

UConn



Creating Our Future

UConn's Path to Excellence



Orchestra students rehearse in the J. Louis von der Mehden Recital Hall in the Fine Arts Complex. The School of Fine Arts is home to departments of art and art history, digital media and design, dramatic arts, and music and continues to elevate the arts and humanities at UConn.

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“As a great public University, UConn must strive to solve the challenges of our time. We must invest our talents and our ambitions on great endeavors to prepare our students for a rapidly evolving 21st-century economy, expand and develop our areas of interdisciplinary research, and transfer our knowledge and expertise through both local and global engagement and service. We must always work tirelessly to accomplish our mission for the benefit of our state, our nation, and humanity.”

Susan Herbst, President, University of Connecticut





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INTRODUCTION

The Wilbur L. Cross Building opened in 1939 as the University library, and it was dedicated in 1942 in honor of Wilbur Cross, a four-term governor and a native of the Gurleyville section of Mansfield. The Wilbur L. Cross Building remained the University library until 1978 when the Homer Babbidge Library opened. After renovations funded by UConn 2000, the Wilbur L. Cross Building now serves as a one-stop service center for most student business needs, including the offices of the Registrar, Bursar, Residential Life, and Financial Aid.

What makes a great university? The University of Connecticut, at this transformational time in its history, aspires to join the ranks of the greatest universities in the world, while simultaneously serving our region and our nation. We have the talent, perspective, and confidence to create a better future by becoming a more powerful research university that produces a rich flow of ideas, sparks invention and innovation, and improves the quality of life for all people.

With unprecedented support from the state, industry, and donors, we will expand educational opportunities, research, and innovation in diverse fields of study, with an emphasis in science, technology, engineering, and mathematics (STEM) disciplines over the next decade. We will create and disseminate knowledge and innovative ideas and focus our attention on the importance of the arts, humanities, and social sciences that are an integral part of our great University. We will leverage the strength and resources of our University to build America's future workforce, create jobs, start and attract companies, and help drive economic development in the state and nation.

Since UConn was established in 1881, its faculty, students, and staff have worked to shape a path to excellence, and our graduates have made a vast array of fundamentally important contributions to their professions and communities. We have emerged as a nationally ranked university that educates talented students of diverse personal histories, perspectives, and interests. Our graduates contribute in vastly different ways to our state, the nation, and the world, serving as creative leaders in industries, educational institutions, healthcare, government, and nonprofit foundations. When we consider what we hope for our students, we most hope they will emerge as creators of the future, not mere observers.

The University is internationally recognized for research in wide-ranging areas, such as additive manufacturing, psychology, gifted and talented education, genomics, human rights, health promotion and disease prevention, visual arts, and linguistics. Through their research and scholarship, our faculty members are committed to developing the creativity and talent of our students, and promoting their intellectual inquiry across disciplines. We believe in engagement with our state and its citizens and in the intrinsic value of dedicated service to others.

As we forge the next decade of progress at UConn, this comprehensive academic vision is guided by a singular vision to achieve excellence in all aspects of our mission as

a University—research, education, service, and engagement. These goals and strategies form the basis for informed decision-making for faculty and staff hiring, infrastructure, operating budget, and space allocation; all in support of our extraordinary disciplinary and interdisciplinary research and educational programs.

UConn has already gained momentum toward achieving the aspirations articulated in this plan. The University serves as a beacon of academic and research excellence as well as a center for innovation and social service to communities. We are a leader in many scholarly, research, and innovation areas. Today, our path forward includes exciting opportunities and notable challenges. Record numbers of undergraduate applications and support for student success have enabled the University to become extraordinarily selective. In just 15 years, our ranking by *U.S. News & World Report* among public universities has risen from No. 38 in 1998 to No. 19 today. Many initiatives, including our plan to hire nearly 500 faculty over the next few years, the emerging programs in partnership with The Jackson Laboratory, as well as the nearly \$1.7 billion investment in Next Generation Connecticut and the \$900 million investment in Bioscience Connecticut—both major investments by the state—present exciting opportunities and unique challenges for our research endeavors. Our partnerships with United Technologies, General Electric, Northeast Utilities, and other industries through UConn's Technology Park also will help to secure our place as an institution of the highest rank among public research universities.

Investments from donors, industry, and the state have and will be instrumental in the dramatic growth and impact of the University. We are renewing, rebuilding, and enhancing our campuses and academic programs through strategic investments. It is at this important juncture that we, the faculty and leaders of UConn, assume the responsibility to define the path to excellence through a new academic vision that builds upon the foundational mission statement of the University and its core values.



Commitment to sustainability: A green roof on Laurel Hall has, among other sustainability initiatives, earned UConn the top spot as *Sierra Magazine's* "Coolest School" for its efforts to encourage sustainability, green technology, and environmental stewardship. The vegetation covering the roof reduces stormwater runoff and helps cut down on heating and cooling costs.

INDIVIDUALIZED UNDERGRADUATE ENGAGEMENT

A 21st-century engaged University creates individualized student activities and rich experiences inside and outside the walls of the traditional classroom. Civic engagement builds on course knowledge, which is then applied to address real life problems in communities. A synergy is created between educational, career, and life preparation while assisting communities in designing and/or modifying systems of service for the public. Through establishment of many community partnerships throughout the state, faculty and staff tailor assignments, placements, and projects to focus on our students' development as they contribute action to enhance the public good of the entity served.

INSTITUTE FOR STUDENT SUCCESS

The Institute for Student Success provides undergraduate students with high-quality academic advising and educational planning as well as the opportunity to explore and prepare for various degree programs. The Institute helps first-year and transfer students transition to the University, and promotes personal and academic development through interdisciplinary courses, peer education, academic support, one-on-one mentoring, and opportunities to live and participate in Learning Communities. The Institute for Student Success promotes access to higher education for students from underrepresented ethnic or economic backgrounds and first-generation college students. The Institute also provides support services to aid students' retention.



Spring reading in the Benton Museum's courtyard near Wood Hall, home to the history department.

UNIVERSITY MISSION STATEMENT

The University of Connecticut is dedicated to excellence demonstrated through national and international recognition. Through freedom of academic inquiry and expression, we create and disseminate knowledge by means of scholarly and creative achievements, graduate and professional education, and outreach.

With our focus on teaching and learning, the University helps every student grow intellectually and become a contributing member of the state, national, and world communities. Through research, teaching, service, and outreach, we embrace diversity and cultivate leadership, integrity, and engaged citizenship in our students, faculty, staff, and alumni. As our state's flagship public University, and as a land and sea grant institution, we promote the health and well-being of citizens by enhancing the social, economic, cultural, and natural environments of the state and beyond.

In addition to our main campus in Storrs, UConn's footprint extends to include six campuses. Our **Avery Point** campus sits on Long Island Sound, while the **Stamford** campus is located in a fast-paced urban environment. **Hartford** is home to the Schools of Law, Social Work, and the department of public policy, and the **Waterbury** and **Torrington** campuses offer students the opportunity to study in intimate downtown or scenic settings, respectively. In **Farmington**, UConn Health is home to the Schools of Medicine and Dental Medicine. Bachelor's degrees are offered at all campuses, excluding Farmington, and many students begin their studies at a regional campus and transition to Storrs as upperclassmen. Undergraduate students are also given the opportunity to travel between campuses to study niche programs, such as digital media and design in Stamford, urban studies in Hartford, or marine sciences in Avery Point. Graduate programs in education, nursing, business, and engineering are also housed at our regional campuses.



Avery Point



Hartford



Stamford



Waterbury



Torrington

CORE VALUES

In the spirit of our heritage as a land and sea grant institution, we remain committed to understanding and solving the most significant societal problems. With six campuses and several professional schools across the state, we approach our mission with a commitment to excellence, ethical action, and inclusiveness for which the four interdependent core values define our mission:

Innovation

The University of Connecticut is dedicated to discovery and communication of breakthrough and foundational ideas; to translation and collaboration across disciplines and communities; and to positive transformation through research, scholarship, and creative works.

Leadership

UConn's students will become well-educated leaders and global citizens who excel in addressing the challenges of the 21st century; in them, we will cultivate critical thinking, creativity, and joy in lifelong learning. We will serve the state, the nation, and the world through our research, teaching, and outreach.

Global Engagement

Through outreach, research, and partnerships, we promote sustainable development and a happy, healthy, and inclusive society. This engagement is local and global, based on intercultural understanding and recognition of the transnational nature of the challenges and opportunities we face.

Diversity

In our culturally and intellectually diverse community, we appreciate differences in one another as well as similarities, and aspire to be an increasingly inclusive educational institution that attracts, retains, and values talented people from all backgrounds. We believe in diversity in intellectual approach and outlook. We embrace diversity not as a keyword for token inclusion of the underrepresented, but as a commitment to fostering a welcoming environment in which all individuals can achieve their fullest potential and in which open and respectful communication is facilitated.

UNIVERSITY ACADEMIC VISION COMMITTEE

Richard Schwab, Educational Leadership,
Chair

Sally Reis, Educational Psychology,
Ex Officio

Jeffrey Seemann, Vice President for
Research, *Ex Officio*

Anne D'Alleva, Art and Art History

JC Beall, Philosophy

Bethany Berger, Law

Preston Britner, Human Development
and Family Studies

Diane Burgess, Pharmaceutical Sciences

Lynne Healy, Social Work

A. Jon Goldberg, Reconstructive Sciences

Brenton Graveley, Genetics and
Developmental Biology

Peter Luh, Electrical and Computer
Engineering

William Ross, Marketing

Stephen Ross, Economics

Lawrence Silbart, Allied Health

Thomas Van Hoof, Nursing



Patrice Hubert '12 (CANR), '16 Ph.D. Hubert is a recipient of the National Science Foundation Bridge to the Doctorate fellowship and is pursuing her doctorate with Professor Ock Chun.

THE PLANNING PROCESS

In 2013, UConn launched a comprehensive process to develop a new academic vision to identify special goals and strategic initiatives, and realize our aspiration to become a top flagship University recognized for excellence in breakthrough research, innovative education, and engaged collaborations with state, community, and industry partners.

The University Academic Vision Committee, consisting of highly respected faculty members, was assembled to provide diverse, relevant, and institutional perspectives in growing academic and research excellence at our University. Completion of this comprehensive academic vision is a major and critically important undertaking, one that has drawn on expertise from UConn faculty, students, deans, advisory committees from each college and school, and others through public forums and electronic discussion.

UConn has a strong track record of exceeding established goals in recent decades. It already has surpassed goals in the current academic plan for student selectivity, new academic program development, and innovative research projects. The development of this academic plan presents an opportunity to chart a new course and re-envision the future of our institution based on a critical analysis of the quality of our programs and the difficult but necessary choices we face to achieve excellence. This process also requires a greater emphasis on achieving higher standards

in all aspects of our enterprise, including faculty recruitment, promotion and tenure, teaching effectiveness, admission standards, research productivity, and vital scholarship and creative works. The new academic vision represents a departure from previous efforts and is distinguished for its focus on achieving excellence in interdisciplinary research and education and the significant investments from Next Generation Connecticut and Bioscience Connecticut to realize our goals.



Brenton Graveley

John and Donna Krenicki Endowed Professor of Genomics and Personalized Healthcare; Associate Director of the Institute for Systems Genomics

Brenton Graveley is researching the role that RNA plays in biology and disease. By studying the genome of *Drosophila*—the common fruit fly—he and his team have discovered thousands of new genes and tens of thousands of new ways in which communication occurs among them. With investments for new research through the Institute for Systems Genomics and in collaboration with The Jackson Laboratory for Genomic Medicine, this research can serve as a foundation for breakthroughs in personalized medicine.

The new academic vision is guided by:

Bold and Visionary Ideas

Academic institutions face ongoing challenges in navigating an environment with diminishing numbers of high school graduates, changes in state support that require even greater stewardship of our precious resources, and fierce competition for federal research grants. A successful academic vision will identify bold strategies to grow in the midst of these challenges.

Growth of Extramural Research Programs

Extramurally funded research is vital to new discoveries, development of outstanding graduate students, and economic development. We must develop aggressive strategies to increase the amount and diversity of state, federal, industry, and philanthropic funding for research.

Adaptability to Change

Our ability and willingness to change will be a defining measure of ultimate success through the advent of new innovations in teaching pedagogy, technology, emerging topics for research and scholarship, global implications, and new models of agile academic organization.

Active Participation of Faculty

A broad cross-section of our faculty worked to identify priorities and develop goals for the University and their College or School academic plans, and this faculty engagement must continue as we operationalize and institutionalize this academic vision.

Accountability to Achieve Goals

We must hold ourselves accountable for our decisions and the investments we make to advance UConn. We will develop an assessment plan, with carefully selected metrics that measure our progress toward our academic goals.

The process and the guiding principles of the academic vision were presented to the University Senate, the Council of Deans, and department heads. Each College and School appointed a group of faculty, students, and staff to serve on the individual College and School Academic Vision Committees. In developing the College- and School-specific academic plans that are aligned with the overarching goals of the University academic vision, these committees were asked to respond to a set of core academic questions:

- What are our strengths?
- What new strengths can we create?
- What can we improve through collaborations with UConn's Colleges and Schools?
- What programs can we realign or streamline to reallocate resources?



Opened in the spring of 1999, the Chemistry Building was the first comprehensive teaching and research building completed using funds from the \$2.3 billion UConn 2000 program.





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CREATING OUR NEXT CHAPTER

State-of-the-art classroom buildings Laurel and Oak Halls opened in 2011 and 2012, respectively.

Writing the next chapter in our pursuit of excellence requires committed and engaged faculty, creative leadership, and innovative choices. Our commitment to the future incorporates faculty involvement in:

- Educating and inspiring students;
- Engaging in creative and productive work across all intellectual and artistic areas;
- Promoting understandings and competencies across all cultural groups;
- Producing new ideas and innovative works that make an impact on society;
- Promoting health and preventing diseases;
- Understanding the intricate influence of neural, environmental, and genetic bases of communication and learning;
- Developing renewable energy and manufacturing innovation;
- Promoting environmental sustainability;
- Reversing poverty and disparities for our citizens;
- Addressing abuses and improving human rights;
- Producing global citizens with multicultural awareness and respect.
- A world-class academic research library that inspires the creation of new knowledge and provides opportunities for meaningful collaborations;
- Globally responsive research and teaching missions;
- Exciting new learning opportunities for our students;
- A commitment to engagement and a mission that focuses efforts on the betterment of humanity;
- Visionary leadership at all levels.

An intellectual community that serves society and advances knowledge across a broad spectrum of disciplines is the symbol of a great public research university. To create a dynamic and intellectual environment requires:

- Outstanding faculty;
- Imaginative, exemplary undergraduate education across all campuses;
- Visionary graduate education that attracts, supports, and trains the best academic talent from around the world;
- Nationally and internationally recognized research that cuts across traditional disciplinary lines to address and solve important societal issues;
- A creative and highly relevant research environment that attracts increased public and private funding;
- Comprehensive research opportunities that include areas in which external funding opportunities may be limited, but in which research is vital to enriching our lives, such as in the arts and humanities;

Our accomplishments in research and scholarship traditionally have been the result of individual or small-group disciplinary initiatives. This fundamental model of faculty accomplishment will continue, as the creativity and innovation of our faculty will lead them to develop new ideas in their specific areas of interest and passion. We will continue to support disciplinary research and new faculty positions will continue to be funded by deans and the provost.

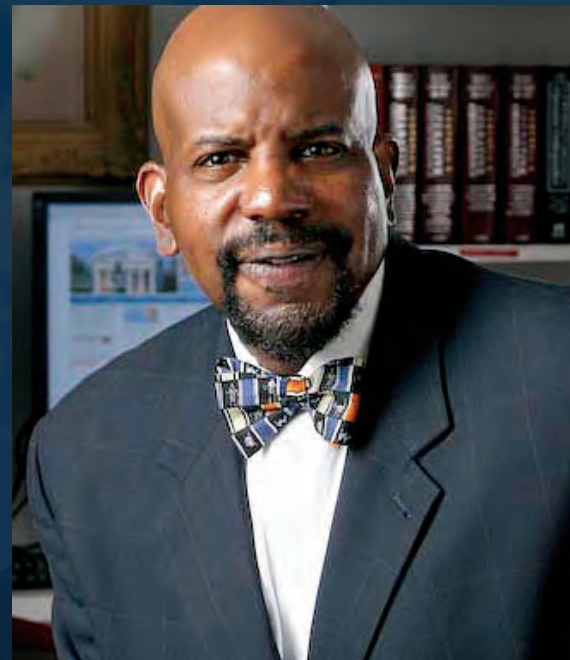
In this academic vision, we propose an additional proactive strategy for promoting important interdisciplinary endeavors that will lead to major breakthroughs in research, scholarly inquiry, and student learning. The future of these interdisciplinary activities and programs will contribute to the University's mission in research, education, and engagement, if we identify priorities and goals based on our strengths that match critical areas of need, and if we provide the necessary resources to achieve them.

We will pursue five fundamental goals to achieve excellence in:

1. Research and Scholarship
2. Undergraduate Education
3. Graduate Education
4. Teaching Effectiveness
5. Public Engagement



Near Fairfield Way, students walk through the Storrs campus by Laurel Hall (foreground), the Student Union (right), and the School of Business (center background).



Cato Laurencin

University Professor; Albert and Wilda Van Dusen Distinguished Professor of Orthopaedic Surgery

Cato Laurencin is an elected member of the prestigious Institute of Medicine of the National Academy of Sciences as well as the National Academy of Engineering—he is one of the few scientists in the United States to be recognized for these dual distinctions. He specializes in regenerative engineering, an advanced form of tissue engineering that combines materials science, stem cell science, and developmental biology to regenerate muscles, ligaments, and tendons. His work has been cited by *National Geographic* among “100 Scientific Discoveries that Changed the World.” Laurencin recently invented the L-C Ligament, the first bioengineered matrix shown to regenerate ligament tissue inside the knee completely.

NEXT GENERATION CONNECTICUT

Next Generation Connecticut is a 10-year, \$1.72 billion state investment dedicated to capital projects focused on building new scientific laboratories, purchasing advanced equipment, constructing new classrooms, and student housing. Next Generation Connecticut funds will also enable us to hire new faculty and expand the student body in science, technology, engineering, and mathematics.

BIOSCIENCE CONNECTICUT

Bioscience Connecticut is an \$864 million state investment to revitalize the UConn Health campus, expand the University's medical and dental classes, build new business incubators, and create centers of excellence with neighboring institutions. Expansion plans include building a new world-class patient tower and an outpatient ambulatory center, renovating existing facilities, updating infrastructure, and modernizing research laboratories and classrooms.



Pamela Diggle, the current president of the Botanical Society of America, recently joined UConn as a professor of ecology and evolutionary biology. Her research focuses on how the early stages of life can affect the way plants are structured, which in turn affects how they evolve.

A PATH TOWARD EXCELLENCE IN RESEARCH AND SCHOLARSHIP

Our faculty make vital contributions toward improving the human condition through their research and scholarship. Outstanding scholars contribute original research in areas such as school behavior, art and art history, genetics and genomics, additive manufacturing, and autism. This academic vision will continue to support faculty who create new knowledge in their disciplines and in interdisciplinary areas, and develop groundbreaking solutions to society's most pressing problems.

We will continue to recruit the best and most successful faculty from across the globe to strengthen and enhance the highest level of disciplinary and interdisciplinary research and scholarship. We will seek research partnerships with the most renowned universities in the world. With the goal of building on current strengths and achieving additional areas of faculty excellence, we will invest our precious Next Generation Connecticut and Bioscience Connecticut resources in selective spheres of excellence that demonstrate high potential to solve critical societal problems.

We will use the highest standards for our evaluation of research and scholarship, employing external metrics as one measure in our continuing assessment of our growing institutional reputation.

Extramural research programs, measured through grants and contracts, are vital to scientific discoveries, support for Ph.D.

and postdoctoral scholar training, and increased economic development through commercialization and industry partnerships. Great universities are defined by the breadth and depth of their extramural research programs. Although we have many outstanding signature research programs, we can and must increase the amount of external funding for research support at the University. Our external research expenditures stood at \$205 million in 2013, as compared with \$188.3 million a decade ago, representing only an 8.7 percent increase since 2003. We must develop and invest in increased levels of research development support for faculty, including proposal development, efficient and effective grants management, core facilities, new cutting-edge equipment, and seed grant programs to support our faculty in applying for and obtaining extramural funding to conduct important research initiatives.



Jeffrey Fisher, Board of Trustees Distinguished Professor of Psychology, is the founding director of the Center for Health, Intervention, and Prevention.

CENTER FOR HEALTH, INTERVENTION, AND PREVENTION

The Center for Health, Intervention, and Prevention's scientists contribute to efforts that prevent or more effectively treat some of the world's most challenging health problems—including HIV, cancer, obesity, autism. The Center's multidisciplinary, theory-based, cutting-edge, and internationally scoped work has involved faculty from almost every College and School at UConn. As a nexus for researchers, the Center stimulates collaborations resulting in major new funded research, totaling \$100 million in external grants to UConn since its inception. Future initiatives will focus on obesity prevention and cancer control, as well as increasing work at the intersection of behavior and biology. The Center for Health, Intervention, and Prevention's research utilizes interdisciplinary team science, unleashing the remarkable resources of UConn, and resulting in significant positive impacts on public health across the globe.

It is critical that we examine faculty workloads to ensure that our faculty can succeed in their areas of strength. Faculty who excel in teaching should be supported, and our research-productive faculty must have the time and resources needed to pursue meaningful research. We will continue to align our institutional priorities with those of significant funding agencies, industry partners, and foundations, and to seek philanthropic support for innovative research programs that are attuned to the aspirations of individual and corporate donors. We will further develop incentives and actively work to reduce barriers for collaboration among UConn-Storrs, regional campuses, and UConn Health faculty in order to, make it easier for our faculty to interact, apply for, and conduct collaborative research.

We will support, reward, and demand research excellence. While in this vision we identify several interdisciplinary areas for investment, we must also ensure that our signature disciplinary programs that have already achieved or have potential to achieve national prominence are supported and enhanced. For individual faculty members, we will have high and appropriate standards for research, teaching, service, tenure, and post-tenure review. We recognize that although standards must be uniformly high across the University, the content of those standards will vary by field to ensure excellence within that field and permit us to compete with other institutions seeking to recruit the best faculty candidates.

All Colleges and Schools should review the demands of their disciplines to determine appropriate promotion, tenure, and reappointment standards consistent with uniform University standards to achieve national excellence. In addition, review within Colleges and Schools should not stop at tenure or promotion to full professor; rather, the University Senate should ask Colleges and Schools to create procedures for periodic post-tenure review to ensure continued contribution to the mission of the University. Faculty serving on the Graduate School Council should also review appointments to the graduate faculty, which should be subject to periodic departmental review and renewal.

To ensure fairness and consistency across departments and schools, senior faculty and administrators should review promotion, tenure, and reappointment procedures and decisions across Colleges and Schools. Teaching and service responsibilities should be distributed fairly within departments, consistent with tenure status, research productivity, university needs, and the norms of individual disciplines. In particular, junior faculty members and those hired with responsibilities to more than one department, Colleges and Schools, or institute, should not be subject to disproportionate demands for service.

Investment in Interdisciplinary Initiatives

With our commitment to interdisciplinary research and scholarship, we aim to foster exciting intellectual endeavors and creative problem solving. We have identified and embraced the formation of strong interdisciplinary research teams working at the intersection of two or more disciplines in this plan and modeled it after some of our most successful interdisciplinary endeavors. For example, our outstanding Center for Health, Intervention, and Prevention brings together 260 affiliated scientific experts across UConn to secure more than \$9 million each year in research funding. Working together, this group uses behavioral interventions to address challenges associated with HIV/AIDS, sexual risk behavior, cancer, autism, physical activity, obesity, alcohol and substance use, global health, and health communication.

Another example of our collaborative success is our Human Rights Institute, which has earned an international reputation through its distinctive interdisciplinary approach to the study of human rights, stressing three broad themes: economic and social rights, health and human rights, and humanitarianism. The Institute is notable for involving undergraduates, graduates, faculty, and the broader community in its research mission, and establishing a pioneering undergraduate major in human rights.

The Institute of Materials Science also has served as an example of interdisciplinary collaborative success, with more than 100 faculty members from 20 academic departments at Storrs and UConn Health in Farmington. The Institute of Materials Science provides outstanding graduate research education in the interdisciplinary fields of materials science and engineering, polymers, and condensed matter physics. Primary disciplines represented in these programs are chemistry, physics, chemical engineering, materials science and engineering, polymer science, pharmacy, molecular and cell biology, mechanical engineering, electrical engineering, biomaterials, and biosciences. The Institute operates and maintains extensive state-of-the-art instrumentation, including a wide range of specialty laboratories.

We are aware of the need to be careful stewards of our resources and limit the number of emerging and expanding interdisciplinary activities to only those that will create measurable impact. During the past year, the University Academic Vision Committee worked with colleagues throughout UConn to prioritize our interdisciplinary opportunities, and we are proud to highlight these exciting and bold interdisciplinary research areas that emerged as our highest-ranked areas of strategic investment.

Advanced Materials and Manufacturing

Advanced materials and manufacturing is entering an age when materials are designed at the atomic and molecular level, in contrast to the historic approach of cutting and forming from bulk starting blocks. UConn will aggressively pursue three important areas: design of materials that influence/interact with cells, drugs, radiation, and electricity; programs that encompass discovery of industrial/clinical applications; and exploitation of novel capabilities of additive manufacturing. Six specific academic areas have been identified and their enhancement will make significant contributions to globally important challenges in energy, aerospace, repair/regeneration of tissues, targeted drug delivery, molecular detection/sensing, and conformable electronics and force generation. The primary objectives of these enhancements will be to elevate the stature of the six identified areas from “excellent” to “preeminent”; attract top-level faculty and students; further develop the synergy that exists across departments and campuses; stimulate outstanding STEM education and training grants to parallel the research effort; create opportunities for large-program projects; and further develop expertise to enhance the state’s competitive advantage in research, development, and manufacturing.

Artists, Scholars, and Public Discourse

New initiatives in UConn's arts and humanities will build on current strengths in scholarship and creative research while creating new directions in engagement. We will explore the establishment of a new Institute for Engaged Scholarship and Creative Research focused on the enormous potential of the arts, digital media and design, and humanities to reach hearts and minds, challenge preconceived notions, and generate new ideas. This Institute will address issues of critical importance in our state and nation, such as environmental change, the cultural impact of technology, and immigration and society. The Institute will sponsor interdisciplinary creative research teams to develop multifaceted programs in Connecticut communities. These programs, which may include performances, exhibitions, school programs, discussion groups, and digital humanities resources, will promote greater public dialogue about the major issues of our time and generate new arts and scholarship in these areas. This initiative builds on important arts outreach efforts undertaken by the School of Fine Arts and the dimension of engaged scholarship through partnerships with the College of Liberal Arts and Sciences, institutes and centers, and other Colleges and Schools, and has been developed to integrate with areas of strength in humanities scholarship.

Brain, Mind, and Cognition

UConn has the potential to lead in developing new innovations in science, education, and community outreach in the neurobiology of communication, which includes the cognitive, neural, and genetic bases of communicative development, function, and disorder. We have growing strength in cognitive science, neuroscience, and the genetics of language and communication, both at the basic research level and in the application of basic research to disordered communication. UConn is uniquely poised to gain international preeminence in language/communication development via coordinated efforts to connect research from the gene/cell level to the cognition/behavior level. Institute development and coordination coupled with strategic hiring, particularly in bridging fields such as cognitive neuroscience and computational modeling, show great promise, as do current strengths in translational neuroscience. We also have the opportunity to gain an international reputation in research and treatment for such disorders as stroke, dementia, addiction, and autism, in addition to disorders of communication.

Genetic, Genomics, and Personalized Medicine

Genetics, genomics, and personalized medicine are some of the greatest emerging strengths at UConn and have the opportunity to achieve preeminence and international recognition. Much of this work has begun with existing faculty through the new partnership with The Jackson Laboratory and the formation of the Institute for Systems Genomics. Strategic recruitments will be focused in the three main thematic areas of genome biology and evolution, personalized medicine, and stem cell genomics, as well as in the three cross-cutting areas: genome data analysis, interpretation and visualization; ethical, legal and social implications; and genome technology. Investments in a bioinformatics core and building the methods and resources for collecting biological specimens from patients for sequencing and analysis will catapult UConn upward as a leader in the field of genomics.

Health and Wellness

Using preventive and population-based approaches in an integrated fashion, UConn can become a nationally recognized leader in translational research, with special emphasis on underserved populations. Working collaboratively, this group can address the underlying causes of these diseases, support the development of efficacious interventions, and apply new strategies for prevention to minimize their occurrence. UConn already is a pacesetter in many areas of health and wellness, especially with regard to behavioral interventions and health outcomes research. We can leverage the strengths across all UConn campuses and existing centers and institutes to address important challenges in health promotion, disease prevention, and treatment. With appropriate strategic investments, UConn can emerge as a leader in broad-based academic approaches to medical, social, economic, policy, and political issues in addressing the social determinants of health and systems change in five core areas of existing strengths: obesity and obesity-related disorders; infectious diseases (particularly HIV/AIDS), immunology, asthma, and vaccine research and development; cancer (including prevention, therapy, diagnostics, and behavioral interventions); mental health and addictions; and health promotion interventions.

Human Diversity, Disparity, and Rights

UConn will seek to understand and address the persistent challenges of human interaction: celebrating human difference and diversity while addressing harmful inequality and disparities, and achieving rights and justice. Addressing these challenges at home and abroad is central to our land grant mission, and our existing strengths permit us to assume a leadership role in transformative work in this area. We are one of the top institutions in the country for the study of human rights, we have numerous nationally and internationally recognized scholars and programs on economic, educational, health, and identity-based disparities, and we are at the forefront of an emerging area of scholarship that combines studies of populations in diaspora with national and transnational studies. We can harness these strengths through three measures: the development of a Social Innovation Park, effectively a “Social Tech Park,” through which practitioners can partner with scholars and students to create entrepreneurial solutions to the most pressing social problems of our time; the formation of a new Institute for Disparity Studies; and a partnership with the state in developing a Statewide Integrated Data System to facilitate research using state administrative data.

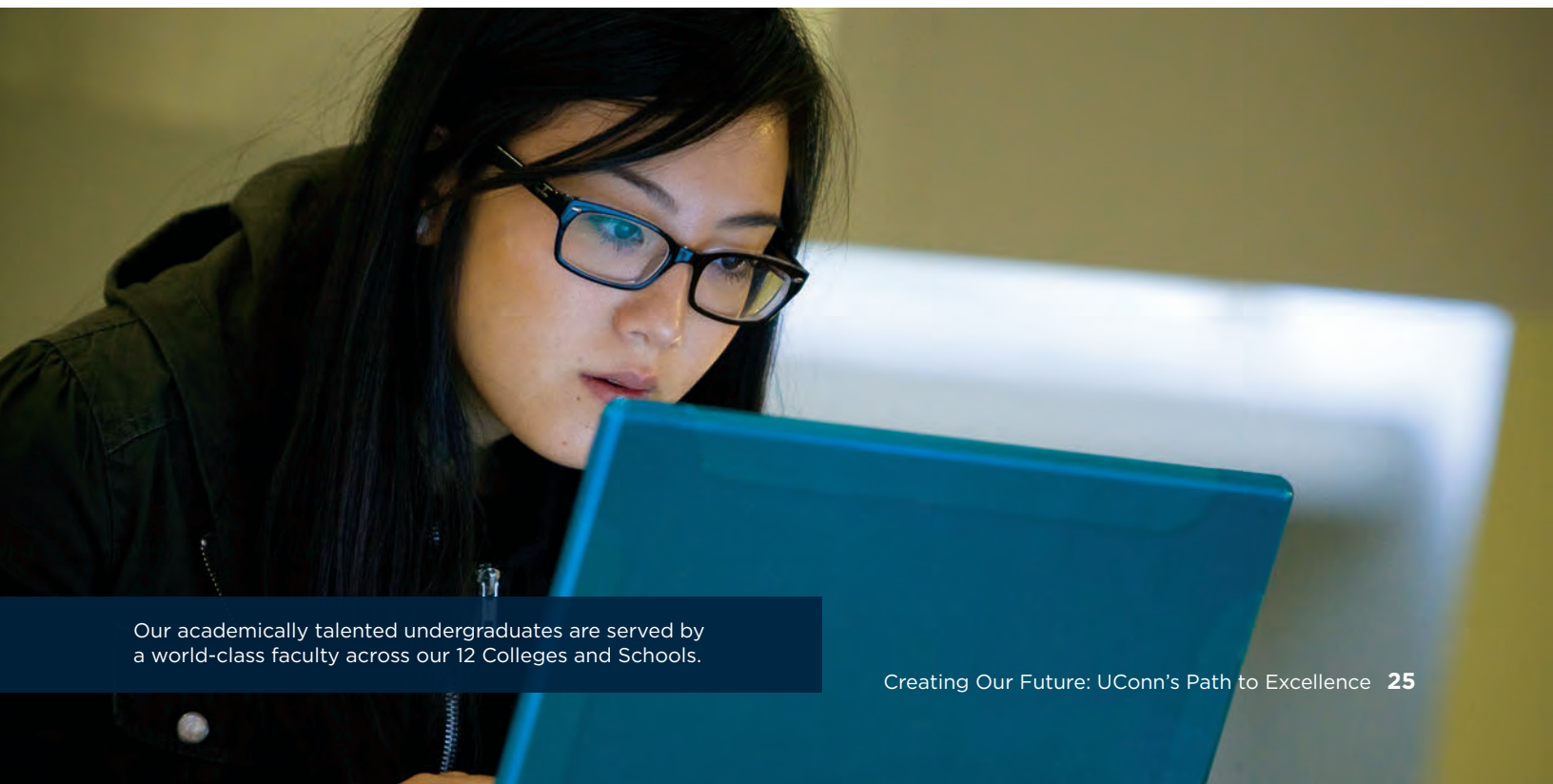
Sustainability and Resilience: Environment and Energy

Human society, and the ecosystems of which they are a part, can be viewed as interconnected systems whose components intimately interact to determine overall sustainability.

Sustainability can be evaluated with regard to biodiversity, the flow of energy, or the cycling of materials, as well as with regard to the abundance and distribution of goods and services on which human’s depend for sustenance and well-being. Appropriate interactions involve complex tradeoffs, and this highlights the need for a broad systems perspective, and a willingness to consider the needs of other stakeholders while applying an interdisciplinary view of the development of managerial, policy, and technological responses to important issues. Given these challenges, we propose the creation of an institute to focus explicitly on the interconnectedness of human and natural systems. The objective is to augment UConn’s existing strengths synergistically in areas such as sustainable food systems with research conducted by renowned UConn centers. These include the Center for Environmental Sciences and Engineering; the Marine Sciences and Technology Center; the Center for Clean Energy Engineering; the Fraunhofer Center for Energy Innovation; and the UTC Institute for Advanced Systems Engineering.

To implement these interdisciplinary research areas successfully, the individual plans will be reviewed and the following actions will be pursued:

- Within six months, a structure will be identified to guide the development of these areas that will include a broad advisory committee;
- A steering committee will be formed for each of these research areas with broad representation to identify an implementation plan for the area within the same time frame.



Our academically talented undergraduates are served by a world-class faculty across our 12 Colleges and Schools.

Emerging Areas of Interest

Two additional areas—complex systems and big data as well as creativity, innovation, and entrepreneurship—received a great deal of interest over the course of our deliberations. Recognizing the important potential for institutional excellence in these areas, initial funding will be provided to promote interdisciplinary research and training programs in these areas.

Complex systems and big data represents breakthroughs in understanding scientific and human systems based upon modeling and analysis of interactions of massive data sets. At UConn, there is an emerging core of experts in this field, but progress will require the development of core academic and research thrusts and infrastructure capacity to support this discipline to its full potential.

Creativity, innovation, and entrepreneurship represents the kind of transformative learning applications that will assist our students in seeking creative solutions to complex societal problems. UConn is already recognized for having a core of innovative scholars examining the determinants of creativity. These faculty leaders will emphasize creativity, innovation, and entrepreneurship in undergraduate, graduate, and postdoctoral education, and integrate academic study and encouragement of these qualities in our faculty, regardless of their discipline, to create a competitive advantage for our students and multiply the impact of our work.

We are confident that significant and sustained investments in these interdisciplinary areas will lead to vibrant growth in scholarly activities and extramural research programs at UConn. The path to excellence in research and scholarship will require significant growth in:

- Refereed and scholarly journal articles;
- Scholarly books (and book chapters);
- Prestigious conference proceedings;
- Juried, commissioned, and invited performances and exhibitions;
- Extramural research grants;
- Patents and licenses;
- Prominent awards and appointments;
- National and international recognition by professional organizations.

To achieve these goals, we will:

- Establish innovative institutes that pursue interdisciplinary research and scholarship in the strategic areas identified above:
 - Reporting lines, oversight, and accountability of existing centers and institutes will be revisited in terms of funding and research productivity
 - A steering committee will be formed to oversee the formation of new centers and institutes
 - Funding of new centers and institutes will be aligned with the University academic vision based on strategic opportunities and the potential to garner extramural grant support
 - Overarching institutes may be formed to integrate the activities and improve the productivity of new and existing centers
- Recruit national academy members who can serve as core leaders in strategic areas, and nominate existing faculty for induction into national academies;
- Recruit faculty clusters for joint appointment across institutes and departments to promote interdisciplinary research;
- Build or expand core facilities with shared equipment;
- Assist and support faculty in proposal development and writing;
- Recruit top graduate students and postdoctoral scholars;
- Develop and implement a university workload policy to ensure that research, teaching, and service are appropriately balanced, reflecting disciplinary needs and understanding the need for flexibility based on the competitiveness in specific disciplines;
- Establish the highest standards for evaluation of research performance in merit and promotion, tenure, and reappointment decisions;
- Measure research performance using Academic Analytics and other methods;
- Examine our approaches to research compliance to ensure that research can proceed in an expeditious and collaborative fashion while still maintaining an appropriate level of regulatory compliance;
- Promote faculty interaction through multiple opportunities, including workshops in emerging areas, faculty social gatherings, and salons;
- Implement programs led by Board of Trustees and Endowed Professors to mentor and nominate UConn faculty members for prestigious awards.



The sundial located between the Rowe Center for Undergraduate Education and the Charles B. Gentry Building, home to the Neag School of Education, is named for Albert E. Waugh. Waugh, a professor of agricultural economics, served as head of the Department of Economics, dean of the College of Arts and Sciences, and provost from 1950 until his retirement in 1966. He held a keen interest in sundials, culminating in *Sundials: Their Theory and Construction*, posthumously published in 1973.



Paul Herrnson

Professor of Political Science;
Director of the Roper Center
for Public Opinion Research

Paul Herrnson, one of the foremost experts on the American political process, joined the University of Connecticut faculty as the new director of the Roper Center for Public Opinion Research in August of 2013. Herrnson is working to develop the Roper Center into what he calls one of the best living archives of democracy in the country.



Charles Yarish, professor of biology at the Stamford campus, is a leading expert on the evolution of seaweed cultivation in North America and beyond.

SUSTAINING EXCELLENCE IN UNDERGRADUATE EDUCATION

Our path to excellence begins with the full commitment of the faculty to provide the highest-quality education that expands the opportunities beyond traditional disciplines and increases engagement with our students through advising, professional development, and experiential learning. We have come to understand that our most successful students are those who become fully involved in the richness of university life. They develop close interactions with faculty, become involved in academic areas of interest, engage in personally meaningful activities and service, and successfully launch their undergraduate careers. They choose a major, follow a curriculum that responds to their individual interests, and accordingly plan their future careers.



William Jelani Cobb

Associate Professor of History;
Director, Africana Studies Institute

A recipient of fellowships from the Fulbright and Ford Foundations, Cobb is the author of several books, including *The Substance of Hope: Barack Obama & the Paradox of Progress* (Bloomsbury 2010). He is editor of *The Essential Harold Cruse: A Reader* and a frequent interviewee on CNN and other national news outlets. One of our most prestigious public intellectuals, he joined UConn from Rutgers University in 2013.

UConn has increased its tradition of attracting a high-quality, diverse student body. Over the last 10 years, our mean SAT scores have increased from 1,167 to 1,233. For our most talented students who enroll in the Honors Program, the mean SAT score is 1,413, comparable to the top universities in the United States. Since 2004, our undergraduate enrollment has increased from 19,287 to 22,595, and the percentage of minority students has increased from 17 percent to 27 percent. Our undergraduate retention is one of the best in the country, with freshmen to sophomore retention of 94 percent for all students and 91 percent for minority students, indicating that we are recruiting and retaining our culturally diverse population. We have numerous successful programs that enable our students to complete their degrees, with an average time to graduation of 4.2 years. UConn's graduation rates—including those of minority and economically disadvantaged students—are among the highest of any public research university in the nation, one of the key reasons why the institution is a top-ranked choice of students and parents. Our six-year graduation rate for culturally diverse students is 82 percent today, compared with 69 percent 10 years ago. We remain committed to providing generous financial aid and mentoring to ensure that students from low-income families who are granted admission can attend UConn and graduate on time.

Why do academically talented students continually choose to attend UConn? Faculty excellence matched with broad and deep offerings in interdisciplinary programs are two important reasons. UConn is a large, diverse university with multiple choices, including small-group opportunities for students in which they can live, work, and study in an environment that fosters a sense of belonging through the Living and Learning Communities and unparalleled academic support through the Institute for Student Success.

UConn students are able, in any given day, to take classes in subjects ranging from puppetry to linguistics to digital marketing to Renaissance art. They can conduct research in a genomics lab or pursue funding for a “UConn Idea” grant in an interdisciplinary area that integrates social sciences, humanities, and technology. They can choose to study and intern abroad in Heidelberg, Germany, or participate in a social entrepreneurship experience in Guatemala. They can select from more than 800 student activities or service initiatives. These programs will continue to be refined and updated to ensure an undergraduate educational experience that prepares our students for lives of impact and leadership in an increasingly diverse, globalized world by emphasizing problem solving and the capacity to translate knowledge and curricular content into real-world experiences.

We have done well, but we must continue to create an even more outstanding undergraduate experience for talented students to foster creativity, critical thinking, problem solving and reasoning, appreciation for diversity and cultural perspectives, and strong communication and leadership skills.

In evaluating our success in achieving excellence in undergraduate education, we will consider the following:

- Quality of entering students as measured by SAT and GPA;
- Graduation rates and time to degree;
- Number of degrees in STEM disciplines;
- Percentage of smaller classes (with less than 20 students) and larger classes (with more than 50 students);
- Percentage of courses taught by full-time faculty with terminal degrees in their field;
- Number of new courses, concentrations, minors, and majors aligned to key interdisciplinary areas;
- Number of new professional development programs;
- Diversity of students;
- Support for students from economically disadvantaged backgrounds;
- Percentage of students who pursue undergraduate research, experiential learning, and internships;
- Percentage of students who pursue study abroad activities and/or international internship and service learning activities;
- Percentage of students who receive prestigious national fellowships;
- Rankings in *U.S. News & World Report*;
- Continued support for and enhancement of our excellent general education initiatives.

How can we continue to excel in and further improve undergraduate education? Through this academic vision, we will:

- Increase our undergraduate student body through a carefully articulated enrollment management plan and the construction of two new residence halls for our current Honors and new STEM Honors program as well as for our STEM Living and Learning Communities;
- Increase housing opportunities for undergraduate students to enable additional students from our University as well as exchange students to have more opportunities for on-campus housing;
- Increase the number of Living and Learning Communities from 17 to 25 over the next decade;
- Invest in a more comprehensive, personalized, and effective advising program;
- Increase early and comprehensive opportunities for career development;
- Invest in additional internships both on- and off-campus;
- Continue to create innovative programs and opportunities at our regional campuses;
- Enhance the use of distance instructional technologies to enrich learning and provide opportunities for meaningful online education;
- Fund new, innovative experiential learning experiences;
- Reward excellence in teaching;
- Increase engagement and outreach with Connecticut K-12 schools to identify academically talented students who will succeed in our programs;
- Work closely with K-12 schools to enhance students' learning experiences in STEM-related areas to prepare for Next Generation Connecticut initiatives;
- Ensure an undergraduate educational experience that prepares our students for lives of impact and leadership in an increasingly diverse, globalized world by emphasizing problem solving and the capacity to translate knowledge and skills into action;
- Adapt educational practices to provide more interdisciplinary knowledge and increase opportunities for education in areas of pressing need and interest;
- Strengthen essential teaching support services and increase the quality of instruction in large-lecture and small-course formats, whether they be taught online, hybrid, or in-person;
- Place specific emphasis on meaningful honors programs and support programs for students who come to us from homes and schools where poverty prevails;
- Expand opportunities for students to engage with faculty mentors in research and creative activities;
- Increase opportunities for participation in study abroad;
- Continue to invest in the creation of a world-class library to guide our path as a leading public research institution.



Jinzi Deng, '14 (ENGR) a Ph.D. student in Leslie Shor's Chemical Engineering Lab, utilizes microfluidic devices to study antimicrobial resistance mechanisms and the effect of transient micro-chemical environments on bacterial resistance.

ACHIEVING EXCELLENCE IN GRADUATE EDUCATION

Graduate students and postdoctoral scholars are the lifeblood of great research universities. For the University of Connecticut to maintain its place among the ranks of great public research universities, we must become a choice destination for graduate students and postdoctoral scholars just as we are for undergraduates. We must attract the most talented graduate students and postdoctoral scholars from around the world, and we must enhance the stature and quality of graduate programs throughout the University. Both Bioscience Connecticut and Next Generation Connecticut will contribute to the transformation of research and graduate education with improvements in buildings and laboratories and an increase in the number of faculty. We must match these state investments with an increase in services that the University offers graduate students, postdoctoral scholars, and graduate faculty and programs.



Suzanne Wilson
Neag Professor for
Teacher Education
Neag School of Education

The research interests of Suzanne Wilson, a national expert on teacher preparation and professional development, focuses on teacher quality, and she has written extensively about teacher learning, professionalism, and education policy. Wilson joined UConn in the fall of 2013, and in 2014 she was elected to the National Academy of Education.

The Graduate School is uniquely poised to nurture a vibrant community of graduate students and postdoctoral scholars and to enhance career and professional preparation opportunities for them. The Graduate School and the Office of the Vice President for Research have agreed to a strategic partnership to facilitate collaboration across disciplines, programs, departments, campuses, research, and graduate, postdoctoral education.

We offer graduate and professional degrees in 88 fields of study, and in any given year, we educate almost 8,000 doctoral, masters, and professional students. Our students come to us from across the state, the nation, and the world. They graduate to assume leading positions in academia, industry, and public service. Our rising academic stature has made us increasingly sought-after by graduates seeking postdoctoral fellowships, and our graduate programs are global in scope, enrolling students from more than 45 countries. We are one of only four U.S. members of the Universitas 21 network, the leading global network of research universities for the 21st-century.

To continue to compete successfully with other outstanding universities in the country, we must increase our investment in our best graduate programs. Most important, we lag far behind other leading public institutions in providing graduate and professional students with direct financial support to pursue their research with faculty mentors and advisors. The best graduate programs in the country, with whom we compete for students, are much more active in their recruitment, support, and commitment to fund students over multiple years. We must also invest in services that help our graduate students and postdoctoral scholars acquire the skills they need for success in the next stage of their careers.

In evaluating our success in achieving excellence in graduate education, we will measure:

- Quality of entering students as measured by GRE, GPA, and undergraduate institution;
- Number of NSF, DOD, NIH, and other nationally competitive graduate fellows;
- Graduation rate and time to degree;
- Number of new courses, concentrations, and fields of study aligned to key interdisciplinary areas;
- Number of new professional development programs;
- Percentage of students who pursue education abroad opportunities;
- Percentage of students who pursue industry and agency internships;
- Diversity of students;
- Placement in prestigious postdoctoral fellowships and academic appointments;
- Placement in prestigious industry, government, and nonprofit organizations;
- Rankings through *U.S. News & World Report*, *Advanced Academics*, and *Shanghai Jiaotong*.

How can we continue to improve graduate education? Through this academic vision, we will:

- Actively recruit the top graduate student candidates from across the globe with comprehensive marketing efforts and on-campus support services;
- Diligently pursue opportunities for funding more graduate research assistantships and other fellowships and ensure that graduate students do not



Jerrol Mitchell '14 (NURS) trains in the simulation lab in the Widmer Wing.

- have teaching loads that divert their attention from their research;
 - Provide more postdoctoral fellowships, and eliminate the barriers for graduate students and postdoctoral fellows pursuing funding through extramural fellowships;
 - Bring the same attention to graduate student services that have brought dramatic success to our undergraduate student services, and devote resources and facilities to developing a sense of community and cooperation among graduate students and postdoctoral fellows;
 - Create dedicated space for graduate student lounges and gathering places;
 - Remove the structural barriers that exist to the creation of interdisciplinary graduate programs across College and Schools;
 - Develop new and innovative programs to enable our students to compete in our increasingly complex society;
 - Provide internships with industry and research appointments in federal laboratories;
 - Increase pre- and postdoctoral training grants through NIH, NSF, DOE, and other important agencies;
 - Develop professional programs for students to improve skills in:
 - Leadership;
 - Career development;
 - Teaching effectiveness;
 - Professional communication;
 - Proposal writing.
- Finally, we must reinvigorate our University's graduate faculty by raising standards, enhancing the faculty's breadth, and recruiting new graduate faculty. We must ensure excellent research and educational experiences for graduate students and postdoctoral scholars. We will work to enhance focused recruitment activities to further increase the quality and diversity of our graduate students and postdoctoral scholars, continue our retention efforts to promote the success of those who join us, and enhance our strong network of graduate alumni to ensure that we continue to serve them throughout their careers. We must increase our efforts to ensure the success of all of our graduate students and scholars but devote special attention to those from groups who are underrepresented and from other countries who may experience different challenges and may need special programs to enhance their success.



Gina Barreca, professor of English and feminist theory and author of many books, has appeared on numerous national news shows to discuss gender, power, politics, and humor. She is a Teaching Fellow, UConn's highest award for excellence in teaching, and has lectured worldwide as an authority on gender differences in humor.

ATTAINING EXCELLENCE IN TEACHING EFFECTIVENESS

Faculty at UConn should be actively encouraged and expected to pursue excellence in teaching, and the University must support diverse paths to achieving this goal. We define excellence in teaching as the successful engagement of our students in learning, experimenting, and achieving their full potential. We seek to foster a bold and innovative spirit in faculty teaching, and in this academic vision, identify new ways to reach even higher standards of excellence in faculty teaching endeavors. We encourage our faculty colleagues to reward creativity, risk-taking, and collaboration, and to foster teaching partnerships as optimal ways to encourage students' learning and pursuit of creative work and transformative ideas. We expect strong teaching from UConn faculty, teaching that encompasses multiple approaches for student learning and engagement. Our students learn in different ways, increasingly relying on and leveraging technology.

Our faculty must also teach in innovative ways to engage and educate all students that fosters a spirit of inquiry. Our students will pursue knowledge and develop intellectual curiosity; acquire a lifelong love of learning and discover how to learn independently; learn to make the world a better place by giving of one's time and talents; celebrate and learn from our diversity; and promote global education on campus and abroad.

We will continue to support faculty who aspire to become great teachers. Two years ago, we expanded our outreach in the Institute for Teaching and Learning, a part of our newly formed Center for Excellence in Teaching and Learning. We offer increasing levels of assistance to improve teaching, including mentorships, classroom observations, teaching enhancement plans, individual consultation, coaching for presentation skills, and a series of lunchtime seminars on innovative topics such as flipped classrooms and hybrid teaching. We provide financial incentives for teaching and learning innovation, faculty learning communities, as well as discussions of pertinent and provocative books. We also offer innovative teaching institutes for faculty and teaching assistants, as well as access to a network of our exemplary professors who have agreed to enable teaching assistants and junior faculty to observe their classrooms.

We also provide, in many departments, teaching and research mentors that are discipline-based. In addition, we offer multiple services in our eCampus branch of the Center to help faculty integrate technology into teaching, online and hybrid courses. Our efforts have succeeded, as approximately 40 percent of our faculty recently earned a score of 4.5 and higher on our 5.0 teaching evaluations. Beyond this, however, we know that many UConn faculty inspire our students to achieve excellence, encouraging students to become creators of knowledge, capable of making creative discoveries and disseminating transformative ideas in the future.

To continue to improve teaching, we will ensure that excellence in teaching is considered in the promotion, tenure, and

reappointment process. We also suggest that all departments strongly consider awarding merit pay to those who excel in teaching. We recognize that faculty who decide to refocus their careers away from more active research will be expected to teach higher loads, and policy changes must enable those who teach more to benefit from merit for excellence in teaching. We also suggest that a faculty committee consider the adoption of a post-tenure review process to support ongoing professional development of senior faculty, something that has not been previously implemented at UConn.

To promote excellence in teaching, we will:

- Emphasize teaching performance in merit evaluation and promotion, tenure, and reappointment decisions;
- Establish innovation funds for curriculum development;
- Reward excellence in teaching and advising;
- Implement midterm, formative Student Evaluations of Teaching to provide feedback;
- Investigate, with appropriate senate committees, ways of sharing Student Evaluations of Teaching with our students;
- Strengthen opportunities at our Institute for Teaching and Learning (with faculty leaders) to train all new and underperforming faculty, develop a process for peer evaluation of teaching, and invest in advanced classrooms, collaboration spaces and technologies to reflect modern learning modalities.



As a professor of management, Lucy Gilson researches how creativity, employee empowerment, diversity, leadership, and virtual communication influence team effectiveness.



The UConn School of Law, located on Hartford's historic Elizabeth Street, contains spectacular Gothic buildings, originally built between 1922 and 1926 for the Hartford Seminary.

A PATH TOWARD EXCELLENCE IN PUBLIC ENGAGEMENT

Over the past decade, UConn has made impressive strides with respect to public engagement, in the form of engaged scholarship, service-learning courses and experiences, and mature community partnerships. The Office of Public Engagement provides leadership to connect, coordinate, facilitate, and foster outreach programs as well as engaged and translational scholarship that serve the public good, help prepare our students to be leaders in their chosen fields, and support faculty and staff in scholarly outreach efforts.

The University has been recognized by the Carnegie Foundation for the Advancement of Teaching with its 2010 elective classification for Community Engagement, defined as “the collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity,” based on the University’s commitment to curricular engagement and outreach and partnerships.

UConn Extension—which promotes a vibrant and healthy Connecticut by engaging people in learning partnerships that strengthen communities, support economies and sustain the environment in food, health and sustainability—has served as an engagement model since 1914. In 2013, UConn was one of just five colleges and universities awarded the President’s Higher Education Service Honor Roll (with special recognition for general community service) by the Corporation for National and Community Service. President Susan Herbst serves on the Board of Directors for Campus Compact, a national coalition of more than 1,100 colleges and universities committed to fulfilling the civic purposes of higher education. In 2014,

UConn became the new home for the state (Connecticut Campus Compact) association and also served as the host for the national meeting of The Research University Civic Engagement Network.

UConn is now poised to take the next step to become a model for a 21st-century engaged university. The past few decades have seen a shift from one directional ivory tower model of universities imparting knowledge to communities, to more collaborative, bidirectional partnerships. The next major challenge is to study impact on student development, on faculty scholarship, and on community outcomes. As a flagship public research institution, UConn seeks to facilitate “problem solving” for the state and beyond by coordinating efforts and carefully measuring its impact. On strategic topics such as priming the K-12-to-college pipeline in STEM and all other areas of education, promoting the health and wellness of our citizens, and eliminating the disparities and injustices that plague our society, UConn’s students, staff, and faculty will take a leadership role in addressing some of the most pressing issues of our time.



Leila Ladani
Associate Professor of
Mechanical Engineering

An expert in additive manufacturing, Leila Ladani joined UConn in the fall of 2013 to bring her knowledge and skills in advanced materials science, materials characterization, and the mechanics of materials to UConn's Department of Mechanical Engineering. Ladani says one of the things that drew her to Storrs was our new Pratt & Whitney Additive Manufacturing Innovation Center and investments for the UConn Technology Park.

To become a 21st-century engaged university requires consistent focus and effort, but the tasks are clear. We must:

- Articulate the vision and integrative mission of a 21st-century engaged public university;
- Increase the number of service-learning courses as an engagement strategy;
- Further enhance and promote our service-learning courses and efforts;
- Promote opportunities for more engaged student learning, enabling more individualized university experiences, such as lab-based research, internships, study abroad, fieldwork, independent projects, performances, productions, and artistic events;
- Study the impact of our service on the state and the community and increase our capacity to prove the benefits of our students' efforts on local, state, and national audiences;
- Support University-community partnerships and better articulate how to work collaboratively in shared space, foster additional partnerships, and increase our engagement efforts;
- Explore the possibility of integrating, perhaps under the offices of Public Engagement and the Provost, some nonacademic units (such as University museums and collections) that are currently under the domain of academic Colleges and Schools;
- Encourage faculty to develop more service-learning classes and opportunities;
- Focus on doubling by 2020 the number of UConn students who participate in study abroad programs;
- Promote the UConn libraries as a resource for all citizens to become better educated, more information literate, and more exposed to unique cultural materials;
- Explore the establishment of a Global Education Institute focusing on education abroad, interdisciplinary global studies degree options, and global studies certificates.

LIVING AND LEARNING COMMUNITIES

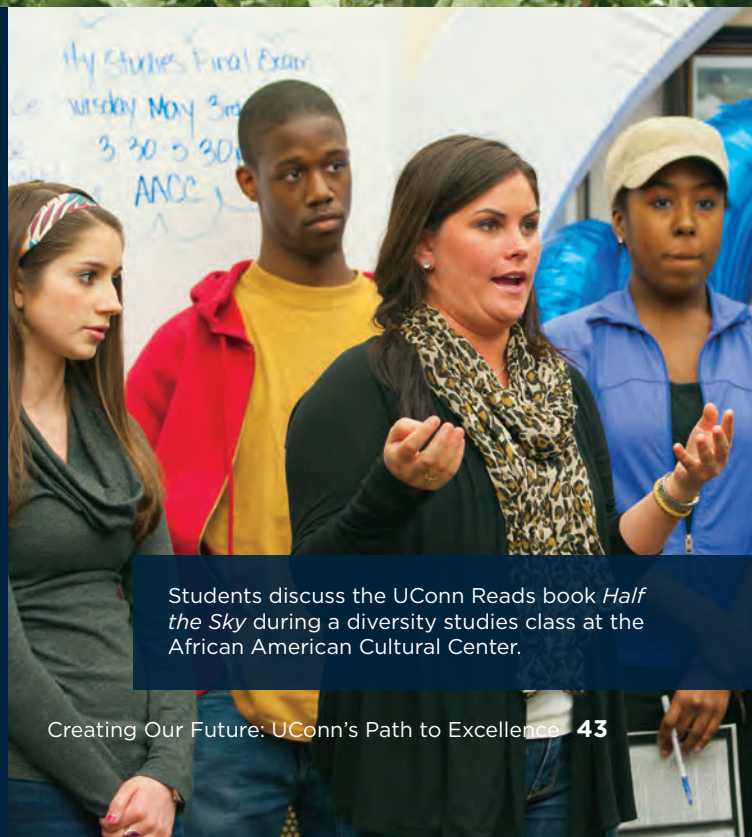
Living and Learning Communities provide cohorts of students with opportunities to investigate areas of interest, either based on their major or an interdisciplinary topic, through guided courses and co-curricular activities. Living and Learning Communities develop knowledgeable, responsible, engaged citizens in a culture of inquiry within a learner-centered university. While assisting students with their transition to academic life, they offer a small college feel and a sense of place on a large campus; they promote meaningful and sustained interactions with faculty, staff and student leaders; and they provide an effective structure for curricular coherence, deeper learning, student success, persistence, and engagement. More than 40 percent of the incoming class participates in a learning community, as well as hundreds of students beyond the first year.



A special sustainable Living and Learning Community at UConn's Spring Valley Farm allows students to share their interest in the environment, while growing organic produce that they sell at local farmers' markets and to Dining Services. An extension of UConn's EcoHouse Living and Learning Community, the farm lets students "walk the walk" in regards to sustainable living.

HUMAN RIGHTS INSTITUTE

The Human Rights Institute advances human rights scholarship and learning across UConn programs and schools. Founded in 2003 on the principle of building interdisciplinary relationships while fostering scholarship through innovative research programs, the Human Rights Institute rapidly became one of the country's premier programs for undergraduate education, with both a major and minor in human rights. By developing relationships with leading domestic and international human rights organizations, the Institute has implemented a robust undergraduate internship program that provides a practical basis for human rights work, and graduate students have pursued advanced study of human rights through certificate programs with the College of Liberal Arts and Sciences and School of Law. The Institute's support of faculty-led research programs on economic and social rights, health and human rights, and humanitarianism have generated conferences, workshops, and scholarly works that have helped establish the Human Rights Institute's global reputation.



Students discuss the UConn Reads book *Half the Sky* during a diversity studies class at the African American Cultural Center.





3 OUR STRENGTHS AND CHALLENGES

Manchester Hall (left), home to the philosophy and sociology departments, and the Family Studies Building situated amongst the fall sun and foliage.



Patrick Lenehan '15 (CLAS), a Barry M. Goldwater Scholar and member of the NCAA Division I Men's Basketball Team, studies proteins and the formation of centromeres and kinetochores in *Drosophila*.

OUR STRENGTHS

As we create our future, we outline a clear vision that acknowledges our strengths and challenges. Our diversity underlies our strengths. We are a University of 12 Colleges and Schools, including Schools of Law, Social Work, Medicine, and Dental Medicine. We are a top public institution, listed in the top research category of the Carnegie Foundation. Our main campus in Storrs, five regional campuses, and UConn Health campus create a broad range of academic choices for undergraduate and graduate students.

Our talented students learn from 1,900 exceptional full-time faculty members who are widely recognized for cutting-edge research and internationally respected expertise. Our faculty includes 100 endowed professors, 50 Board of Trustees distinguished professors, and 168 Fulbright scholars. More than 6,300 outstanding and dedicated staff members also serve UConn in myriad ways. As other institutions are slowing the growth of their faculty, we have embarked on one of the most ambitious faculty hiring plans nationwide. Seeking to strategically expand our faculty in key research and teaching areas, we have hired more than 200 new faculty in the past two years and will continue our plan to hire almost 300 additional new faculty members in the years to come. These new faculty will help further enhance the transformation that will lead the University to stand among the nation's leading public research universities.

We have more than 100 research centers and institutes that serve UConn's teaching, research, diversity, and outreach missions. Many of our faculty members are leaders in their fields on the national and international level. Their wide-ranging research projects solve real-world challenges and improve the quality of life for citizens in Connecticut and beyond. The Human Rights Institute and the Thomas J. Dodd Research Center are internationally known, while El Instituto, the Africana Studies Institute, and the Asian and Asian American Studies Institute provide a collective vision for studying human populations from those regions and as they have migrated to all corners of the world.



CELEBRATING DIVERSITY

UConn's College of Liberal Arts and Sciences is home to centers, institutes, and programs that capture the cultural and intellectual diversity of UConn and its community, such as the Africana Studies Institute, the Asian and Asian American Studies Institute, El Instituto, the Center for Judaic Studies and Contemporary Jewish Life, the Urban and Community Studies Program, and the Women's, Gender, and Sexuality Studies Program.



CENTER FOR EXCELLENCE IN TEACHING AND LEARNING

The Center for Excellence in Teaching and Learning facilitates development and implementation of innovative academic programs and teaching strategies, and provides institution-wide support for faculty in the development of online, blended, and face-to-face courses and programs. The Center is composed of eCampus, the Institute for Teaching and Learning, and the Office of Early College Programs. eCampus provides faculty and program support for dozens of graduate online degrees and certificates, and hundreds of online courses at the undergraduate and graduate level. The Institute for Teaching and Learning provides comprehensive support to enhance instruction and learning, working closely with faculty and instructors through programs and consultation. Student support for learning is provided through the Q Center, W Center, and Digital Learning Center. UConn's Early College Experience program enrolls more than 10,000 Connecticut high school juniors and seniors annually.



Opening in 2012 with exam rooms, clinical simulation labs, and a case-study hall, the Widmer Wing of Storrs Hall is named in honor of Carolyn Ladd Widmer, a pioneer in nursing education and the school's first dean.

OUR STRENGTHS AND CHALLENGES

Below is a brief highlight of those premier programs and strengths, as outlined in the College and School academic plans.

The College of Agriculture and Natural Resources

The College of Agriculture and Natural Resources offers undergraduate and graduate degree programs in eight academic departments, and has an increasing presence in health-based programming, economics, environmental sciences, and food safety. The College is highly engaged in programs and centers focusing on food, nutrition and health, and environmental and agricultural sustainability. These areas of strength are intimately connected—healthy and sustainable environments serve as the foundation for healthy individuals, families, and communities. Connecticut has a strong and vibrant agricultural economy delivering food, forest products, and plants and plant products to citizens across New England and the Northeast. UConn provides the science, technology, and educational outreach needed to promote healthy lifestyles, sustain a diverse and resilient agricultural economy, protect the state's natural resource base, and guide sensible and sustainable development. The College is the second-fastest growing college of agriculture in the nation, and has several programs that rank in the top one-third nationally.

The School of Business

The School of Business offers numerous master's and doctoral programs including three MBA programs—full-time, executive, and part-time; three specialized masters programs—accounting, business analytics and project management, and financial risk management; and a full-time Ph.D. program. It also offers a broad set of undergraduate majors in its BS degree program. Among its research strengths are a cluster of creativity, entrepreneurship, and organizational behavior scholars in the management department; a cluster of analytical scholars who will contribute to our big data and complex systems thrust in the marketing department, which is also highly rated by the Association of American Universities; and a strong body of analytical scholars in the operations and information management department. The School is developing strengths in its healthcare administration and insurance groups, both important for the economy of the state of Connecticut and Next Generation Connecticut.

The School of Dental Medicine

The School of Dental Medicine is one of the nation's leading dental institutions. With programs built around the two pillars of science and service, it has distinguished itself through cutting-edge research, new approaches to education and patient care, and novel, community-based programs. For 40 years, the School has been a major contributor to the health science initiatives of the state and region; a developer of new faculty for the nation's dental schools; and a producer of exceptional dentists for the state of Connecticut and beyond. The curriculum is rich in science, which includes a basic medical science core shared with the School of Medicine. The School maintains extensive programs in community service and outreach in dental care, and houses strong research programs and collaborations with other Colleges and Schools at UConn.

The Neag School of Education

The Neag School of Education is one of the top 20 public schools of education in the country. Several individual programs rank in the top 10th percentile, including teacher education and educational psychology. Faculty members have received the highest honors in the field, including appointments as fellows in the National Academy of Education and American Psychological Association and a wide range of awards for distinguished research in teacher education, reading, school psychology, special education, gifted and talented education, and educational policy. The Neag School is known for translating research into practice, and engaged faculty have several multimillion-dollar federal- and state-supported projects directly helping Connecticut schools in reform efforts in behavior management, reading instruction, mathematics education, and school leadership enhancement. More than one-third of the school superintendents in Connecticut have a UConn degree, and our teacher education program has one of the highest placement and retention rates in the country, with the majority of graduates staying in Connecticut and teaching in high-need school districts.



Goldwater Scholars from left, Pat Lenehan '15 (CLAS), Peter Larson '15 (CANR), and Michael Cantara '16 (ENG).

HONORS PROGRAM

“UConn is a place where you have a lot of opportunities. If you shoot for the stars, you get the support of this massive University behind you,” notes recent graduate Ethan Butler, who is a shining example of what students can do with a UConn Honors education. Ethan graduated with honors in chemical engineering in 2012 as a University Scholar. Ethan was president of Engineers Without Borders and was a member of EcoHuskies and the UConn Environmental Policy Advising Committee. His Honors research experiences helped him be selected as a Portz Scholar in 2012 and a Marshall Scholar in 2013. Ethan’s scholarly work includes developing sustainable practices to supply clean water and renewable energy to communities in developing countries.

The School of Engineering

The School of Engineering offers undergraduate and graduate degrees across engineering disciplines in seven departments, including the newly established biomedical engineering department that integrates science, engineering, and medicine to improve the quality of life. The School has exceptional students, strong scholarship in terms of knowledge generation and application, and vibrant public-private partnerships with major economic impact on the state and beyond. As evident in research expenditures, scholarly publications, and leadership positions in professional societies, the School has extraordinary research strength in advanced manufacturing and materials; sustainability and resilience; energy and environment; security and infrastructure; biomedical engineering and systems genomics; complex systems engineering and big data; and high-performance computing.

The School of Fine Arts

The School of Fine Arts offers 11 undergraduate and nine graduate degrees across the arts and arts-related humanities, and enables all students at UConn to participate in and study the arts. The newly established digital media and design department will expand academic offerings with innovative undergraduate and graduate degrees. The School is home to all of UConn’s exhibition and performance institutions, including the Ballard Institute and Museum of Puppetry, Benton Museum of Art, Connecticut Repertory Theatre, Contemporary Art Galleries, Digital Media and Design Center, Jorgensen Center for the Performing Arts, and von der Mehden Recital Hall, which together strengthen and enrich research, outreach, and academic programs through connectivity and collaboration. The School offers DMA and Ph.D. programs in music and has significant research strength in the visual arts (ranking in the top eighth percentile among national doctoral-granting institutions) and new initiatives in collaborative and sponsored research through the digital media and design department.

The School of Law

The School of Law offers a JD degree, with certificates in human rights, intellectual property, public policy, and energy and the environment; LL.M.s in U.S. legal studies and insurance; and a new doctoral program for international students. Law school alumni dominate the Connecticut bench, bar, and legislature, and hold prominent positions in government, industry, judiciary, private practice, and nonprofits throughout the country. We have long been the leading institution for the study of insurance, risk, and regulation in the nation, if not the world, and are developing distinctive expertise in consumer and health finance. With 15 clinics in every area from asylum for refugees to environmental law, leading scholars in numerous fields addressing social justice and human rights, and professors appointed to agencies from the Consumer Finance Protection Bureau to the Sandy Hook Commission, we also lead in engagement with the hard problems of justice and inequality.

The College of Liberal Arts and Sciences

The College of Liberal Arts and Sciences includes 24 departments across the humanities, sciences, and social sciences, as well as centers, institutes, and interdisciplinary working groups that break down disciplinary boundaries, generate unexpected insights and innovative ideas, and create new fields of inquiry. The College had more than \$43 million dollars of research expenditures in 2013, with significant external funding across the behavioral, life, environmental, and physical sciences. The College has enhanced its life and physical science faculty in the areas of genetics and genomics to collaborate with the UConn Health Center and The Jackson Laboratory for Genomic Medicine facilities in Farmington. The College has been at the forefront of environmental research, teaching, and outreach, with strong expertise in the natural and social sciences as well as ongoing interdisciplinary research initiatives related to environmental sustainability, biodiversity, and global environmental change. With ongoing interdisciplinary work on cognitive science between philosophers, linguists, behavioral scientists, and neurobiologists, we have a unique capacity for understanding language and the human mind. The College is the University's home for research in the humanities, and includes strong programs in history, including early American and Latin American history, American and English literature, medieval studies, and world languages and culture. The College also supports a collection of programs and institutes focusing on race and gender with a vision of studying the relevant regions of the world and the populations from those regions as they have migrated across the globe.

The School of Medicine

The School of Medicine is the only state-funded medical school in Connecticut. It trains hundreds of medical residents and fellows, and offers graduate degrees in the biomedical sciences. The School is undergoing a significant expansion as part of the \$864 million Bioscience Connecticut initiative and will increase medical student enrollment by 30 percent and add renowned faculty in key areas. The recent partnership between UConn and The Jackson Laboratory for Genomic Medicine will have a major impact as many Jackson Laboratory faculty will have joint appointments in the School of Medicine, including 10 faculty who will be joint UConn/Jackson Lab recruits. Faculty in the School bring in tens of millions of extramural research funding annually, regularly publish in prestigious research journals, and include internationally recognized leaders in many fields. Specific research strengths include the Alcohol Research Center, the longest-funded center of the National Institute on Alcohol Abuse and Alcoholism, as well as leadership in the Encyclopedia of DNA Elements project, which is one of the flagship projects of the National Human Genome Research Institute.

The School of Nursing

The School of Nursing offers prelicensure and graduate programs with many advanced practice nursing specialties at the master's and doctoral levels. The School is designated as a National League for Nursing Center of Excellence in Nursing Education based on the pedagogical expertise of its faculty. It offers a well-regarded interdisciplinary certificate in health professions education and is the largest provider of nurses and nursing faculty in Connecticut. Research expertise in the School has a long-standing and international reputation in maternal-infant health, including postpartum mood and anxiety disorders and high-risk infant development. Gerontology and aging research, particularly with vulnerable populations, is another area of strength. The School also hosts an emerging center in correctional health managed care. The School is known for its clinical partner collaborative relationships, where faculty hold joint appointments designed to enhance patient care and health outcomes.

The School of Pharmacy

The School of Pharmacy offers the Doctor of Pharmacy program, graduating generalized pharmacists trained to serve the health needs of Connecticut and the nation as experts in medications and medication management, and boasts one of the oldest American College of Clinical Pharmacy-approved fellowship program in cardiology/outcomes research. In addition, the School has outstanding MS and Ph.D. programs in pharmaceutical sciences. The School is a national leader in outcomes research and has internationally recognized strengths in the areas of drug discovery, delivery, and development, as well as toxicology research. Our faculty are extensively funded by the National Institutes of Health and the pharmaceutical industry.

The School of Social Work

The School of Social Work offers a Ph.D. degree and a large MSW program with an unusually full and rich array of specializations in the field of social work. Graduates play major roles in planning, administering, and providing social and mental health services in Connecticut, the region, and beyond. Research and curriculum strengths include international social work and human rights; mental health, trauma, and violence prevention and reduction; social and health disparities; diversity and cultural competence; and policy analysis and advocacy. Faculty excel in engaged scholarship, and almost all are involved in extensive community service. A growing number of collaborations within the University, including the School of Law, UConn Health, and the human rights programs, will enhance scholarship and service.



The Information Technology Engineering Building opened in 2003 and houses the electrical and computer engineering and computer science and engineering departments. The building is also home to the National Security Agency Center for Information Assurance and the CHASE Center for Hardware Security.

OUR CHALLENGES

The need for a truly comprehensive plan to chart the future decade is critical. We face challenges that will need to be addressed as we move forward. Primary among these are operating budget reductions by the state—despite increased and generous capital investments—sustained enrollment growth, the enrollment of even more talented students, and declining federal grant funding opportunities.

We need to encourage an increasing number of our faculty to generate funds for their research and, in the case of some of our research faculty, their own salaries and benefits. Recognizing that our legislature has made sincere efforts to increase some aspects of our current funding, we understand that for the foreseeable future we may continue to experience reduced state operating budget support, along with increasing expectations for research and service to our students and the state. Therefore, we must be efficient stewards of our resources, and use the additional state investments from Next Generation Connecticut and Bioscience Connecticut to maximize our efforts to enhance our University. We will examine academic policies and procedures to maximize our efforts and output. We will work to streamline various bureaucratic processes in

order to support faculty resources and operate more efficiently. Building on this, we will review administrative structures to ensure efficiency and effectiveness in meeting the goals of this plan.

We must ask both our Foundation and our loyal and generous alumni and friends to respond to the University's development and fundraising efforts with additional gifts and commitments. Through the creativity and innovative spirit of our intellectually enterprising faculty, UConn must increase its contracts and grants in the near future. This academic vision will continue to serve as one way to encourage funding and investment in research, scholarship, and creativity.



The field of digital media and design involves the creative convergence of digital arts, science, technology, and business to present information in visually compelling and innovative ways. It constitutes a set of skills and tools that are increasingly in demand in the corporate world, entertainment industry, science and technology realms, mass media, and numerous other fields. UConn offers undergraduate, graduate, and online certificate degrees in digital media and design.

INVESTING IN OUR OWN FUTURE

Over the next decade, we must continue to provide an environment that attracts highly creative and accomplished faculty. We will foster a welcoming, enriching setting in which our faculty, staff, and students showcase their scholarly and creative works. We will continue to invest our efforts to establish a more inclusive campus community through recruitment and retention of a more diverse faculty and student body.

To succeed in the bold plan outlined in this academic vision, we must secure additional private resources to support our initiatives and continue to link our research, teaching, and engagement to our development goals. One of our highest priorities must be additional graduate fellowships to attract and retain top-notch students. With this support over the next decade, UConn will create and sustain the changes critical to extend and strengthen our past and future paths to excellence. We recognize that our institution must continue to evolve to inspire the creative leaders of tomorrow, and to foster new discoveries that will enhance and change our world. This academic vision outlines new ways to excel in important central missions and highlights our plan for achieving even greater levels of excellence.





A top flagship university provides access to a rich campus experience and offers lifelong learning opportunities to traditional and nontraditional students alike. It is a center of excellence for graduate and professional education, research, and scholarship—creating knowledge and innovation that fundamentally improves learning and the way people live. An internationally renowned university excels in the arts and sciences, dynamically enhancing the way our graduates understand and experience their world. Finally, a top public state university serves its citizens in a multiplicity of useful ways.

To achieve the ambitious goals outlined in this academic vision, we will develop and implement benchmarks to measure our performance against peer and aspirant universities. Collectively,

a committee of faculty and administrators will work with the Office of the Provost and the Office of Institutional Research and Effectiveness to refine and establish the appropriate metrics and benchmarks.

This academic vision does not include every activity that will take place at UConn over the next decade—opting instead for a more focused and manageable list of initiatives. As already noted, the initiatives and facilitating actions represent some of the many important activities in individual Colleges and Schools to which we are already committed. However, the initiatives noted in our plan should and will play a major role in moving the University toward its vision of joining the ranks of the greatest public research universities in the world.



academicvision.uconn.edu



Round 1, Full Proposals Selected May 2015

Dear Colleagues:

Almost two years ago, UConn launched a comprehensive process to develop a new academic vision and identify initiatives that will enable the University to enhance excellence in research and education. As you recall, our academic plan pursues excellence in five fundamental areas: undergraduate education, graduate study, teaching, engagement and research.

We are pleased to announce the first major financial awards in support of this path to excellence.

In order to grow our research and teaching capabilities, we must invest in our future. Taken together, the awards listed below – totaling almost \$10 million – represent a milestone in our continuing efforts to achieve the academic goals we have set for the University. These grants will support research across a wide variety of disciplines and departments – the humanities, social sciences, sciences, and professional schools and colleges.

We extend our gratitude to all faculty who submitted applications, those who served on review panels, and to the nearly 300 faculty who participated in the planning process that was the primary inspiration for these investments. Our goals will always reflect the tremendous talents and ideas of the people who make UConn such a wonderful place for innovation and discovery.

Sincerely,

Susan Herbst and Mun Choi

Research

Four grants of nearly \$1 million were awarded.

The first grant will support a new **Institute for Brain and Cognitive Science**, proposed by co-principal investigators Gerald Altmann and Joseph LoTurco. The Institute will serve as a beacon for research across the brain and cognitive sciences at UConn and beyond, promoting and supporting the interdisciplinary science of the mind and its instantiation in biological and artificial systems.

The second grant, awarded to Professors Marc Lalande, Brent Gravely, and Michael O'Neill, will support the **Center for Genome Innovation (CGI)**, enabling us to expand genomics technological platforms and create a sophisticated computational data analysis capability to support researchers and students across the UConn community.

Led by Professors Michael Lynch of the Department of Philosophy and Brendan Kane of the Department of History, a third grant will fund the **Humanities Institute's Public Discourse Project (PDP)**, enabling UConn to sponsor an international grant competition, host a series of workshops and conferences, expand the Institute's current Fellowship Program, and create a dynamic digital interface for the presentation of innovative research.

The last grant awarded at this financial level will fund the new **Connecticut Cybersecurity Center (C3)**, building upon existing strengths in engineering and computer sciences. This innovative project, led by Professors Laurent Michel and John Chandy, will investigate, develop, promote, and nurture the best hardware and software-based security practices for defense and commercial application domains and, in particular, for emerging fields such as mobile device security.

Several faculty have been awarded grants up to \$750,000 over the next three years, across several different academic areas.

Professor Craig Nelson and his colleagues will further enhance UConn's reputation in **Single Cell Biology**. Joining an external partner, this creative team will work on the construction of a complete cell lineage map of mouse embryogenesis from fertilization to birth. This rare sponsored research opportunity with Fluidigm Corporation is one of only five to ten projects funded in the world.

Another grant was awarded to Professors Holly Fitch and Joe LoTurco, who proposed the creation of a **Murine (Mouse) Behavioral Neurogenetics Facility** to screen genetically modified mice. This facility will promote interdisciplinary projects across campuses. Such facilities exist at many top

universities, reflecting the proliferation of new gene-editing methods and engineered mouse preparations at once-inconceivable rates.

Richard McAvoy, Xiusheng Yang, and Jeffrey McCutcheon from the College of Agriculture, Health and Natural Resources were funded to build a **Smart Resource Grid**. This one-of-a-kind facility will enable the development and demonstration of new technologies to solve some of the world's greatest challenges associated with food security, water conservation, and alternative energy resources.

Several research proposals were funded at a level of approximately \$300,000, and include faculty from the Neag School of Education, Psychology, Haskins Lab, and the Schools of Medicine and Pharmacy.

Devin Kearns, Michael Coyne, and Jay Rueckl were awarded a grant to develop **two theoretically-different reading interventions for elementary-age children with developmental dyslexia (DD)**. They will test the efficacy of these interventions in improving the reading achievement of children with DD, and then examine the neurobiological factors and mechanisms that relate to treatment response and resistance. This project will further enhance UConn's reputation for conducting applied neuropsychological research to solve important educational problems.

Xiuling Lu and colleagues from the School of Pharmacy and Medicine were funded to develop a modular polymer-based nanocarrier platform for effective delivery of potent chemotherapeutic agents based upon precise understanding of the relationship between the physical characteristics and structure of various polymer nano carrier systems and the efficacy/safety of delivered drugs.

Teaching and Engagement Investments

We are also investing almost over \$700,000 in **additional support for teaching excellence**, enabling more faculty to become even better teachers. Two years ago, we formed our new Center for Excellence in Teaching and Learning (CETL). New academic plan funding for CETL will enable UConn to offer higher levels of assistance to improve teaching through innovation and collaboration. Under the direction of Dr. Peter Diplock, we will also offer financial incentives for teaching and learning innovation, faculty learning communities, as well as discussions of pertinent and provocative scholarly works. These funds will offer seminars for faculty and teaching assistants, as well as access to a network of our exemplary professors, who have agreed to serve as mentors. During the past decade, UConn has made impressive strides in public engagement in the form of engaged scholarship, service-learning courses and experiences, and mature community partnerships. Additional funding will enable the Office of Public Engagement and its Director, Dr. Carol Polifroni, **to develop additional outreach/engagement programs and support engaged and translational scholarship**. This funding will continue our support for our UConn Cities Collaborative project that serves the public good with relevant, responsible and reciprocal programs.

Investments in Research Technology

The University reviewed proposals to purchase equipment that will enhance teaching and research, attract top-tier faculty from across the country, and allow UConn to develop new knowledge for the state, nation, and the world.

Dr. David Goldhamer, of the Department of Molecular and Cell Biology, was awarded a grant to purchase the IVIS SpectrumCT for small animal live imaging. Wide faculty interest across schools, colleges, and departments will utilize this state-of-the-art, stand-alone equipment that combines capabilities for quantitative 3-D optical tomography, X-Ray and microCT.

Drs. Xinnian Chen and Dr. Jeff Kinsella-Shaw were funded to purchase virtual cadaver dissection tables for each anatomy laboratory, allowing students to interact with life-size human anatomy by using a virtual knife to cut away layers of the human body at any angle, rotate the body in any direction, and isolate structures.

UConn's new Brain Imaging Research Center will be expanded through an equipment grant to purchase a transcranial magnetic stimulation (TMS) device and two electroencephalograms (EEG). TMS is a safe noninvasive technology that induces a temporary modification of electrical activity in the brain, offering a new way of testing models of human neural function. EEG allows researchers to observe changes in neural activity in real time, over millisecond timescales. Principal investigator Dr. Jay Rueckl and co-principal investigators Drs. Peter Molfese, Emily Myers, and Erika Skoe will lead this initiative. Drs. Dan Schwartz, Xudong Yao and Spencer Nyholm will develop a proteomics core for the study of the complete set of proteins in an organism to gain important insights between the link between the genome and physiology.

Additive manufacturing (AM), a process used to construct 3D parts layer-by-layer directly from digital models, has been identified as having the potential to overcome various fundamental limitations in traditional manufacturing. Dr. Xu Chen will work with Drs. Rainer Hebert and Anson Ma to develop an open-source powder bed fusion additive manufacturing machine capable of fabricating multiple materials, such as metals, polymers, and ceramics.

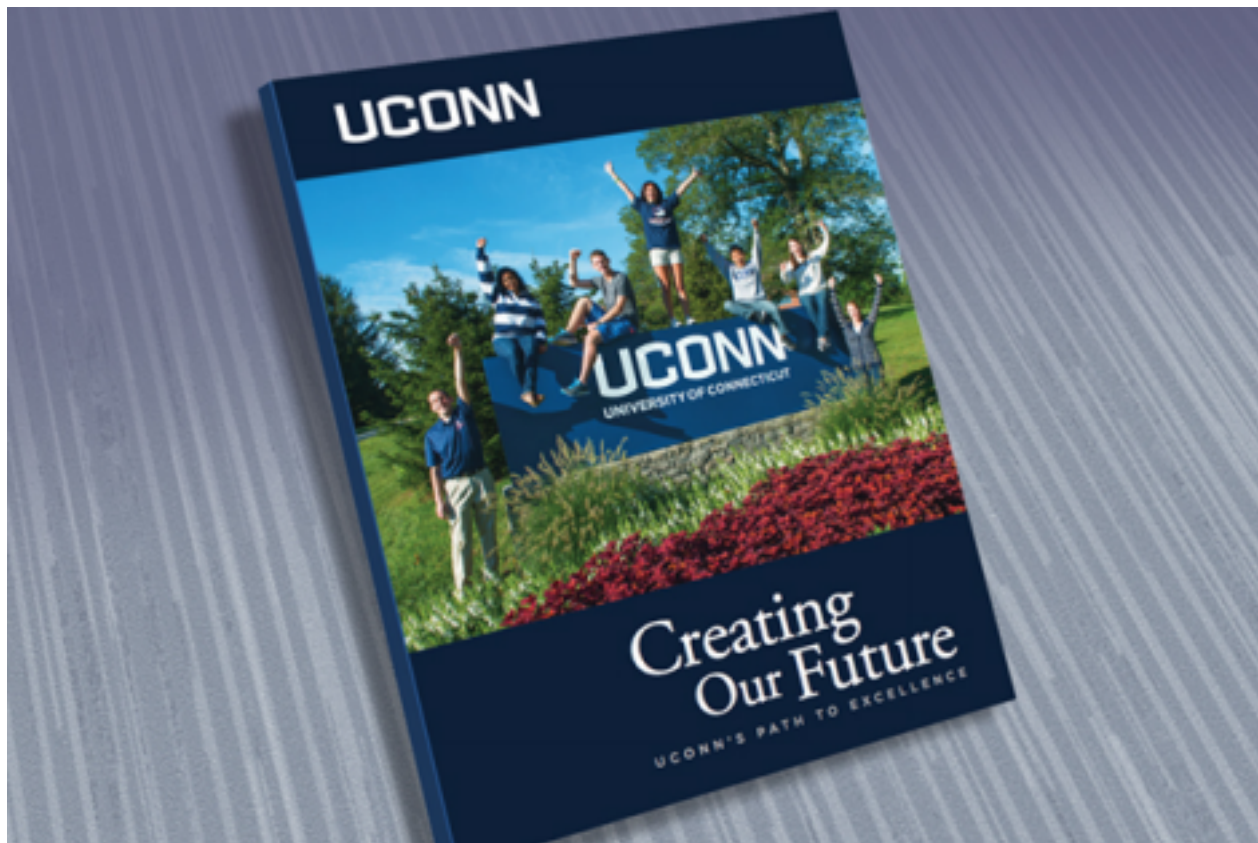
Drs. Michael Mundrane, Sanguthevar Rajasekaran, Rampi Ramprasad, Yong-Jun Shin and others will develop high performance computing infrastructure to promote research in genomics, materials, digital media and other disciplines requiring high-bandwidth computational resources.

The University will also support the Institute for Systems Genomics and Center for Genome Innovation's proposal to integrate current facilities and infrastructure to improve sequencing and computational capabilities in genetics, genomics, and personalized medicine. This purchase is linked with a tier-one grant, and Dr. Marc Lalande will lead a team composed of Drs. Rachel O'Neill, Ion Moraru, Jill Wegrzyn, Brenton Graveley and Michael O'Neill.

New Faculty Projects Will Advance Academic Plan

The University is investing in a slate of new initiatives to enhance research and education, consistent with the goals of its academic plan.

July 13, 2016 | Kristen Cole - UConn Communications



The University is investing in a slate of new initiatives designed to enhance research and education, consistent with the goals outlined in its academic plan.

Over a three-year period, the 15 grants awarded this year will support \$3 million in research across a wide variety of disciplines and departments – fine arts, human rights and diversity, health and wellness, sustainability and resilience, genomics and personalized medicine, and advanced materials and manufacturing. In some cases, the projects are leveraging the funding with grants from outside sources. UConn launched its process to fund proposals under the Academic Vision almost three years ago, and to date has funded 18 projects totaling \$10 million.

Mun Choi, University provost, said this year's proposals for new projects were of exceptional quality, depth, and breadth. "These projects will support growth in research and scholarship, undergraduate education, graduate education, teaching effectiveness, and public engagement."

Research

UConn will establish an **Institute of Biological Risk** to understand and mitigate emerging threats to agriculture, natural resources, human health, and the economy. Climate change, vector-borne disease, and invasive species are reducing the sustainability and resilience of ecological and social systems across Connecticut and the world. The Institute will build on UConn's internationally recognized strengths in global change biology, and by concurrently developing bridges between UConn and Connecticut's government, businesses, and non-profit organizations. Researchers include Mark Urban, Chris Elphick, Gene Likens, and Carl Schlichting (all Ecology and Evolutionary Biology) and Carol Auer (Plant Science).

Professors Inge-Marie Eigsti (Psychology), Stormy Chamberlain (UConn Health), and Louise Kalsner, will advance research and scholarship on **Autism Spectrum Disorder (ASD)**, which is associated with rare variants in many different genes. The team will examine missense variants in ASD candidate genes, specifically focusing on the TSC2 gene, by combining comprehensive deep phenotyping with detailed genetic analyses of patient populations from three ASD programs – Connecticut Children's Medical Center, UConn Department of Psychology, and Hospital for Special Care.

An interdisciplinary team of researchers seek to advance respect for human rights within the business sector by integrating academic theory and research, classroom teaching and learning, and community engagement and dialogue through the **Business and Human Rights Engaged Research Project**. A collaboration between the Thomas J. Dodd Research Center, the Human Rights Institute, and the School of Business, this project aims to develop better tools for assessing how businesses are performing on key social and environmental indicators, define government's role in creating an environment where businesses can have positive human rights impacts, and identify ways of empowering stakeholders in their efforts to seek remedy for harms resulting from business activity. Human Rights Institute researchers Glenn Mitoma (Neag School of Education) and Molly Land (UConn Law), and Stephen Park (School of Business), will lead the project.

Mechanical engineering professor George Lykotrafitis and UConn Health's Dr. Biree Andemariam will work to develop novel tools to treat vaso-occlusive pain in **Sickle Cell Disease** through research to develop treatments for the intermittent blockages that cause the pain. There is currently no treatment for the severe episodes of widespread bodily pain endured by millions worldwide living with sickle cell disease, including more than 100,000 Americans. The team plans to develop a simple personal device that can accurately predict the risk of blood cell blockage, and to identify drug therapies potentially capable of treating them.

A new **Collaboratory on School and Child Health** is designed to facilitate innovative connections across research, policy, and practice arenas relevant to school and child health. Professors Sandra Chafouleas (Neag School of Education) and E. Carol Polifroni (School of Nursing) will lead the collaborative, which aims to function as a resource to external partners engaged in efforts that inform healthy, safe, supportive, and engaging environments for all children.

Professors Steven Suib (Chemistry) and Rampi Ramprasad (Materials Science and Engineering) will pursue **Next-Generation Materials Discovery**, which promises to produce materials for a variety of applications, such as extreme environments, polymer brush materials, and highly selective protein nanoparticle systems. Various interlinking aspects of this interdisciplinary effort involve control of electron transfer, enhanced catalytic activity, and high-performance materials.

Professors George Bollas (Chemical and Biomolecular Engineering), Krishna Pattipati (Electrical and Computer Engineering), Parasara Duggirala (Computer Science and Engineering), and Ming-Hui Chen (Statistics) will lead the **Bayesian Design of Tests for Fault Detection and Isolation in Complex Systems** project. This project aims to seed interdisciplinary and collaborative work on active methods for hard-to-detect faults in complex systems generating large amounts of heterogeneous data. In collaboration with United Technologies Aerospace Systems and with applications inspired by the aerospace industry, the investigators' aim is to enable the cost-effective and safe operation of modern cyber-physical systems, such as transportation, commercial buildings, manufacturing, energy systems, and emergency response systems, all of which are critical to Connecticut's industrial base.

Teaching and Engagement

In response to the increased national need for certified genetic counselors, Marc Lalande (Genetics and Genome Sciences), Judy Brown (Allied Health Sciences), and Ginger Nichols (Genetics and Genome Sciences) will establish a new interdisciplinary and accredited **Professional Science Master's Degree Program in Genetics, Genomics, and Counseling**. This Genetic Counseling program will be launched under the auspices of the Institute for Systems Genomics, its affiliated UConn departments and teaching hospitals, and The Jackson Laboratory for Genomic Medicine. The program would be the first at a New England public institution, and the first in Connecticut.

Professors Mark Boyer (Geography), Maria Chrysochoou (Civil and Environmental Engineering), and John Volin (Natural Resources and the Environment), Sylvain De Guise (Sea Grant), and Chet Arnold, Juliana Barrett, and Bruce Hyde (Extension) will create the **UConn Climate Corps**. This undergraduate program will require students to assist Connecticut communities in adapting to climate change. During the practicum, student teams will work closely with faculty mentors to directly engage town officials; the students will collect and present information that will be used by towns as they plan for climate resiliency. The Climate Corps will provide service learning experience and workforce development for high-achieving students in environmentally related programs, including the Environmental Sciences, Environmental Studies, and Environmental Engineering programs.

The School of Fine Arts will launch the **Ensemble-in-Residence program** to designate one of the major Music Department ensembles – for example, Concert Choir, Earthtones, Jazz Ensemble, University Orchestra – as “in residence” annually at each regional campus. The ensemble will perform at the regional campus, provide supplementary programming, such as pre-concert lectures and open rehearsals, and participate in meals with regional campus students. The program will also include outreach to area high

schools and side-by-side concerts featuring the UConn ensembles playing with high school groups. The effort is led by Dean Anne D'Alleva (School of Fine Arts), Professors Eric Rice (Music) and Frank Mack (Dramatic Arts), and regional campus directors Terrence Cheng (Stamford), Joseph Madaus (Avery Point), Michael Menard (Hartford), and Bill Pizzutto (Waterbury).

The **Counterproof Press Initiative**, led by Professors Laurie Sloan (Art and Art History) and Penelope Pelizzon (English), is a collaborative interdisciplinary venture between the School of Fine Arts' Department of Art and Art History programs in Printmaking, Illustration/Animation and Graphic Design, and the English Department's Creative Writing Program in the College of Liberal Arts and Sciences. The press will facilitate studio projects in which students, faculty, and visiting artists and scholars from diverse fields work together to produce limited edition art objects, artifacts, and publications. The Academic Plan grant will enable Counterproof Press to grow into an artist's press with a strong regional and national presence.

Research Technology

The University also approved several proposals to purchase equipment that will enhance teaching and research, and attract top-tier faculty from across the country.

In order to advance capabilities in additive manufacturing, the University will fund the purchase of a **customized inkjet-printing platform for flexible electronics**. Flexible electronics have numerous applications, ranging from structural health monitoring of aerospace and automotive structures to human health monitoring, such as "smart" clothing and bandages. The equipment will be used by a variety of engineering professors, including Anson Ma and Yu Lei (Chemical and Biomolecular Engineering), Ki Chon (Biomedical Engineering), Bahram Javidi and Faquir Jain (Electrical and Computer Engineering), and Julian Norato (Mechanical Engineering).

Assistant professor Thanh Nguyen (Mechanical Engineering) has partnered with Dr. Cato Laurencin, a recent recipient of the National Medal of Technology and Innovation, to develop a fully biodegradable pressure tactile-sensor integrated with a 3-D printed graft to create a **bionic cartilage tissue**. The bionic graft can serve as a replacement tissue to repair cartilage defects, while measuring and mapping out mechanical forces imparted on repaired cartilages inside knee joints. The project received funding to acquire equipment.

Professors Pu-Xian Gao and Mark Aindow (Materials Science and Engineering) were awarded a grant to purchase a state-of-the-art **liquid cell (S)TEM sample holder** for investigating atomic structure evolution of nanomaterials in liquid environment. With the sample holder, the team intends to combine with the state-of-the-art electron microscopes in the FEI Center of Excellence for Electron Microscopy to tackle emerging nanomaterials research problems that are closely associated with energy, environmental, and biomedical applications.

A faculty team in materials science received funding to utilize the **high performance computing infrastructure** for modeling metals and alloys employed in aerospace applications. The computational

resources will be primarily used in the development of a new generation of additively manufacturable aluminum alloys, and in understanding surface properties and defects in titanium alloys and nickel based superalloys. Professors Pamir Alpay and Rainer Hebert (Materials Science and Engineering), and Jason Hancock (Physics) were awarded the funding.

Originally posted to UConn Today, <https://today.uconn.edu/2016/07/new-faculty-projects-advance-academic-plan/>



Round 3, Full Proposals Selected May 2017

Almost four years ago, UConn launched a comprehensive process to develop a new academic vision and identify initiatives that will enable the University to enhance excellence in research and education. As you know, \$13 million was committed to fund 33 projects in Rounds 1 and 2, and it has been gratifying to see so many of these projects off to excellent starts. In some cases, funded AP projects have already leveraged sizable extramural awards, which is exactly what we had hoped for.

In our Round 3, we requested submissions for Level 1 (\$300K), Level 2 (\$150K), and Equipment, and 10 projects were selected for funding. Proposals for new projects were of exceptional quality, depth, and breadth, and we extend our gratitude to all faculty who submitted applications and to those who served on review panels. Taken together, the awards – totaling approximately \$2.5 million – represent a milestone in our continuing efforts to achieve the academic goals we have set for the University. Over a three-year period, these grants will support research across a wide variety of disciplines and departments – fine arts, human rights & diversity, health & wellness, sustainability & resilience, genomics & personalized medicine and advanced materials & manufacturing. These projects will support the growth in research & scholarship, undergraduate education, graduate education, teaching effectiveness and public engagement.

Round 3 academic plan proposals were accepted through January, 2017, and a full list is below.

Research

3D-printed Immunoarrays for Protein-based Diagnostics of Metastatic Cancer

PI: James Rusling **Co-Director:** Anson Ma

Summary: A new research program in 3D printed medical devices for cancer detection will be a component of UConn's new NSF I/UCRC Additive Manufacturing Center. The project is a collaboration with UConn Health and U. Cal. San Diego. A specific goal is to develop an automated, miniature device to detect the spread of cancer (metastasis), which accounts for 90% of all cancer deaths. Low cost 3D-printing will enable rapid development of arrays to measure metastasis-indicating proteins at very low cost. Automation features a battery-powered control system and a camera for detection.

Interdisciplinary Neuroscience Core for Optogenetic and Brain Computer Interface Treatments

PI: Heather Read **Co-Directors:** Yongku Cho, Monty Escabi, Edward Large, Alexander Jackson, John Salamone, Sabato Santaniello, Ian Stevenson, and Harvey Swadlow

Summary: The new "*Interdisciplinary Neuroscience Core for Optogenetic and Brain Computer Interface Treatments*" aims to make the University of Connecticut a world leader in interdisciplinary neuroscience. We bring together collaborative research teams across fields of expertise in Engineering and Science in order to build new technologies, advance basic neuroscience research and to address major health concerns. Our long-term vision is to develop robust brain computer interface systems for health applications including remediation of deafness, tinnitus, epilepsy, sleep disorders and tremors in Parkinson's disease.

Transportation Technology Society

PI: Norman Garrick **Co-Director:** Carol Atkinson-Palombo

Summary: Transportation technologies allowing for self-driving vehicles are emerging rapidly, sparking considerable speculation about how they may revolutionize society. Academic inquiry on this topic is thus far limited, focusing primarily on technological aspects such as vehicle sensors. This project will bring together scholars from a wide range of academic disciplines across the University of Connecticut to deliberate and evaluate the complex interactions between self-driving cars and society. Academic disciplines involved in the project include Geography, Civil & Environmental Engineering, Environmental Psychology, Law, Sociology, and Communications. The structured scientific inquiry that will be enabled by this interdisciplinary examination of issues surrounding the adoption of this technology will provide a valuable counterpoint to the public discourse currently emerging that is dominated by a disorienting combination of speculation, utopianism, and fear mongering. Structured and rigorous consideration of the costs and benefits that may result from various scenarios will ideally help society to carefully adopt this technology in order to minimize unintended (and unwanted) legal, social, economic, and environmental consequences.

The UConn Microbiome Initiative

PI: Joerg Graf **Co-Directors:** Nichole Broderick and Peter Gogarten

Summary: A microbiome is the community of microbes living in the human gut, along plant roots, inside an insect or any other environment imaginable. At the University of Connecticut, we have a nationally recognized strength in microbiome research (<http://cmsee.uconn.edu/>) and we want to elevate the research and training in this important area by developing workshops for undergraduates, hosting an annual symposium and recruiting talented graduate students. This initiative, led by Professors Joerg Graf, Peter Gogarten and Nichole Broderick from MCB, will promote microbiome research at UConn and enable us to compete nationally for training grants.

Software-Defined Smart Grid

PI: Peng Zhang **Co-Directors:** Song Han and Peter Luh

Summary: This project aims to pioneer a strategic area of Software-Defined Smart Grid (SDSG), the future gigabit infrastructure integrating Software-Defined-Networking (SDN), real-time edge computing and Internet of Things (IoT) technologies to enable a scalable, self-configurable, plug-and-play next generation smart grid capable of coordinating the flows of power/data and cultivating America's smart communities and smart cities. SDSG will provide groundbreaking technologies to cost-effectively modernize America's power and energy infrastructures which cannot be achieved by existing technologies. This pilot project will enable future innovations for different layers of grid infrastructures that will potentially transform today's power grids into tomorrow's autonomic networks and flexible services towards self-configuration, self-healing, self-optimization, and self-protection against grid changes, PV injections, faults, and disastrous events. The project will lead to compelling results to obtain significant funding from federal agencies and establish UConn's international leadership in research and education on smart and connected communities, smart grid, cyber-security and critical infrastructure resilience.

Teaching and Engagement Investments

AntU: How army ants and their guests can inspire synergy across science, fine arts, and the humanities

PI: Janine Caira **Co-Directors:** Bruce Cohen, Anna Lindemann, and Chris Vials

Goal of Academic Plan: Public Engagement

Summary: This collaborative project brings together faculty and staff in the Fine Arts, Humanities, Sciences, and the Connecticut State Museum of Natural History. It includes a series of innovative activities inspired by an NSF-funded project focused on a world-class collection of army ants and their associated insects and mites (i.e., guests). These activities—collectively referred to as AntU—are designed to inspire exploratory learning in coursework across disciplines, engage regional campuses in Storrs-based research, develop and present artistic work inspired by scientific content, expand public understanding of complex biological systems, and address issues of human migration using ant movements as a metaphor. AntU endeavors will include (1) two public

exhibits, one of which will feature an interactive digital media element, (2) a set of creative writing essays and poems inspired by the biology of army ants and their guests, (3) puppetry activities including an exhibit of “The ant and the grasshopper,” a toy theatre workshop, and a “mANTsfield” parade, (4) an original live art-science theatrical performance entitled “The colony”, (5) a freshman year experience course aimed at providing students with the opportunity to explore the wonders of Natural History Collections, (6) a cooperative series of mechanical engineering student senior design projects aimed at simulating army ant raiding colony behavior (using large ants), (7) an installation of Colombian artist Raphael Gomezbarros’ work “Casa Tomada” which, using 1,000 large ant sculptures, addresses immigration and forced displacement, and (8) a Colloquium on transnational and diasporic movement. We are committed to developing the creativity and talent of our students, and promoting their intellectual inquiry across disciplines to engage the greater community in scientific and artistic endeavors. The ultimate goal of this project is to develop a model to inspire lasting strategies for integrative activities for broader impact elements of future UConn NSF proposals.

Connecticut Program in Intraoperative Neuromonitoring

PI: Joseph LoTurco **Co-Directors:** Radmila Filipovic and Payam Andalib

Goal of Academic Plan: Graduate Education

Summary: The Department of Physiology and Neurobiology (PNB) will establish a one-year professional Masters program in Intraoperative Neuromonitoring (IONM). This MS would be the first of its kind in the US, and will be the centerpiece of a new center for innovation in IONM education. The IONM education center at UConn will coordinate the MS program, develop an online certificate, and run workshops for continuing education in IONM. Through these efforts, UConn will become a national leader in providing a standardized rigorous education to training practitioners in the profession of Intraoperative Neuromonitoring.

Student Engagement in a Living Laboratory for Sustainable Agriculture

PI: Richard Parnas **Co-Directors:** Ali Bazzi, Gerald Berkowitz, Julia Cartabiano, Phoebe Godfrey, Karl Guillard, Andrew Jolly-Ballantine, Julia Valla, Kristina Wagstrom, and Julia Yakovich

Goal of Academic Plan: Undergraduate Education

Summary: A critical global priority is developing sustainable and equitable food systems that mitigate environmental destruction and climate change by working within water use, land use, energy use and ecosystem service constraints. We proposed an interdisciplinary collaboration of faculty, students and staff from Engineering, CAHNR, CLAS, IMS, Office of Public Engagement, Dining Services, First Year Programs, and the Spring Valley Student Farm. This project will create a living / learning laboratory at the UConn Spring Valley Student Farm for students to develop ideas for sustainable energy water use management crop nutrient and soil health management unique living experiences sustainable energy, water use management, crop nutrient and soil health management, unique living experiences, community outreach, and the social and environmental considerations of our food systems. Our goal is to provide experiential learning opportunities for students focused on the nexus of food production and environmental quality using Service Learning pedagogy to create a demonstration of sustainability capable of educating responsible global citizens. This project will implement a

rural semester living experience, both solar photovoltaic and solar thermal energy systems to supply power and heat to greenhouse operations, an aquaponics system for state-of-the-art integrated fish and vegetable production, and many other projects to educate over 100 students each year in the intricacies of sustainable agriculture.

Investments in Research Technology

Material Discovery for Novel Aerospace Applications: arc melting and single-crystal synthesis

PI: Rainer Hebert **Co-Directors:** Seok-Woo Lee, Pamir Alpay, Mark Aindow, and Jeong-Ho Kim

Summary: An arc-melter is used to fuse elemental metals into alloys with the help of an electric arc. The process of melting different metals into a new metal with improved properties dates back to the Bronze-Age and today's modern society still relies on the same technology, especially for the most sophisticated metallic materials. UConn has embarked on a trajectory of advanced materials and manufacturing and with the proposed arc-melter, a full value chain will be established: strong capabilities exist in materials modeling, using ab-initio and materials genomics approaches as well as in characterizing materials. The arc-melter yields physical samples at sufficiently large sample sizes that new material chemistries can be computationally predicted, physically synthesized with the arc-melter, and then characterized with electron microscopy and with mechanical testing, including UConn's new Gleeble system. As an enabling technology, the arc-melter will support existing industry partnerships, including the UTAS and PW Centers of Excellence and will be required for major funding initiatives and for new center activities, for example, the Center for Materials and Manufacturing Data. UConn's new arc-melter will be manufactured in New Hampshire by Materials Research Furnaces (MRF) and will feature two major accessories—a vacuum casting option to produce small rods and a single-crystal growth kit. These and other accessories are geared toward producing samples for the most demanding applications, including in particular for turbine- and other high-temperature applications.

Next Generation Analytical Ultracentrifuge at UCONN Storrs

PI: James Cole

Summary: Analytical ultracentrifugation (AUC) is a broadly applicable, rigorous technique to characterize the size, shape, and interactions of molecules in solution. This information is used to define the properties of proteins, macromolecular assemblies, nanoparticles nanotubes, biopharmaceuticals and drug delivery systems. UCONN has been a leading center for AUC research and training since the 1960s. The quality of the data generated during AUC experiments is critically dependent on the capabilities of the optical detection systems used to monitor the molecules in real time as the sample is centrifuged. The new AUC enables rapid data collection at multiple detection wavelengths and will greatly increase the scope and power of this technology to analyze complex materials. This capability will have broad impact on fundamental studies underway at UCONN in molecular biology, pharmaceutical research and material science and will enhance

our ability to compete for external funding.