



Strategic Plan for Research

2020-2026

Building a national
reputation for excellence
in research and
scholarship.



College of
**AGRICULTURE, FORESTRY
AND LIFE SCIENCES**

College Mission

The College of Agriculture, Forestry and Life Sciences provides integrated education, research, Extension, and public service in the grand challenges of global food supply and safety, human and animal nutrition, agricultural systems efficiency, environmental conservation, sustainable packaging and renewable resources.

Through rigorous experiential and classroom learning opportunities, CAFLS readies its graduates to assume leadership roles in industries essential to ensuring the future security and prosperity of South Carolinians and our growing global population.

College Vision

To be a national leader in education, research, outreach, and Extension programs that provide integrated and sustainable solutions for agriculture and natural resources.





College Strategic Plan

The strategic plan of the College of Agriculture, Forestry and Life Sciences offers priorities and core tactics for strengthening research capacity across the decade of 2016 to 2026. Two goals are addressed within this document:

GOAL 3

Strengthen CAFLS graduate student programs.

Objectives:

- Strengthen courses and programs that support graduate student success.
- Enhance national recognition of graduate student programs through proactive marketing.
- Develop and implement graduate student recruitment and incentive plans to attract high quality applicants and increase enrollment.
- Increase the number of professional development opportunities for graduate students.

GOAL 4

Strengthen research quality and impact.

Objectives:

- Develop an action plan to build a national reputation for excellence in research and scholarship.
- Increase research and scholarship productivity.
- Improve, upgrade, and expand research infrastructure and support.

Charge to Committee

The committee was charged with creating implementation plans and recommendations for CAFLS Research goals and objectives and aligning these plans to achieve ClemsonForward Research Goals.

Three subcommittees worked on specific CAFLS goals and objectives, planned their own meetings, and submitted reports at full committee meetings.

Each subcommittee developed implementation plans for achieving the CAFLS research goals and specific objectives. Implementation plans were expected to:

- outline major actions/tasks needed to achieve the objectives;
- identify any risks or concerns that will need to be addressed;
- clarify management oversight;
- determine resources needed and proposed funding strategies; and
- establish specific metrics for success.

The plan also was expected to include the status of actions already taken to achieve goals and objectives.

The following groups or individuals were used to advise the committee:

- Graduate Program Coordinators
- Academic Department Chairs
- Endowed Chairs
- REC Directors
- Research Development Strategist (Mira Mihajlovich)
- HR Strategist (Tan Davis)



Subcommittees

Subcommittee on Graduate Programs

M. Argüelles-Ramos, C. Jachowski, C. Privette

Propose implementation strategies and actions needed to strengthen graduate programs.

CAFLS GOAL 3: Strengthen CAFLS graduate student programs and enrollment.

- Objective 1. Increase doctoral student enrollment.
- Objective 2. Strengthen course offerings for graduate student programs.
- Objective 3. Increase professional development opportunities for graduate students.

Subcommittee on Research Relevance & Capacity

J. Andrae, K. Coleman, A. Chow, K. Kirk

Assess current research infrastructure and capacity, and determine future needs.

Identify actions needed to ensure relevance to S.C stakeholders.

CAFLS GOAL 4: Strengthen research quality and impact.

- Objective 1. Assess research infrastructure and capacity.
- Objective 2. Ensure relevance to S.C. stakeholders.

Subcommittee on Research Productivity

R. Boyles, K. Gasic, A. Hurley, B. Ward

Identify actions to increase faculty research and productivity and to promote faculty professional development.

CAFLS GOAL 4: Strengthen research quality and impact.

- Objective 3. Promote faculty professional development for research excellence.
- Objective 4. Increase research and scholarship productivity.



Goals and Objectives

Strengthen CAFLS Graduate Student Programs and Enrollment

Objective 1. Increase doctoral student enrollment.

MARKETING | Enhance national recognition of graduate student programs through proactive marketing.

TUITION WAIVERS | Adopt a policy that requires all graduate assistantships in the college to be full-time.

PARTNERSHIPS | Partner with industry and corporations to sponsor assistantships.

COMPETITIVE GRANTS | Encourage and facilitate inclusion of graduate assistantships in grant submissions by faculty.





Goals and Objectives

Strengthen CAFLS Graduate Student Programs and Enrollment

Objective 2. Strengthen course and program offerings for graduate student programs.

FOUNDATION | Develop a core of courses that reflect foundational knowledge, skills (e.g., teaching, grant-writing, publishing, etc.), and address emerging issues in the disciplines.

INTERDISCIPLINARY | Develop certificate programs and online delivery of interdisciplinary MS programs.

EXPOSURE | Encourage faculty to develop interdisciplinary grant proposals, in order to facilitate exposure of GRAs to interdisciplinary research.

OFF-CAMPUS FACULTY | Utilizing Research and Education Centers (REC) expertise to educate graduate students through enhanced course offerings.

TEACHING | Improve awareness and increase co-teaching of currently offered, but underutilized, graduate courses that are broadly applicable.

Goals and Objectives

Strengthen CAFLS Graduate Student Programs and Enrollment

Objective 3. Increase professional development opportunities for graduate students.

SCIENTIFIC MEETINGS | Increase the number of students who attend and present at national and international scientific meetings.

INTERDISCIPLINARY | Encourage on-campus and off-campus faculty to develop interdisciplinary, University-wide workshops and training programs for graduate students.

Objective 4. Improve professional development opportunities for graduate students.

PROFESSIONAL DEVELOPMENT | Increase faculty and graduate student utilization of professional development offered by the Graduate School via GRAD 360.

SEMINAR | Encourage graduate students to coordinate a Departmental or College-level seminar series.

REC FACILITIES | Initiate an annual research symposium for CAFLS graduate students to be hosted at REC facilities on a rotating basis.

TEACHING | Develop a process for graduate students to contribute to teaching.



Goals and Objectives

Strengthen CAFLS Graduate Student Programs and Enrollment

Objective 5. Assess research infrastructure and capacity.

DATABASE | Create and maintain an internal, searchable research infrastructure and capacity database to promote faculty collaboration.

CLEAR POLICIES | Develop and communicate clear policies for resource requests regarding the organization and oversight of land and facilities available to CAFLS faculty.

CORE EQUIPMENT | Assess the need, cost and impact of purchasing core equipment and instrumentation to support basic research.



INFRASTRUCTURE | Leverage resource databases and needed equipment, space, and facilities for planned state funding research infrastructure requests.

TECHNICAL SUPPORT | Determine factors that impact recruitment and retention of technical support.

Goals and Objectives

Strengthen Research Quality and Impact

Objective 6. Ensure relevance to S.C. stakeholders.

ADVISORY COUNCILS | Include individuals with research interests on Advisory Councils for every academic department and REC.

COMMODITY BOARDS | Strengthen relationships with commodity boards and associations representing agriculture and forestry sectors in South Carolina.

EXTERNAL STAKEHOLDERS | Develop a public, web-based inventory of CAFLS faculty research topics.

POLICY MAKERS | Develop a research communications plan targeted to external stakeholders and policy makers in South Carolina.

EXTENSION | Improve dissemination of research information through Clemson Extension channels.

CAPACITY GRANTS | Communicate relevance of Hatch and McIntire-Stennis Project funds in addressing South Carolina agriculture and forestry-related problems.



Goals and Objectives

Strengthen Research Quality and Impact

Objective 7. Increase research scholarship and productivity.

COMMUNICATION | Improve awareness and communication of university, college and departmental resources to enhance and support faculty research & scholarship.

RESEARCH THEMES | Identify research program themes that are aligned with state needs.

Objective 8. Promote faculty professional development for research excellence.

RESEARCH PROFILES | Create relevant and engaging research profiles for every CAFLS research faculty member.

FACULTY MENTORING | Develop faculty mentoring program focused on research excellence.

ENTREPRENEURSHIP | Define CAFLS position on value of entrepreneurship in TPR process.



Committee Members

Primary Members

Mireille Argüelles-Ramos
Charles Privette
Andrew Hurley
Cathy Jachowski
Ksenija Gasic
Kendall Kirk

Richard Boyles
Alex Chow
John Andrae
Brian Ward
Kathy Coleman

Department Chair

Advisors
Charles Privette
Kristine Vernon
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Jeff Rhodehamel

REC Director Advisors

Rob Baldwin
Michael Caterino
Kay Cooksey
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Graduate Program

Coordinator Advisors
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Paul Dawson
Dale Layfield
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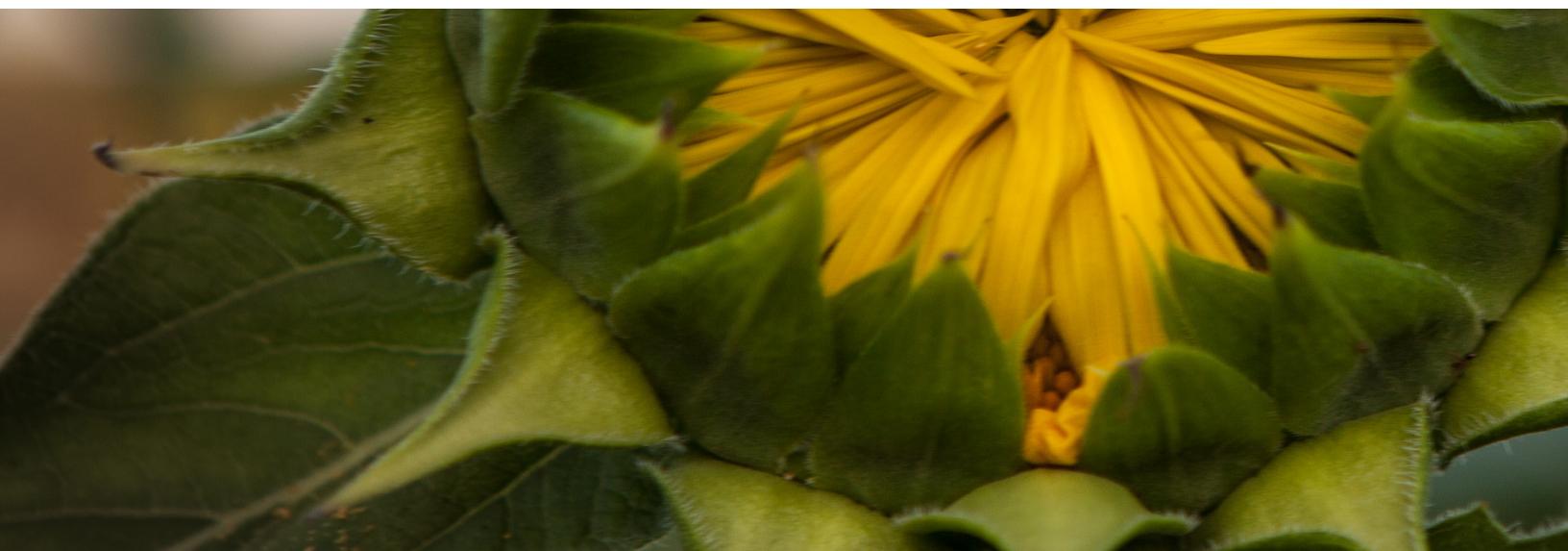
Coordination

Paula Agudelo
Kathy Woodard

Staff Advisors
Tan Davis
Mira Mihajlovich
Kayla Steele Payne

Endowed Chair Advisors

John Andrae
Matt Smith
Skip Van Bloem
Kathy Coleman
Chris Ray



Appendix

CAFLS Strategic Plan for Research: Implementation Plan



Clemson University
College of Agriculture, Forestry and Life Sciences
104 Barre Hall
Clemson, SC 29634
clemson.edu/cafls/research
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Note: All images were photographed on Clemson University property and illustrate ongoing CAFLS research.



STRATEGIC PLAN FOR RESEARCH
Implementation Plan: Spring 2020

CAFLS Goal 3: Strengthen CAFLS Graduate Student Programs and Enrollment

OBJECTIVE 3.1.	Actions	Responsibility	Resources	Metrics	Timeline	Concerns
Increase doctoral student enrollment.	Enhance national recognition of graduate student programs through proactive marketing.	Graduate School, Dean, ADR, GPCs, Chairs, Faculty	Marketing Firm	PhD students recruited PhD degrees awarded	Fall 2020 and ongoing	Costs of marketing services
	Adopt a policy that requires all graduate assistantships in the college to be full-time.	ADR, Dean, GPCs	none	Full Adoption	Fall 2020	Potential reduction in ability to support students
	Partner with industry to supplement graduate research assistantships	GPCs, Faculty, Chairs, Development	Education Advisory Board	Number of industry-sponsored assistantships	Ongoing	Assessment of short and long-term needs of industry and academia
	Facilitate inclusion of graduate assistantships in large grant submissions by faculty	ADR, GPCs, Chairs, Faculty	USDA grant programs	Number of assistantships included in large grants	Ongoing	Faculty time required for large grant development

GPC: Graduate Program Coordinators

ADR: Associate Dean for Research and Graduate Studies

CAFLS Goal 3: Strengthen CAFLS Graduate Student Programs and Enrollment						
OBJECTIVE 3.2.	Actions	Responsibility	Resources	Metrics	Timeline	Concerns
Strengthen course & program offerings for graduate student programs.	<p>Develop core courses for foundational knowledge, skills, and address emerging issues.</p> <p>Offer new innovative graduate courses that are applicable across multiple disciplines.</p>	<p>Faculty, GPCs, Curriculum Committees</p> <p>Faculty, GPCs, Curriculum Committees</p>	<p>Faculty time</p> <p>FTEs for teaching</p>	<p>Number of courses offered</p> <p>Number of new courses offered per year</p>	<p>2026</p> <p>Ongoing</p>	<p>Potential duplication across programs</p> <p>Demands on graduate faculty</p>
	<p>Identify and develop online certificates and MS interdisciplinary programs.</p>	<p>Faculty, GPCs, Curriculum Committees</p>	<p>Funds from tuition</p>	<p>New online certificates and programs</p>	<p>2026</p>	<p>Rigor of online courses for non-thesis degrees</p>
	<p>Hire full time lecturers to develop and coordinate online graduate courses.</p>	<p>Department Chairs</p>	<p>FTEs for teaching</p>	<p>Number of lecturers hired to develop online graduate courses</p>	<p>2026</p>	<p>Time-intensive Dedicated staff Funding for coordinators</p>
	<p>Encourage Faculty to develop interdisciplinary grant proposals and facilitate exposure of GRAs to interdisciplinary work/research.</p>	<p>Faculty, GPCs, Chairs</p>	<p>Funds for graduate stipends (greater demand for courses)</p>	<p>Number of interdisciplinary grant proposals submitted and awarded</p>	<p>2026</p>	<p>Demands on faculty time</p>

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CAFLS Goal 3: Strengthen CAFLS Graduate Student Programs and Enrollment						
Objective	Action	Responsibility	Resources	Metrics	Timeline	Concerns
Strengthen course & program offerings for graduate student programs.	Utilize Research and Education Centers (REC) expertise to educate graduate students through enhanced course offerings	Faculty, GPCs, Chairs, REC Directors	FTEs for teaching and Teaching appointments	Number of REC faculty teaching graduate courses	Spring 2020 and ongoing	Compliance with appointments and funding sources
	Improve awareness and co-teaching of currently offered, but underutilized, courses that are applicable across disciplines.	Faculty, GPCs, Chairs	Faculty Time	Number of students, outside the major, taking course	Spring 2020 and ongoing	Could lead to larger class sizes.
OBJECTIVE 3.4.	Action	Responsibility	Resources	Metrics	Timeline	Concerns
	Increase the number of students who attend and present at national and international scientific meetings.	Faculty, GPCs, Chairs, ADR, Graduate School	Funds for seminar series and attending meetings	No. of students presenting at scientific meetings	Spring 2020	Support students who are presenting vs. attending.
Increase professional development opportunities for graduate students.	Encourage on-campus and off-campus Faculty to develop interdisciplinary, University-wide workshops and training programs for graduate students.	Faculty, GPCs, Chairs, REC Directors, Graduate School	Funds for interdisciplinary training	No. of training programs No. of CAFLS students attending programs	Spring 2021	Emphasis on promoting interdisciplinary approach to address complex real-world problems

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CAFLS Goal 3: Strengthen CAFLS Graduate Student Programs and Enrollment						
OBJECTIVE 3.5.	Actions	Responsibility	Resources	Metrics	Timeline	Concerns
Improve professional development for graduate students.	<p>Develop a process for graduate students to contribute to teaching within the department.</p> <p>Allow graduate students to coordinate a Departmental or College-level seminar series.</p> <p>Initiate an annual research symposium for CAFLS graduate students to be hosted at various REC facilities on a rotating basis.</p> <p>Increase Faculty and graduate student awareness of existing professional development tools and opportunities offered by the Graduate School via GRAD 360.¹</p>	<p>Faculty, GPCs, Chairs</p> <p>Faculty, GPCs, Chairs, ADR</p> <p>Faculty, GPCs, Chairs, REC Directors, ADR</p> <p>Faculty, GPCs, Chairs, ADR</p>	<p>Committee developed to create process</p> <p>Funds for seminar series</p> <p>Funds for seminar series and student attending meetings</p> <p></p>	<p>No. of graduate students teaching courses</p> <p>No. of seminars organized by graduate students</p> <p>No. of symposia held at RECs</p> <p>No. of CAFLS students attending</p> <p>Number of GRAD 360 events attended by CAFLS students</p>	<p>Fall 2020</p> <p>Spring 2020</p> <p>Spring 2021</p> <p>Fall 2020 and ongoing</p>	<p>Students would be responsible for inviting and hosting speakers and advertising</p> <p>Cash prizes awarded to best presenters</p> <p>Funds for student travel</p>

¹ See <https://grad360.sites.clemson.edu/>

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CAFLS Goal 4: Strengthen Research Quality and Impact						
OBJECTIVE 4.1.	Actions	Responsibility	Resources	Metrics	Timeline	Concerns
Assess Research Infrastructure and Capacity.	Create and maintain an internal research infrastructure and capacity database that can be accessed to promote collaboration.	Assistant Director of Experiment Station	Staff to maintain database / CCIT Cooperation of faculty with the equipment	Database Search tool Inventory	Summer 2020	Staff and communication; Compartmentalization of inventory.
	Develop and communicate clear policies for resource requests and for oversight and availability of land and facility resources	All levels of CAFLS administration		Increased use of College facilities	Ongoing	Include resources in grant submissions
	Assess the need, cost and impact of purchasing core multi-user equipment and instrumentation to support basic research	Chairs, REC Directors, Faculty	Funds Staff to operate and maintain	Increased research opportunities	Summer 2021	Maintenance costs and Upgrades
	Leverage resource databases and needed equipment/space/facilities for future state funding research infrastructure asks	REC Directors, Chairs, Experiment Station		Use of databases to assist with determination of priority requests	Post Summer 2020	
	Determine factors that impact recruitment and retention of research and technical support.	Directors, Chairs, Faculty	Task Force of recruitment and retention		Spring 2021	Weigh long term retention (techs) vs short term productivity (postdocs)

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CAFLS Goal 4: Strengthen Research Quality and Impact						
Objective 4.2.	Actions	Responsibility	Resources	Metrics	Timeline	Concerns
Ensure relevance to S.C. stakeholders.	<p>Include individuals with research interests on Advisory Councils for academic departments and RECs.</p> <p>Strengthen relationships with all commodity boards/associations representing agriculture and forestry sectors in S.C.</p> <p>Explore feasibility of web-based database of CAFLS research available to stakeholders.</p> <p>Develop a communications plan targeted to external stakeholders and policy makers in S.C.</p> <p>Improve dissemination of research information to external audiences through Extension channels.</p> <p>Communicate relevance of Hatch and McIntire -Stennis Project funds in addressing S.C. agriculture and forestry- related problems.</p>	<p>Academic Departments and REC.</p> <p>Experiment Station, REC Directors, Chairs</p> <p>Experiment Station & Governmental Affairs</p> <p>Experiment Station and PSA Communications</p> <p>Extension, ADR, Faculty, Chairs</p> <p>Experiment Station PSA Communications</p>	<p>Departments and RECS</p> <p>At least one research member on councils</p> <p>Travel time and resources for travel</p> <p>Taskforce</p> <p>Communications and Marketing expertise</p> <p>Extension, ADR, Faculty, Chairs</p> <p>Experiment Station PSA Communications</p>	<p>Variable and ongoing</p> <p>Consistent input from commodity representatives</p> <p>Feasibility Report</p> <p>Targeted communication of impact of CAFLS/PSA research</p> <p>Improved integration of Extension into departments</p> <p>Number of press releases referencing capacity funds</p>	<p>Ongoing</p> <p>Ongoing</p> <p>Spring 2023</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p>	<p>Consistent input and feedback from external stakeholders</p> <p>Development of a strategic communications plan</p> <p>Keep database updated and relevant</p>

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CAFLS Goal 4: Strengthen Research Quality and Impact						
Objective	Action	Responsibility	Resources	Metrics	Timeline	Concerns
Increase Research and Scholarship Productivity.	Improve awareness and communication of resources to enhance and support faculty research & scholarship.	ADR and CAFLS/PSA Communications	Website with resources for CAFLS faculty Workshops/lunch and learn	Website developed Visits to website Attendance at workshops	Ongoing	Website maintained and updated regularly
	Identify up to 4 research program themes that are important to state needs and stakeholders	Faculty to identify the themes <u>Theme Chairs to lead and manage</u>	Seed funds Faculty participation	Number of grant awards & publications per theme	Fall 2020 – theme selection Fall 2021 - funds	Sustainability plan after seed funds
OBJECTIVE 4.4.	Actions	Responsibility	Resources	Metrics	Timeline	Concerns
Promote Faculty Professional Development for Research Excellence.	Create relevant and engaging research profiles for every CAFLS research faculty member	Chairs working with CAFLS/ PSA Communications	Leverage CAFLS and University resources to create profiles.	Number of profiles created	12-24-36 month roll-out	Faculty participation
	Develop faculty mentoring program focused on research excellence.	Dean, ADR, Chairs, Faculty	Leverage existing initiatives (e.g., TIGERS ADVANCE)	Creation of CAFLS faculty mentoring program	Fall 2020	Faculty participation
	Define CAFLS position on value of entrepreneurship in TPR process	ADR, Chairs, Faculty entrepreneurs, CURF	Faculty Entrepreneurship Taskforce CURF (Inspire)	Development of guidance document	Fall 2020	Bias towards established faculty, challenge of IP valuation

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