New Faculty Orientation  
November 2008





## Shorna Broussard

Associate Professor, Natural Resources

Shorna’s research program focuses on improving resource conservation and management through a more complete understanding of the human dimensions of natural resource management. She conducts research that addresses the human dimensions issues that conservation agencies and organizations face, and problems they must address, in order to achieve sustainable natural resource management, effective agency operation, and/or stakeholder satisfaction.

*“The land grant focus definitely influenced my decision to come to Cornell. I desired to work in extension as well as research and Cornell afforded me an opportunity to make that shift in my career. My research and outreach are informed by social science theories and by the identified needs of stakeholders. That my research is utilized and applicable to stakeholders provides an additional layer of meaning to what I do.”*



*The leadership of CALS looks to all faculty, staff, and students to continue to carry the land grant mission forward, demonstrating to citizens of New York State and the world our excellence in the special ethic we have developed and continue to refine as times, needs, and opportunities change. As a vital college in a New York State land grant university, which, uniquely, is also an Ivy League university, this is our particular and challenging role in the global academic community.”*

Susan A. Henry  
The Ronald P. Lynch Dean of  
Agriculture and Life Sciences



*“In their own way, each of our faculty is vital in fulfilling our land grant mission, regardless of their position in the chain of knowledge production and dissemination.”*

Ronald Seeber, Vice Provost  
for Land Grant Affairs

# The Land Grant Ethic: Purpose, Philosophy, and Practice of Public Scholarship

Cornell University was founded in 1865 to improve the human condition through excellence in scholarship pursued by faculty, staff, and students. Cornell distinguished itself from other universities of the day through its commitment to “practical” public scholarship. This founding principle made Cornell’s designation as New York’s land grant university a natural fit. Cornell University’s Vice Provost Office for Land Grant Affairs recently reaffirmed this core commitment when describing the land grant mission as the creation and application of “knowledge with a public purpose.”

The institutional responsibility to tie research, teaching and extension to “real life” challenges and opportunities gives Cornell an important role in supporting an effective, enduring democracy and a sustainable, prosperous society.

CALS creates learning opportunities for people from all walks of life through teaching and outreach in diverse environments, such as campus classrooms, community centers, state and local government, farmers’ fields, and on-line platforms. Our students, many of whom are engaged in experiential learning and gain practice in community education during their time at Cornell, return to communities throughout New York, the U.S. and the world with the knowledge, skills, and motivation to effect positive change.



Max Pfeffer

*Professor, Development Sociology*

Max’s expertise and research in key policy areas, including land use and environmental planning, rural labor markets, rural-to-urban and international migration, have helped Cornell develop a reputation with policy makers in New York and beyond for innovative research and comprehensive solutions to pressing social issues. His research has included rural New York, Mexico and Central America, and Brazil.

*“As a CALS professor, I have the opportunity to link my intellectual interests to everyday issues faced by New Yorkers and other people in the U.S. and around the world. CALS encourages and enables professors to apply research in relevant ways and supports them in extending related educational efforts beyond campus boundaries. For example, findings from some of my most recent research on immigration and community integration have been considered and discussed in a variety of New York State agencies, the New York State Legislature, and in communities throughout the state.”*



## Alan Collmer

Professor, Plant Pathology

Alan's research emphasis is understanding how bacterial microbes cause disease and how they communicate with the candidate plant host. Collmer's groundbreaking research is currently focused on the genome sequence of a persistent tomato pest and developing a variety of bioinformatic, biochemical, genetic, and cell biological tools to support a genome-wide study of virulence mechanisms and to foster functional genomic investigations by the global research community.

*"Cornell has provided an ideal environment for our work on plant pathogenic bacteria. We are grappling with the staggeringly complex interactions between pests and plants that have arisen through endless tit-for-tat molecular skirmishes in the field – a co-evolutionary process that produces pathogen 'systems' that are very tough to control. The land grant mission and the sense of openness that pervades the campus have nurtured a team approach involving collaborators in the USDA-Agricultural Research Service and the Boyce Thompson Institute for Plant Research. Together, we have the power to work at many levels to 'beat the system' and ultimately develop more effective controls for plant diseases."*

CALS is committed to enhancing quality of life for individuals, families, communities and society through scholarship in four complementary academic priorities:

- agriculture and food systems;
- applied social sciences;
- environmental and natural resources;
- new life sciences.

CALS' faculty have a special commitment to the people of New York; to study areas of critical importance to its citizens. However, our efforts extend well beyond New York's borders. As a key college in a world-class university with global reach, we also share Cornell's commitment to the world community.

Our land grant scholarship is concentrated where it can make the most difference, on the vital resources and systems upon which a prosperous and sustainable society depends. We have measurable, positive impact locally, nationally and globally. This is our "reason for being," not simply a fortunate side effect of our academic activity. Our perspective is unique among Ivy League peers, just as our Ivy League status makes us unique among land grant universities. This unique quality attracts faculty who want to experience the impact of their research first hand, with the stakeholders their research ultimately serves. The land grant ethos is a motivating force for scholarly accomplishment and a source of great pride for the college.

### *Land, Sea, Space and Sun Grant History and Precedence*

Cornell is one of only two universities that has lead designation for the Land Grant, Sea Grant, Space Grant, and Sun Grant programs in its respective state.

# Land Grant Ethic of Public Scholarship

To achieve ambitious goals, an institution of higher education must hold a deep and widespread commitment to purpose, philosophy and practice embedded in its institutional culture. CALS seeks to nurture in faculty, students, and staff a deeply held ethic of public scholarship that has the potential for significant practical impact. This culture is evident when faculty, students, and staff are committed to individual or collaborative scholarly activities, including educational outreach, that make a positive difference to an identified need of society or particular stakeholder group. This may be achieved in many ways; e.g., through discoveries in basic science fundamental to breakthroughs in technology, or by applying knowledge to complex problems of importance for public policy.

## What is Land Grant?

A land grant institution is a college or university that has been designated by law to receive the benefits and exercise the responsibilities indicated in the Morrill Acts of 1862 and 1890. Land grant institutions were intended to provide a broad segment of the population with a practical education along with the liberal arts and basic sciences common to institutions of higher education prior to the establishment of the land grant system. Under the land grant edict, such institutions taught agriculture and engineering, as well as military sciences. Subsequent legislation funded state agricultural experiment stations and cooperative extension systems as components of the national land grant system. Every state has a land grant institution. Millions of people have been “students” of land grants, either formally in structured curricula at universities or via cooperative extension and other outreach programs.



Nina Bassuk

*Professor, Horticulture*

Nina is director of the Urban Horticulture Institute and a leading national expert on improving the quality of urban life by enhancing the functions of plants within the urban ecosystem, integrating plant stress physiology, horticultural science, plant ecology and soil science. In partnership with state conservation agencies, private environmental groups, Cornell Cooperative Extension and other SUNYs, her one-of-a-kind summer program employs Student Weekend Arborist Teams (SWAT) to inventory trees and create management plans for communities in New York to encourage them to more proactively protect and enhance the health and density of urban forests.

*“It is critical to translate our research results so that they are readily accepted by practitioners in the field. Academics must demonstrate and prove the usefulness of our work if we are expected to be taken seriously. That’s the essence of the land grant mission. When we do it right, that’s when we see positive change.”*



## M. Todd Walter

Assistant Professor, Biological  
and Environmental Engineering

Todd works at the boundary of ecology and hydrology. Although his research experience spans a wide spectrum of water resources topics, much of his work deals with improving our understanding of how chemicals move through agricultural and forest landscapes.

*“Cornell provides the bridge between research and application. The contact with students and end users in and outside of the classroom is so seamless and is such a part of the land grant framework that we don’t even think about it. Our research is on-farm, in the living landscape, and transferred to the next generation of practitioners through our courses, such that we have direct access and impact across the whole research-to-society spectrum.”*

# The Three “Ps” of CALS’ Land Grant Ethic: Purpose, Philosophy and Practice

The essence of CALS’ land grant mission can be characterized by the “Three Ps”: Purpose, Philosophy and Practice.

**Purpose:** The ultimate purpose of every professor and program is to strive to improve the quality of life for New York, U.S. and world citizens by:

- Creating, integrating and disseminating knowledge (to students, peers, decision makers and others);
- Transferring findings, methods, practices technology, systems, and approaches;
- Encouraging adoption of best practices;
- Informing and advising public and private decision makers; and
- Developing leaders.

Individually and collectively, our programs improve the lives of people across New York, the U.S., and the world. We seek balance by supporting a diversity of programs and research taking into account such things as geographic foci, socio-economic strata, emerging issues, and other considerations that reflect our special responsibility to New York and our proven capacity for global impact.

**Philosophy:** At CALS, we strive for scholarship of more than incidental benefit: we believe scholarly pursuit motivated by intellectual curiosity, combined with a desire to improve the human condition, and guided by the highest standards of academic performance, will generate important societal impacts as well as contribute significantly to the academy. Many universities believe that scholarly pursuit motivated solely by intellectual curiosity within disciplines is the prime objective, and

that this approach generates sufficient incidental impacts that benefit society. Instead, CALS encourages a mix of student and faculty research that includes scholarship for the purpose of knowledge creation and for improving the human condition, side-by-side. Both inform the other and support the application of findings in the real world, with real stakeholders, as part of the land grant ethic.

As evidence of this philosophy, CALS maintains a healthy and vibrant culture in which the diversity of scholarship across our many disciplines is valued in an atmosphere of inclusiveness, where multi-disciplinary and inter-disciplinary approaches to teaching, learning, research and problem-solving are encouraged. All faculty and programs do not adopt identical approaches for pursuing the land grant mission. CALS' diverse faculty, staff, and students find their own best way to contribute.

**Practice:** In practice, our scholarly activities are guided by: faculty understanding of emerging science, student interest, public demand for translation and application of knowledge to solve societal problems, informed anticipation of needs and issues, and stakeholder-identified problems and opportunities. CALS faculty and administrative leadership understand the need to be proactive with research, teaching, extension, and outreach, and to respond in a timely fashion to student interests and concerns, as well as to listen to stakeholders outside the campus setting. We encourage discovery, integration, teaching and outreach in complementary disciplines, and in multi-disciplinary approaches for addressing increasingly complex social issues.

The college and the university magnify the impact of scholarship through an extensive and long-standing commitment to infrastructure to support the dissemination, teaching, training, and outreach components of ground-breaking research.



## Olga Padilla-Zakour

Associate Professor and Associate  
Department Chairperson,  
Food Science & Technology

The director of the New York State Food Venture Center (NYSFVC), Olga provides technical assistance on food manufacturing issues to new and established entrepreneurs in the food industry. She is currently working on technologies and processing methods to manufacture high quality juices that retain valuable compounds, such as CherryPharm, a drink developed in conjunction with the NYSFVC.

*“Through CALS’ land grant mission, I have experienced the professional fulfillment that comes from knowing that Cornell’s expertise plays a critical role in improving the sustainability and long-term success of farmers and food entrepreneurs.*

*The opportunity to work directly with people engaged in agricultural businesses creates an environment that fosters partnerships, understanding, innovation, diversity and unique viable solutions to the betterment of the community.”*



## Tom Overton

*Associate Professor, Animal Science*

In addition to having his own faculty program focused on the dairy industry, Tom is associate director of PRO-DAIRY, an educational program that is the most active dairy outreach program in the state. Acting as the critical link between Cornell research and real-world improvements in the production and quality of dairy products, the program increases the profitability of New York's dairy industry while enabling farm families to achieve professional and personal goals.

*“Engagement with the people in the industry through my extension work allows me to bring real-world examples into the classroom and facilitates our ability to connect our students with people in the real world, which is important not only for their education but their career development.”*

The Agricultural Experiment Stations in Ithaca and Geneva, which are involved in much more than agriculture, directly facilitate research and outreach of relevance to New York, the region and the world.

The Cornell Cooperative Extension (CCE) system, one of the strongest in the academic world, advances the land grant mission by transferring knowledge and technology for application on the ground, and by receiving input from stakeholders about problems they face and opportunities they envision. With more than fifty-six extension associations and offices statewide, CCE has a presence in every corner of the state, from densely populated New York City to the wilds of the Adirondacks.

CCE and the experiment stations maintain direct ties to stakeholder groups and solicit feedback on proposed research solutions from industry organizations, business leaders, advocacy groups, concerned citizens, public agencies, advisory councils and other forums. This infrastructure supports our sustained presence and engagement with beneficiaries of our scholarship over decades and centuries, differentiating our “product” or impact from that of other colleges and universities in New York.

Public demand for access to CALS' vast resources has historically been high and never more so than now, with many pressing issues — from environmental to social to economic to quality of life — capturing public attention. Open access to valuable expertise is critically important, to ensure benefits of the institution are experienced widely. We seek input regularly from public constituencies not represented by powerful, established organizations, as well as those who are. New stakeholders are routinely identified and encouraged to join the family of beneficiaries of CALS' programs.

In pursuit of the land grant ethic, we also create partnerships with other colleges and universities, government agencies, NGOs and private sector businesses to form strategic alliances to help meet societal needs.

## Relevance & Vitality: Staying Current, Focusing Resources

All academic institutions need to continually assess their mission, vision, and relevance to ensure their vitality in changing times. For land grant institutions, which have a direct mandate to serve the people, this review process is even more critical. As Michael Whalen, Director of Planning Information and Policy Analysis, wrote in a history of the land grant mission at Cornell:

“In a very real sense, Cornell’s motto of being ‘an institution where any person can find instruction in any study’ is an elegant restatement of the land grant mission—a proposition that in its simplicity argues that a land grant university should be expansive, endlessly adaptable, and always relevant.”

As the CALS Land Grant Mission Task Force concluded in the summer of 2007, inclusiveness, integration and dynamism are essential traits for sustaining a vibrant land grant culture in CALS for the 21st century:

“The continued relevance and vitality of the CALS land grant mission requires ... a culture that is firmly rooted in the land grant philosophy and is: Inclusive of all scientists; integrative across disciplines and scales of analysis; and dynamic in addressing emergent needs of new and established stakeholders.”

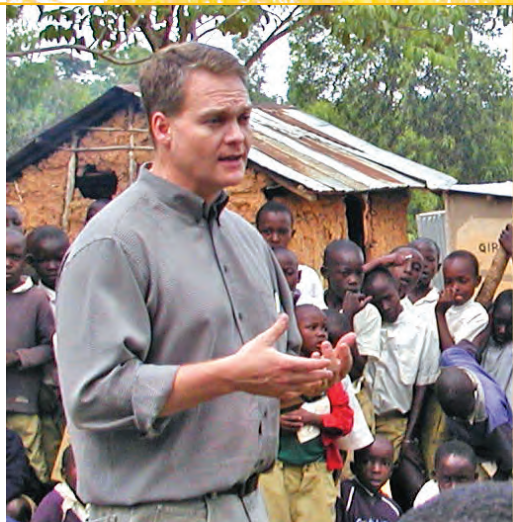


Antje Baeumner

Associate Professor, Biological and Environmental Engineering

Antje develops cutting-edge hand-held biosensors and micro-biosensors for the detection of pathogens and toxins, such as food-borne pathogens that threaten public health and also markers relevant in diagnostics. Antje’s hand-held sensors assisting in AIDS/HIV related diagnostics will be faster and less expensive than conventional technologies and are of great use to health care professionals in Africa in remote locations. She is currently working on user-friendly sensors for environmental and food-borne pathogens for smaller American agricultural producers and for environmental monitoring.

*“Our bio-analytical design criteria include specificity and sensitivity to ensure that our devices indeed help our stakeholders in their analytical problem. Engineering design, bioanalytical science, and ultimate application motivate my entire research group to excel, which reflects the Cornell’s land grant mission so well.”*



## Chris Barrett

*Professor, Applied Economics  
and Management*

For Chris, finding a way to end persistent global poverty is a lifelong mission. His latest work on relief aid in response to disasters such as flood or famine, has influenced international debate about how to minimize the harsh economic impact of cataclysmic events.

*“Relative to the rest of the world, my family and I enjoy tremendous opportunity and face negligible catastrophic risk. If my wife and I were raising our five kids in one of many rural African villages I know, the odds are one of our children would have died already, and all of them would be suffering or highly vulnerable to malnutrition, disease and poverty. No person in any land should face such prospects. We can improve those circumstances and Cornell is uniquely positioned among global universities to help effect that change.”*

Evolution of the land grant culture among faculty, students, staff, and partners that is centered on relevant public scholarship is an ongoing process. The identification and embodiment of the land grant ideal as the “creation and application of knowledge with a public purpose” provides solid footing for CALS for decades to come.

*—Dan Decker, Director, CALS Office of Land Grant Affairs*

### *Land Grant History and Precedence*

Cornell’s founding in 1865 as New York’s land grant university came at a unique confluence of four currents that swirled through the middle of the nineteenth century:

- a desire to reform higher education—broadening its focus and reach, increasing its flexibility, and releasing it from sectarian influences;
- a federal government that was cash poor but land rich, paying its debts and providing societal inducements by giving away public land;
- a state government with a history of providing limited support to private institutions of higher education prior to the emergence of state universities and systems; and
- a set of self-made philanthropists, including Ezra Cornell, who rose to a position of wealth and determined to reinvest some of those riches to benefit the common good.

The educational reforms, radical and controversial in their day, have since become the norm. While the financial circumstances of the federal and state governments have changed, both still devote significant resources to education. And the cycle of philanthropy endures at Cornell. Alumni and friends continue to provide substantial support for this institution.

Still, it is worth reflecting on these generative forces, given the indelible mark they made on Cornell University’s organization and character. To do so is to revisit what it means to be a land-grant university, what special mandate was conferred by that appellation, and how Cornell evolved into a premier liberal arts institution while remaining true to that land grant spirit.

*—Michael L. Whalen, 2001*



## Don Viands

Professor,  
Plant Breeding & Genetics

When Don isn't busy providing oversight of academic programs in the college as the associate dean and director of academic programs, he can be found providing extension and outreach information to seed companies, plant breeders, extension educators, and farmers as director of the Cornell Forage Breeding Project. Dedicated to developing improved legume and grass crops, the project has seen significant advancements in forage yield and quality, and multiple disease and insect resistance. Recently, the program has turned its eye to the bioenergy future, initiating research on perennial species for the emerging biofuel industry.

*"I have a great sense of satisfaction knowing that the efforts of Cornell's Forage Breeding Project contribute to the economic viability of forage and livestock enterprises. This land-grant work definitely has helped my teaching as it provides real examples and practical experience in discussing plant breeding with my students."*



## Jeff Doyle

Professor, Plant Biology

Jeff is just one of the dedicated team members that make up the Cornell Institute for Biology Teachers (CIBT), an innovative outreach program funded by the Howard Hughes Medical Institute and the New York State Center for Advanced Technology. Originally designed to provide workshops and classroom resources for high school biology teachers, the institute now serves elementary through high school teachers and school administrators, providing unique opportunities for professional development.

*"Through my work with CIBT and the participating teachers, I've been exposed to another whole facet of science education, and it has changed the way I think about my own science and its potential as a vehicle for training not only the next generation of scientists, but the next generation of citizens."*



## Quirine Ketterings

Associate Professor,  
Animal Science

Quirine is the founder and director of the Cornell Nutrient Management Spear Program, an extension program that gives guidance to New York State farmers on soil nutrient management with the goal of enhancing productivity while protecting the environment from excess nutrients. Working with Cornell Cooperative Extension, other Cornell departments, state agencies, farmers, and industry, Kettering's program has seen a dramatic drop in New York's statewide phosphorous balance excess, protecting the state's vital bodies of water.

*"The College of Agriculture and Life Sciences recognizes the importance of supporting tenure track faculty programs with major extension responsibilities. The chance to work jointly with many of our stakeholders on applied research and extension and serve our land grant mission is what made me accept the job offer at Cornell."*



*“ At Cornell University, our land grant mission imparts an uncommon sense of a larger purpose to our endeavor and attracts faculty, staff, and students who are motivated by our commitment to using knowledge to make transformative contributions to the world.”*

David Skorton, President, Cornell University



Cornell University  
College of Agriculture and Life Sciences

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