

**NC STATE**  
UNIVERSITY

**2018-19 Report to the Chancellor  
College of Agriculture and Life Sciences  
Strategic Improvements and Major Accomplishments**



**College of Agriculture and Life Sciences  
2018-19 Strategic Improvements and Major Accomplishments  
Report to the Chancellor**

In 2018-19 the College of Agriculture and Life Sciences made continued progress in addressing the university's strategic goals of enhancing student success, scholarship and research, organizational excellence and local and global engagement. This report highlights major changes, achievements and recommendations for the future.

**ACCOMPLISHMENTS TOWARD STRATEGIC GOALS**

**1. Enhance the success of our students through educational innovation**

- > Significant success with student access programs and acceptance for students from tier 1 and tier 2 rural communities
- > Graduate program now ranks as the nation's 4<sup>th</sup> largest of its kind, with 1,022 students
- > Awarded \$5.5 million grant from Foundation for Food and Agriculture Research to create FFAR Fellows, a national professional development and stipend funding program for Ph.D. students

**2. Enhance scholarship and research by investing in faculty and infrastructure**

- > Hired 32 faculty members and recruited for 11 other faculty positions (This is the most aggressive faculty hiring campaign in college's history.)
- > Opened several new facilities, including the Gore Kitchen, the Sweet Potato Greenhouses and the Dairy Education Center and Creamery, and plan to open the NC Food Innovation Lab in fall 2019
- > Broke ground for the North Carolina Plant Sciences Building (celebration to come in Fall 2019)
- > Developed new investment strategy for repair and renovation projects through the Dean's enrichment grants program
- > Created new county and area agent career ladder to retain Extension staff

- > Completed the final phase of CALS/Provost faculty hiring (7 positions: 80% Extension appointments). Positions are in agricultural labor, microbiomes, emerging crops, environmental risk, animal systems, and water resiliency. These new positions will expand our breadth and capacity to serve the public.

### **3. Enhance interdisciplinary scholarship to address the grand challenges of society**

- > With the Office of Research and Innovation, established GRIP4PSI, a University wide Game-Changing Research Incentive Program funding program for the North Carolina Plant Sciences Initiative

### **4. Enhance organizational excellence by creating a culture of constant improvement**

#### **> CALS Advancement**

- Raised over \$35 million in FY 2018-19
- Raised over \$350 million for NC State Think and Do the Extraordinary Capital Campaign
- Received significant new gifts and contracts, including:
  - \$5 million from Blue Cross Blue Shield North Carolina for statewide educational program for diabetes prevention
  - \$2.4 million from the Bill & Melinda Gates Foundation for next-generation tools for sweet potato breeding
  - \$2 million from Jim Owens for international economics distinguished chair
  - \$1.6 million from Melanie Kelley for JC Raulston Arboretum
  - \$1 million from Michelle and Daniel Swart for the Plants for Human Health Institute and the Department of Food, Processing and Nutrition Sciences and, at the dean's discretion, for supporting any student who might otherwise not be able to return to school

> **CALS Business Office (CBO)**

- Documented continuous improvement via the 2019 Customer Service Survey feedback
- Launched CBO Standard Operating Procedures and developed CBO QuickGuide

> **CALS Communication**

- Created more than 90 external stories about CALS faculty, students and staff
- Reached 13,645 subscribers to CALS Weekly (external email newsletter), gained 4,475 new subscribers to CALS social channels, and had an 51% increase in CALS website page views
- Awarded the 2019 Association for Communications Excellence Gold Medal for Magazines

> **CALS Diversity and Inclusion**

- Developed a strategic plan to engage and respond thoughtfully and intentionally to the social and demographic changes that are transforming our state, nation and global society
- Participated in more than 25 events on a range of topics related to diversity, inclusion and cultural competency
- Co-sponsored the 2018 National Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) Conference in Greensboro (This year's conference saw highest attendance in 33 years.)
- Greatly improved diversity of faculty hires since 2016: Up 11% in female hires, 100% in African American hires, 80% in Hispanic hires and 16% in Asian hires

**5. Enhance local and global engagement through focused strategic partnerships**

> **NC State Extension**

- \$2.1 billion estimated annual impact of NC State Extension (TEconomy report), a return on tax investments of 27:1, or a total revenue return of \$33 million to federal and state governments

- Provided significant response and recovery assistance in counties affected by Hurricane Florence and Tropical Storm Michael

> **CALS International Programs**

- Provided customized CALS Global Academy trainings (7 total) for agricultural leaders across the globe, engaging 39 faculty members and training 47 international professionals, and secured \$375,000 in related grant funding
- Engaged 150 students through the Graduate Student Association for Interdisciplinary and Global Engagement (SAIGE). SAIGE provides networking and cultural exchanges opportunities with visiting international scholars, organizes the CALS international experience seminar series and organized 7 international seminars in Fall 2018 and Spring 2019.
- Launched Connecting Research, Education and Outreach (CREdO), a new initiative to help middle-income countries develop a sustainable and integrated research, education and extension system, mirroring the land-grant system. Building relationships with 4 universities in Peru and 2 in Bosnia and Herzegovina.

## **OTHER TOPICS**

**Initiatives: Major initiatives and Changes to Programs or Activities**

- > Completed final phase of CALS/Provost faculty hires, with 7 Extension-focused positions
- > Established CALS Collaborative Faculty Hiring Initiative, which both allows greater planning by department heads and expands organizational awareness of college-level resources and their challenges and opportunities
- > Statewide repair and renovation investments
- > Made significant progress on four initiatives: the NC Plant Sciences Initiative, the NC Food Innovation Lab, the Food Animal Initiative and Future-Ready Farms (modernization of research stations)
- > Received largest research grant in CALS' history, \$32 million from Novo Nordisk Foundation

## **Diversity: Initiatives and Progress**

> Developed a strategic plan to integrate efforts at achieving inclusive excellence into the core aspects of the college – its academic priorities, leadership, community engagement and organizational cultures; the plan, developed by the Office of Diversity and Inclusion, includes:

- GOAL 1: Improve and maintain an inclusive and equitable college climate
- GOAL 2: Cultivate mutually beneficial community partnerships through community engagement with an emphasis on historically and currently underserved communities
- GOAL 3: Recruit, retain and develop a diverse community
- GOAL 4: Support innovative, inclusive scholarship and teaching to improve CALS' community cultural competence and accountability

The diversity and inclusion plan provides a foundation to:

- Create a college culture of inclusion aimed at equity and social advocacy
- Respect and value diverse backgrounds
- Promote opportunities for students to pursue work that addresses concerns within science and society and engages with our communities
- Promote an inclusive culture involves leadership, faculty, and staff

## **Instructional Program Advances**

> **Rural Access/Admissions:** After leveling the playing field for Tier 1, 2 and 3 applicants through our admissions pathways in 2017, we saw a greater percentage of Tier 1 (rural) applicants than Tier 3 (urban). Our alternative pathway programs are providing more students with an opportunity to attend NC State.

Category	Tier 1	Tier 2	Tier 3
Accepted Fall	47%	47%	46%
Fall admission (number)	57	229	316
STEAM Connect (number)	26	71	64
<b>Total (% , numbers of applications)</b>	<b>68% (83)</b>	<b>61% (300)</b>	<b>56% (380)</b>

Participation in our ASPIRE program increases ACT scores by up to 6 points, with an average increase of 3 points, which is helping students in the admissions process. Through the Nominate a Student program, we had over 600 nominations; more were from rural counties and were for our high-need majors. Agricultural Institute graduates are in high demand with 92% of Fall 2018 graduates either employed or continuing their education at the time of graduation.

> **Undergraduate Programs**

- Created three new full-ride scholarships, in addition to one created last year
- Created the CALS Scholars program in which full-ride scholarship recipients participate in cohort building, professional development and community or university service projects

> **Graduate Programs**

- Increased graduate applications, increased graduate funding and provided funding for departmental and interdepartmental student recruiting
- Received a \$5.5 million grant from Foundation for Food and Agriculture Research (FFAR) to create the FFAR Fellows, a national professional development and stipend funding program for Ph.D. students (First cohort had 17 Fellows funded by industry and FFAR.)

> **Distance Education**

- Created the CALS Online Academy, which will provide free, interactive, high-quality online courses in each of the major CALS disciplines, representing all CALS departments. The CALS Online Academy program will:
- Reduced equivalency issues from transferring community college courses in agriculture, food and life science to majors
- Provided high-quality training resources for North Carolina Cooperative Extension agents and Master Gardener Volunteers
- Provided high-quality NC State content to students all over the world, especially in Central America, northern South America, Africa, and parts of Asia

**Research: Achievements of significance and volume of activity**

> **Achievements**

- Surpassed grant and contract goals based on our strategic plan, with \$80 million in grants awarded, the equivalent of \$443,208 for every full-time research scientist
- 78 intellectual property disclosures, 75 patents filed, 45 patents issued
- 917 peer-reviewed research publications (the equivalent of 5.3 per full-time faculty member)
- \$32 million NovoNordisk Foundation for Collaborative Crop Resilience Program

**Extension Initiatives and Public Service Activities**

> **Overall**

- Developed a new county and area agent career ladder, which includes a starting salary increase of \$5,000, an advanced degree salary adjustment and more frequent promotional steps (Every existing agent's salary was evaluated as to their expected salary under the new ladder, and their salaries were adjusted accordingly. Annual cost: \$1.9 million, with 54% paid by counties.)

> **Agriculture**

- Dealt with a series of weather (after-storm crop damage assessments) and pest-related issues (Guava root-knot nematode)
- Expanded our breadth and capacity to serve the public by hiring new faculty in the areas of agricultural law, microbiomes, emerging crops, environmental risks, animal systems and water resiliency.

> **4-H and Youth Development**

- Welcomed three area 4-H agent positions designed to enhance the quality and quantity of statewide programming while providing a higher support level for county agents (These positions will mentor new agents, coach experienced agents and serve as liaison between their assigned region and the state office staff.)
- University embraced the 4-H Juntos program and moved it to the Division of Academic and Student Affairs, reflecting the impact of this Latino-focused program on higher education opportunities

> **Emergency Management**

- In response to Hurricane Florence and Tropical Storm Michael, NC State Extension agents served their local communities across all program areas. Livestock agents set up a network of animal supply points, Family and Consumer Science agents helped provide safe meals and addressed flooding and food safety issues, and 4-H youth and agents provided books for youth impacted by the storms.

> **Family and Consumer Sciences**

- Opened the Dinah E. Gore Teaching and Research Kitchen, a \$700,000, 2,100-square-foot state-of-the-art kitchen complex of large teaching kitchens, three research kitchens, and an observation video room (This complex is designed for learning, observing, training, and communicating information about food preparation, preservation, and safety practices to Extension educators, food industry professionals, and consumers.)

> **Leadership and Professional Development**

- Made great strides working with many new partners including faculty, department heads, commodity leaders, county directors, graduate and undergraduate students, and staff. Programs have been both effective and respected.

**Faculty: Honors, awards and recognition**

- > **Agricultural and Human Sciences: Joy Morgan**, Global Community for Academic Advising Outstanding New Advisor Certificate of Merit; **Travis Dale Park**, American Association for Agricultural Education Fellow and the Association for Career and Technical Education Outstanding Research Presentation; **Kimberly I. Allen**, NC State Delta Online Course Improvement Award; **Marshall Alan Baker**, American Association for Agricultural Education Distinguished Manuscript and North American Colleges and Teachers of Agriculture's Educator Award and Southern Region Outstanding Young Member; **Carolyn L. Bird**, Outstanding Teacher Award and Provost Faculty Fellow; **Joseph L. Donaldson**, Meritorious Service Award, National Association of Extension Agents; **Harriett C. Edwards**, State and Regional Winner: Excellence in 4-H Volunteerism Team Award, National 4-H Volunteer e-Forum Steering Committee; **Barbara M. Kirby**, North Carolina FFA Lifetime Achievement Award and Outstanding Research Poster Presentation; and **Carolyn Dunn**, William Neal Reynolds Professor
- > **Agricultural and Resource Economics: Roderick M. Rejesus**, Outstanding American Journal of Agricultural Economics Article Award; **Barry Kent Goodwin**, Outstanding American Journal of Agricultural Economics Article Award; **Mitch A. Renkow**, Institute for Emerging Issues ReCONNECT Rural and Urban NC State Faculty Chair; **Julianne Treme**, CALS Teaching Award of Merit; and **Roger H. von Haefen**, 2018 Outstanding Journal Article at Marine Resource Economics
- > **Animal Science: Carrie L. Pickworth**, North American Colleges and Teachers of Agriculture Teaching Award of Merit; **Jerry Spears**, Animal Feed Industry Association-Federation of Animal

Science Societies' FIA-FASS New Frontiers in Animal Nutrition Award; and **William L. Flowers**, National Pork Board Distinguished Service Award

- > **Applied Ecology: Benjamin J. Reading**, U.S. Agency for International Development Certificate of Recognition; **Rob R. Dunn**, William Neal Reynolds Professor; **Jeffrey M. Hinshaw**, World Aquaculture Society Fellow; and **Rebecca E. Irwin**, University Faculty Scholar
- > **Biological and Agricultural Engineering: Mike D. Boyette**, American Society of Agricultural and Biological Engineers (ASABE) Fellow and Outstanding Teacher Award; **Daniela Sofia Jones**, ASABE Superior Paper Award; and **R. Wayne Skaggs**, ASABE Superior Paper Award
- > **Crop and Soil Sciences: Matthew Christopher Vann**, N.C. Association of Cooperative Extension Specialists Award for Outstanding Subject-Matter Program Developed by an Individual
- > **Entomology and Plant Pathology: Lina Maria Quesada**, University Faculty Scholar; **Rick L. Brandenburg**, Agronomy Society of America Martin & Ruth Massengale Leadership Award; **Steven Reyna**, Outstanding Graduate Student Teaching Assistant Award; **Jean Beagle Ristaino**, Fulbright Scholar to Italy and NC State Outstanding Global Engagement Award; **Coby J. Schal**, NC State Research Leadership Academy and U.S. Department of Housing and Urban Development Secretary's Award for Healthy Homes; **David Shew**, American Phytopathological Society Fellow; and **James F. Walgenbach**, William Neal Reynolds Professor and Southern Region Integrated Pest Management Center IPM Educator Award
- > **Food, Bioprocessing and Nutrition Sciences: Rodolphe Barrangou**, National Academy of Engineering.
- > **Horticultural Science: Thomas J. Monaco**, Southern Region Small Fruits Consortium Distinguished Service Award; **Thomas G. Ranney**, Scott Arboretum of Swarthmore College Scott Medal and Award; **Ted E. Bilderback**, Southern Nursery Association Slater Wight Memorial Award; **Sylvia M. Blankenship**, National Academy of Inventors Fellow; **Lucy Bradley**, dotCOMM Awards Gold Award for 40 Gallon Challenge; **Wayne G. Buhler**, Pesticide Stewardship Alliance Program of

- Excellence Award; **Barbara A. Fair**, North Carolina Urban Forest Council, Outstanding Leadership in Urban Forestry; **Gina E. Fernandez**, North American Raspberry and Blackberry Association Distinguished Service Award; **Helen Tyler Kraus**, Alumni Distinguished Undergraduate Professor; **Anthony Vincent LeBude**, American Society for Horticultural Science Outstanding Education Publication and Southern Region Blue Ribbon Extension Publication Award; **Anne M. Spafford**, College of Agriculture and Life Sciences Teacher Award of Merit; **Sara E. Spayd**, American Society for Enology and Viticulture Merit Award; and **Todd C. Wehner**, William Neal Reynolds Professor
- > **North Carolina Cooperative Extension: Stephen D. Pettis**, National Association of County Agricultural Agents Communications Award (Audio Recording) and North Carolina Association of County Agricultural Agents Award for Posters (Extension education); and **William T. Kelley**, North Carolina Association of County Agricultural Communications Award (Individual Newsletter) and Excellence in 4-H Programming
  - > **Plant and Microbial Biology: Jose M. Alonso**, William Neal Reynolds Professor; **Amy Michele Grunden**, William Neal Reynolds Professor; **Chad V. Jordan**, Outstanding Faculty Adviser Award; and **Thomas R. Wentworth**, Order of the Long Leaf Pine
  - > **Prestige Department of Poultry Science: Kenneth E. Anderson**, U.S. Poultry and Egg's 2019 Charles Beard Research Excellence Award; **Elaine B. Bohorquez**, CALS Outstanding Graduate Instructor Award; and **Peter R. Ferket**, American Feed Industry Association Poultry Nutrition Research Award

### **Fundraising (\$31 million as of 5/1/19)**

- > **Compelling Commitments**
  - \$5 million for statewide diabetes education program – Blue Cross Blue Shield North Carolina
  - \$2.4 million for next-generation tools for sweet potato breeding – Bill & Melinda Gates Foundation
  - \$2 million department head/faculty in international economics – Jim Owens

- \$800,000 North Carolina Plant Sciences Building Named Spaces
  - \$600,000 farm and endowment gift
  - \$360,000 fellowship endowment in Horticultural Science
- > **Top Opened Proposals**
- \$1.8 million Diversification – Bert Exum
  - \$1.8 million Enzymes Distinguished Chair – Novozymes
  - \$1.3 million Horticultural Science Distinguished Professor, Ken Altman
  - \$1 million Lake Wheeler Road Field Laboratory renovations – DSM
- > **Day of Giving**
- 7 proposals closed thanks to DOG \$158,000 \$730,374.33 raised with 707 gifts
  - \$575,347 raised through cash gifts
- > **Annual Giving**
- \$162,000 raised by 4-H Development Fund Board
  - \$150,000 raised through JC Raulston Arboretum’s moonlight event
  - \$150,000 raised for JC Raulston projects
- > **Alumni & Friends Giving (Year-to-Date Comparison)**
- 11% increase in number of alumni donors
  - 34% increase in number of non-alumni donors
  - Maintained high level of fundraising activity and strengthened accountability
- > **As of 4/22/19**
- Delivered 85 proposals
  - Saw a 13% reduction in prospects portfolios (224 prospects; FY18 was 1,676; FY19 was 1,452)
  - Made 543 prospect visits
  - Qualified 42 new prospects through discovery process
  - Submitted \$65.8 million in proposals

- Closed 50 major gift proposals
- > **Fundraising for NC Plant Sciences Building**
  - Secured 6 gifts of naming spaces totaling \$800,000

**Administration: Achievements and staff changes**

- > **Central Business Office**
  - **CALS Business Services Position Filled:** In July 2018, Tiffany Bryant was appointed director of CALS Business Services. This newly created position was the result of several months' work, examining opportunities to restructure CBO operations to improve customer service by combining the college's Business Liaison and Accounting Services teams.
  - **Launched CBO Standard Operating Procedures:** Roles and Responsibilities Work Group, composed of CBO staff, department business partners and faculty members, developed Standard Operating Procedures for many of CBO's primary business functions. The SOPs document and clarify roles and responsibilities of college business processes and are available (with short introductory videos) on the CBO website.
  - **Closed Out of Collegewide Audit and Enhanced Compliance Efforts:** Effectively closed out a comprehensive internal audit review of CBO operations that occurred in fiscal years 2014 and 2015 and responded to compliance issues revealed in departmental operations. Internally, the CBO has strengthened its review of business transactions to ensure greater levels of compliance to reduce risk throughout CALS.

**2019 Customer Satisfaction Survey:** In February, the CBO administered its 4th annual Customer Satisfaction Survey. 252 individuals took part— 40% increase in participation over last year. The CBO uses data from this survey to guide policies and strategies to assist in continuous improvement efforts in each CBO unit.



*\*FY2019 customer survey respondents expressing either agreement or disagreement*

- **ServiceNow System Enhancements:** Throughout FY2019, the CBO enhanced how the college uses ServiceNow to track service requests. The Budget Office developed a platform for the submission of Salary Distribution Change Requests, and Business Services engaged stakeholders and CALS IT to make improvements to existing workflows and submission pages.
- **2018-19 By the Numbers:** 892 active PCard accounts; 56,500 PCard transactions reconciled (projected), 20,700 travel authorizations and reimbursements processed (projected), 13 Standard Operating Procedures (SOPs) and videos published

> **CALS Communications**

- Tracked more than 90 external stories about CALS science, faculty and students from 1/1/19 - 3/15/19 (16 from CALS news stories); 13,645 subscribers to CALS Weekly; 4,475 new subscribers to CALS and NC State Extension social channels with approximately 89,000 engagements; 51% increase in website pageviews (year to date), 1.2 million unique visitors
- 2019 Gold Medal Best Magazine, Association for Communications Excellence

## Recommendations and Concerns for the Future

### > **Faculty and Infrastructure**

- Challenge to increase faculty salaries following legislative action (mandated increases without sufficient funding). Effectively removes funding from other initiatives and internal resources
- **On-campus renovations** – Two funding initiatives (\$2.25 million) for repair and renovation of CALS facilities will continue into the next year. These funds address serious infrastructure deficiencies while creating more open, flexible labs space and/or shared spaces for faculty. Recommend matching support from Facilities to increase the impact of CALS' investments.

### > **Low commodity prices** resulting in reduced support dollars from commodity groups

### > Ability to **attract, hire and retain excellent faculty** under current salary structure

### > **I-440 Widening** – CALS buildings along the I-440 highway will be demolished to make room for the wider road. All the personnel from two buildings and the equipment (three departments — Entomology and Plant Pathology, Crop and Soil Sciences and Agricultural and Human Sciences -- will need to be relocated.)

### > **Agricultural Research Service** – New \$30 million building for U.S. Department of Agriculture faculty. Planning for site selection has already begun.

### > **Facilities**

- **Varsity Research Building** – Recommend Phase Two completion to allow several faculty and the Plant Disease and Insect Clinic to move out of Gardner Hall Extension. This would further consolidate the Department of Entomology and Plant Pathology to help build a more cohesive community for this discipline and to better serve the Extension needs of their clientele.
- **Small Ruminant Research and Extension Unit (Trent Road facility)** – Building design, site preparation and planning for the movement of programs will become a higher priority for 2019-20. Planning discussions with University Facilities on road locations and associated water drainage and runoff structures start this year.