

# 2018-19 **RESEARCH** reference guide





Strom Thurmond Institute 230 Kappa Street, Suite 200 Clemson, SC 29634-5701 864-656-7701 vpr@clemson.edu

# CREATE. COLLABORATE. IMPACT.



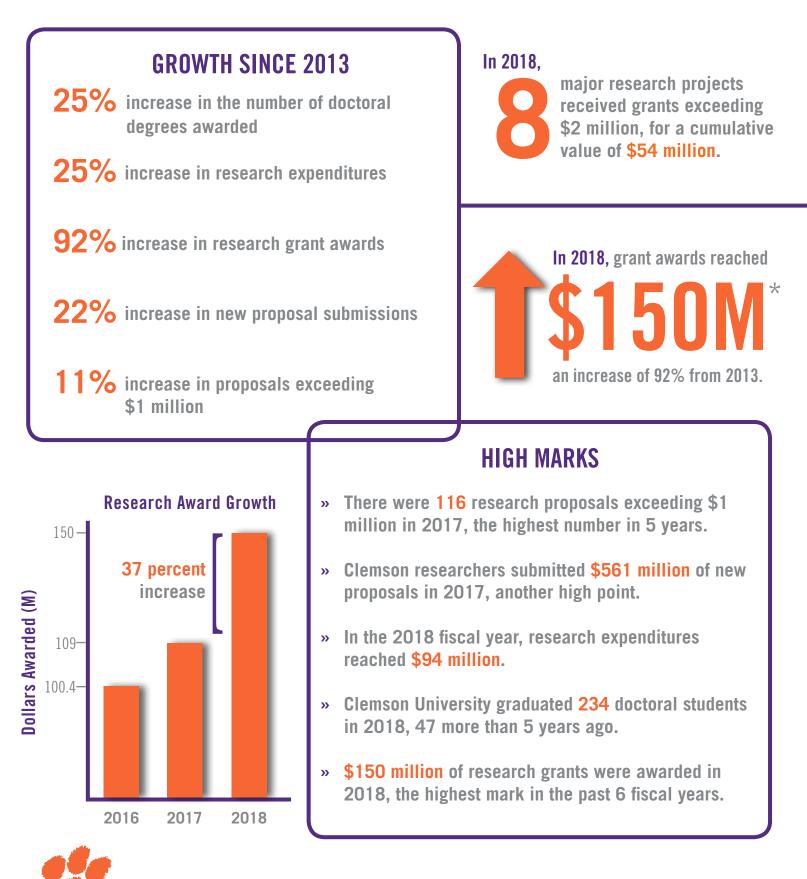
The Clemson University Division of Research supports your pursuit of scientific discovery and scholarship by managing sponsored programs, facilitating research contracts with industry, providing seed funding, helping you navigate policies and regulations, assisting with product commercialization, working with you to promote safety, and much more.

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A Carnegie R1 Institution

www.clemson.edu/research

# BUILDING OUR NATIONAL REPUTATION



A Carnegie R1 Institution

## CONTINUING THE MOMENTUM

# **Unprecedented Growth**

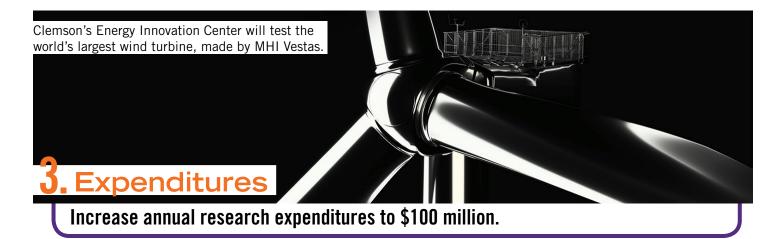
culminated in our recognition as a Carnegie R1 university listed among the best institutions in the nation. We have set lofty goals to build upon our momentum ...



Increase annual production of nationally recognized forms of scholarship by 50%.



Double annual grant proposal submissions from \$500 million to \$1 billion.



# HELPING YOU ADVANCE YOUR RESEARCH

Click below to learn more.

**INTERNAL FUNDING** R-Initiatives provide funding for equipment, hiring and more

# STATE-OF-THE-ART FACILITIES

Core facilities offer high-speed computing, electron microscopy and more

**FACULTY INSIGHT** An expansive online database of customizable funding opportunities



# PROPOSAL DEVELOPMENT

Receive help fine-tuning your pitch for high-value research grants



# CAREER ACADEMY

Increase your odds of winning prestigious NSF CAREER awards



# **DIVISION OF RESEARCH NEWSLETTER**

Sign up to receive important monthly news and updates



# clemson.edu/research

Click the icons above and throughout this book and visit the Division of Research website to learn more about the resources available to help you advance research and scholarship.



# ORGANIZATIONAL CHART



Vice President for Research Tanju Karanfil, Ph.D.



Assistant V.P. for Research Compliance and Safety Tracy Arwood



Coordinator of Research Analytics Meghan Mullaney



Director of Business Affairs Tony Dickerson



Conflict of Interest Program Director <u>Alisha Oxen</u>dine



Director of Industry Contracts JoAnna Floyd, J.D.



Director of Export Controls Tamara Hemingway



Director of Research Communications Scott Miller



Director of the Youth Leadership Institute Stephen Lance Clemson Light Imaging Facility Director Terri Bruce, Ph.D.



Executive Assistant to the Vice President Penny Reid



IT Administrator Daniel Harris



Director of Animal Resources John Parrish, DVM



Director of Electron Microscopy Lab Lax Saraf, Ph.D.



Director of Grants and Contracts Administration (Post-Award) Tracy Walters



Director of Sponsored Programs (Pre-Award) Sheila Lischwe, Ph.D.

Executive Director of the Clemson University Research Foundation Chris Gesswein



# MEET THE VICE PRESIDENT FOR RESEARCH



**Dr. Tanju Karanfil** became the Vice President for Research in February 2016. A renowned environmental engineer, Dr. Karanfil leads Clemson's research strategy and oversees technology transfer, sponsored programs, compliance and other support services for a portfolio that tops \$100 million in research revenue.

Clemson joined the list of the nation's top research universities as a Carnegie R1 university in 2016, a reflection of its growth in research expenditures across disciplines and an increase in both the number of doctorate degrees awarded and postdoctoral and non-faculty researchers on staff. Clemson's performance across all of Carnegie's metrics has improved under Karanfil's leadership since receiving the R1 designation. Research expenditures and grant awards are at their highest levels in at least four years despite a decline in federal investments in university research and development.

#### **ABOUT**

Dr. Karanfil joined Clemson in 1996. He has served as chair of the Environmental Engineering and Earth Sciences department and later as associate dean for research and graduate studies in the College of Engineering, Computing and Applied Sciences. He currently maintains an active research portfolio as well, focusing on water quality and improvements to water, wastewater and hazardous waste treatment systems. His research has attracted more than \$10 million in external funding to Clemson.

Dr. Karanfil earned his bachelor's degree in engineering from environmental Istanbul Technical University and completed his graduate work, Master of Science and Ph.D., at the University of Michigan, where he also held a one year post-doctoral research associate position. He is a fellow of the International Water Association, received a National Science Foundation Early CAREER Award in 2001, has produced more than 100 peer-reviewed journal articles and mentored more than 100 graduate students and post-doctoral research associates at Clemson. He also serves as a consultant to water and wastewater utilities and consulting companies.





READ HIS MONTHLY BLOG:





# OFFICE OF ANIMAL RESOURCES



#### **MISSION STATEMENT**

The Office of Animal Resources (OAR) strives to promote excellence in all animal research and teaching programs at Clemson University while promoting the highest standards in ethical and responsible use of animals. OAR provides high quality veterinary care programs, professional and technical support, education and training, and technologically advanced facilities and equipment for animal research and teaching activities.

#### **ABOUT**

The Office of Animal Resources contributes to the animal research and teaching programs at Clemson University by providing facilities with updated technology, equipment and highly skilled professional and technical staff that meet or exceed the standards of animal research compliance and accreditation. The facilities and programs managed by OAR ensure the highest standards in animal care and use.

The Godley-Snell Research Center, managed by OAR, provides an opportunity to recruit faculty and graduate students and to showcase the excellent research support programs to visitors, potential collaborators and customers.

#### **GOALS**

OAR's goals are to enhance the Clemson animal research programs by providing:

- Comprehensive support of internally and externally funded animal research and teaching programs;
- Excellent facilities and a wide variety of high quality professional and technical services;
- Education and training in animal research techniques for investigative staff, students, various health professionals and the public;
- Management or supervision of the veterinary care and use of all animals maintained by Clemson University in accordance with applicable regulations and accreditation standards.

#### **CONTACT US:**



Office of Animal Resources Godley-Snell Research Center Cherry Road Clemson, SC 29634

Phone: 864-656-1849 Fax: 864-656-0461

# OFFICE OF BUSINESS AFFAIRS

#### **MISSION STATEMENT**

To manage and safeguard current operations for the Division of Research's human, financial, and systems resources, as well as strategically plan for the future.

#### **ABOUT**

The Office of Business Affairs provides support to all departments within the Division of Research and collaborates with the entire university community. Staff is available to assist with InfoEd, departmental budgets, strategic financial planning and analysis, procurement, Visa card purchases, journal postings and human resource matters including new hires, payroll, Kronos and leave. The Office of Business Affairs strives to efficiently and effectively manage business operations, finance and personnel, in addition to coordinating and facilitating research reporting and database administration.

#### **IMPORTANT LINKS**

## FINANCIAL FORMS Travel Expense Reimbursement

Travel Advance Form Inter-Departmental Order Form PCard Policy Vendor Registration

# HUMAN RESOURCES

Dual Employment Form EPMS Form New PD Form New Employee Information

#### **CONTACT US:**



Office of Business Affairs Strom Thurmond Institute 230 Kappa Street, Suite 200 Clemson, SC 29634

# CONFLICT OF INTEREST



#### **MISSION STATEMENT**

Clemson University's policy on conflict of interest describes the university's approach and process for identifying, reviewing, and managing such relationships to help assure the integrity of university academic and administrative endeavors.

#### **ABOUT**

Clemson University encourages faculty, staff and students to engage in appropriate outside relationships, to participate in sponsored research, to consult widely and to engage in other activities that may benefit not only the participants,

but the university and the larger public. However, members of the university community are expected to avoid conflicts of interest or other commitments that have the potential to directly affect



the university's interests, compromise objectivity in carrying out university responsibilities or otherwise compromise performance of university responsibilities, unless such conflicts are disclosed, reviewed and managed in accordance with Clemson policy.



#### IMPORTANT LINKS

#### Training and Disclosure

The university requires all paid faculty, staff and students to complete training on conflicts of interest every four years and to file a disclosure form.

More information on training and disclosure:

#### Conflict of Interest Policy

Clemson University's policy on conflict of interest describes the university's approach and process for identifying, reviewing and managing relationships to help assure the integrity of university academic and administrative endeavors.

Read the policy:



#### Faculty Consulting Policy —

Clemson University extends to its faculty members the privilege of consulting because such activities can contribute to the professional development and stature of the faculty member. Such consulting must be approved in advance.

Download the approval form here:



#### Sponsor-Specific Guidelines

Various funding agencies maintain their own guidelines and policies that apply to research conducted by Clemson University faculty.

Find out if this applies to you:



#### Sponsored Travel -

Certain types of sponsored travel must be reported.

Find out more:



#### **CONTACT US:**



Conflict of Interest Office Strom Thurmond Institute 230 Kappa Street Clemson, SC 29634

# EXPORT CONTROLS

#### **ABOUT**

Export Controls comprises a complex and dynamic set of U.S. trade regulations aimed at safeguarding National Security and furthering U.S. foreign policy and economic objectives. This is accomplished by managing exports of controlled articles and information in order to limit access by some foreign persons and sanctioned parties.

#### **IMPORTANT LINKS**

#### Regulations-

Articles controlled under the ITAR can be found on the U.S. Munitions list

Articles controlled under the EAR can be found on the Commerce Control List

**Information** about embargoes administered by the Office of Foreign Assets Controls

Entities and persons to which exports are limited or denied by DDTC, BIS and OFAC

Forms-

Export Control Certification for Visa form I-129





#### **CONTACT US:**



CLEMS COLLEC CHRONIC

> Office of Export Controls Clemson Centre 391 College Avenue, Suite 406 Clemson, SC 29634

# CARNEGIE CLASSIFICATION

As outlined by the *ClemsonForward* strategic plan, Clemson's goal is to become a perennial Carnegie R1 institution. To achieve this, we are closely monitoring our progress among Carnegie's classification metrics.

<b>10 Metrics</b>	Clemson 2015	<b>Δ Metric</b> 2015 to 2018
1 S&E Exp	\$116,871,000	+\$27,857,000
2 non-S&E Exp	\$44,199,000	+\$4,341,000
3 Postdoc & Non Fac Res.	65	+46
4 PhD Humanities	2	+6
5 PhD Social Sciences	9	+10
6 PhD STEM	143	+13
7 PhD Other	62	-14
8 Per Cap S&E Exp	\$136,532	+\$23,036
9 Per Cap non-S&E Exp	\$51,634	+\$1,883
10 Per Cap Postdoc & Non Fac Res.	0.0759	+0.0461



## GRANTS AND CONTRACTS ADMINISTRATION

#### **MISSION STATEMENT**

To provide accurate and reliable information to principal investigators, other university personnel and sponsors on externally sponsored (Fund 20) projects; develop and maintain internal controls at the highest standards possible while streamlining processes to ease administrative burden; provide exceptional customer service; and serve as liaison between investigators and sponsors.

# WATT FAMILY INNOVATION CENTER



# <section-header>

# ASSIST

#### **ABOUT**

Grants and Contracts Administration (GCA) is the Post-Award Office of the Division of Research. The GCA staff assists principal investigators (PIs), department staff, and administrators with post-award financial and administrative matters related to their sponsored (Fund 20) projects. GCA provides administrative oversight for functions that include all post-award programs and financial activities, which include requests to sponsors for no-cost extensions, changes in scope, reduction in time, and disengagement greater than 90 days, as well as sponsored project setup, accounting, invoicing, financial reporting, cash receipts, collections, payroll confirmation and audit functions from award receipt to close out. The office has a university-wide responsibility for ensuring that project expenses and reports to sponsors are compliant with federal, state, and university laws and regulations as well as specific sponsor guidelines.

#### -IMPORTANT LINKS

#### Faculty Business Information System



Track spending on sponsored projects

#### Sponsored Compensation Verification System

Manage compensation reporting requirements easily online.

#### Risk Project Request Form





#### **CONTACT US:**



Grants and Contracts Administration Strom Thurmond Institute 230 Kappa St., Suite 200 Clemson, SC 29634-5355

# OFFICE OF INDUSTRY CONTRACTS



#### **MISSION STATEMENT**

To support faculty, staff and students in their pursuit of research funding from private industry.

#### **SERVICES**

- Review sponsored research proposals to private industry (routed to OIC from college-based OSP Support Centers)
- Negotiate industry sponsored research, services and sponsored student project agreement terms and conditions
- Assist researchers with other research-related agreements with private industry
- Work with Clemson researchers and private industry to ensure that agreements comply with university policies and procedures as well as federal and state regulations and requirements
- Coordinate with the Clemson University Research Foundation (CURF) and the Office of Corporate Partnerships and Strategic Initiatives to identify opportunities for collaboration between private industry and Clemson researchers

#### **REQUEST SERVICE:**

In order to track and efficiently handle your matter, the Office of Industry Contracts (OIC) requests that new contracts requiring OIC review or assistance be submitted by completing an OIC Intake Form (Clemson ID required).

#### Office of Industry Contracts Intake Forms:

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#### **TOOLS AND RESOURCES**

#### University Industry Demonstration Partnership (UIDP)

As a faculty member at Clemson, you have access to numerous tools to help facilitate successful industry collaboration through the University Industry Demonstration Partnership (UIDP), a membershipdriven organization that includes many of the world's top companies and research universities.

Our organizational membership in UIDP allows you to participate in UIDP events and webinars, to access UIDP publications and reports, to take advantage of numerous networking opportunities and to receive valuable insights from experts.

Sign up to receive insights and information from UIDP here.

Visit the organization's website here to learn more about the benefits of our membership. Anyone with a clemson.edu email address can access members-only materials by clicking on the "Members-Only Area" button on the homepage and clicking on "Register" to set up an account.



#### **CONTACT US:**



Office of Industry Contracts Strom Thurmond Institute 230 Kappa St., Suite 200 Clemson, SC 29634

Phone: 864-656-3989 Fax: 864-656-0881

# OFFICE OF RESEARCH COMPLIANCE



The Office of Research Compliance fosters research integrity to ensure enterprise-wide compliance with federal regulations and to promote ethical conduct in research involving vertebrate animals, recombinant DNA, hazardous materials, and human subjects. The office provides expert advice and customer service to facilitate research, education and public service.

#### **COMPLIANCE COMMITTEES**

#### -<u>Institutional Animal Care and Use Committee</u> (IACUC)

A federally mandated body that serves as the principal advisory source in humane care and use of animals within the university and, as such, is responsible for the oversight of the CU animal care and use program, facilities, procedures and the complete and adequate review of all vertebrate animal activities.

#### Institutional Biosafety Committee (IBC):

A federally mandated review body to review and approve research utilizing recombinant DNA, synthetic nucleic acids, biological hazards, chemical hazards used with vertebrate animals, nanoparticles (in certain circumstances) and Select Agent/Toxins.

#### Institutional Review Board (IRB):

A federally mandated body established to protect the rights and welfare of human subjects recruited to participate in research activities conducted under the auspices of Clemson University.

#### **CONSULTATION** AND EDUCATIONAL PROGRAMS

**OVERSIGHT** AND COMPLIANCE AREA COORDINATION

#### TOOLS AND RESOURCES

#### Research Integrity

The ideals of honesty, fairness and compliance with research guidelines and policies. Online education on Responsible Conduct of Research (RCR) is available for faculty, staff and students. RCR training is a requirement of some federal funding agencies.

More information on RCR training:



#### Research Misconduct

Research Misconduct means fabrication, falsification or plagiarism in proposing, performing, reviewing research or in reporting research results. Research misconduct does not include honest errors, difference of opinion or authorship disputes. If you suspect someone is involved in misconduct, you can report it via phone, online or in person at the Office of Research Compliance, 391 College Ave., Suite 406, Clemson. Persons reporting misconduct are protected from retaliation via university policy, and confidentiality is maintained throughout the investigation to the greatest extent possible.

Read the University Policy for Research Misconduct:



Contact the Research Integrity Officer: 864-656-1525

Online: https://www.lighthouse-services.com/clemson



#### **CONTACT US:**



Office of Research Compliance Clemson Centre 391 College Ave., Suite 406 Clemson, SC 29631

# OFFICE OF RESEARCH DEVELOPMENT

#### **ABOUT**

The Office of Research Development supports your efforts to obtain extramural funding for world-class research. To advance the university's *ClemsonForward* strategic plan, ORD coordinates activities aimed at increasing faculty members' success in securing prestigious, highly competitive grants. ORD marshals resources critical for funding opportunities that require transformative, transdisciplinary, collaborative and convergent research.

#### **PROPOSAL DEVELOPMENT SERVICES**

- ORD identifies potential collaborators and coordinates team meetings and deadline workflow
- Assists with conceptual design and develops themes and persuasive strategies to strengthen proposals
- Coordinates internal and external reviews
- Provides grant-writing training and editing assistance
- Hosts events and informational sessions that target specific funding agencies or opportunities

# **REQUEST SERVICE**

STRUCTURE IS DEDICATED TO THOSE DISTINGUISHED MEMBERS OF THE FACULTY OF CILMSON UNIVERSITY WHOSE OUTSTANDING CONTRIBUTIONS TO THE STUDENT BODY, THE SCHOOL, AND THE COMMUNITY HAVE BEEN RECOGNIZED BY THEIR PEERS AS MERITING THIS, THEIR HIGHEST HONOR: "THE CLASS OF '39 AWARD FOR EXCELLENCE." ROLL OF HONOR

Class of 1939

H GOSWAMI NT BRAWLEY, JR. .JR. TURNER DDINE IJ SHUEY, JR. THONY MCGUIRE CLAFORGE ICNAIR BUTLER BAUER Y MELTON DTT MILLER EGAN WALDVOCEL APJ WHEELER

#### TOOLS AND RESOURCES

#### Funding Opportunities

Find funding opportunities from federal agencies and private foundations.

#### Collaborative research

Learn about ORD's efforts to build multi-disciplinary teams to compete for high-value projects.

#### Limited Submissions

Work with ORD on proposals for grant programs that limit the number of submissions per institution.

### Honors and Awards

Receive assistance on your nomination for a prestigious award

#### CAREER Academy

Increase your odds of winning an NSF CAREER award



#### **CONTACT US:**



Office of Research Development STI Building 230 Kappa Street Clemson, SC 29634

# OFFICE OF RESEARCH SAFETY

#### **ABOUT**

The Office of Research Safety strives to promote a culture of safety, integrity and quality within the university research community. Along with the Office of Research Compliance, we work to facilitate University research, teaching and public service programs by providing oversight and coordination of research compliance and safety areas.

#### **SERVICES**

- » Develop and maintain effective programs for industrial hygiene and laboratory safety, hazardous materials management, radiation safety and biological safety
- » Provide guidance and technical assistance to supervisors and managers in colleges, schools, departments and other work units in identifying, evaluating and correcting safety hazards
- » Consult with external entities on behalf of the university
- » Provide training and materials assistance to ensure safe and healthful work practices
- » Conduct investigations and analyses of research safety related accidents and injuries
- » Monitor compliance with applicable research safety statutes and regulations and university health and safety policies, programs and guidelines
- » Manage the University Hazardous Waste Program
- » Execute responsibilities delegated by any standing university safety committee, such as the Institutional Biosafety Committee, the Animal Care and Use Committee, the University Radiation Safety Committee, the Institutional Review Board, etc.

#### **TOOLS AND RESOURCES**

We coordinate and provide a broad range of training programs to assist in working safely and meeting training compliance requirements. Training is offered at no charge for both in-person and online courses. Other services include exposure monitoring, respirator fit testing, fume hood testing, safety inspections, research protocol reviews and facility design plan reviews. For a complete list of training and services, please visit the website.

# HOWARD'S ROCK

FROM DEATH VALLEY. CA TO DEATH VALLEY CLEMSON. SC PRESENTED TO COACH FRANK HOWARD AND THE CLEMSON FOOTBALL TEAM BY S.C. JONES '19 SEPTEMBER 1966

# PROGRAMS

#### Laboratory Safety-

The Laboratory Safety Program provides consultative services to teaching and research laboratories where hazardous chemicals are used.

#### Biosafety -

The Biosafety Program provides a number of services to assist teaching and research labs that use biological materials such as DNA and infectious materials.

#### Hazardous Materials and Waste

We manage the university hazardous waste program including removal and proper disposal of chemical and biological waste. We also train and authorize personnel who ship or transport hazardous materials.

#### Radiation Safety –

The Radiation Safety program oversees the university license and compliance for the use of all radioactive materials as required by the South Carolina Department of Health and Environmental Control (DHEC).

#### **Off-Campus Facilities -**

We handle all aspects of health and safety at our Innovation Campuses, Research & Education Centers and other Clemson facilities throughout the state.

#### Industrial Hygiene and Safety -

The Industrial Hygiene Program provides services to recognize, evaluate and control health and safety hazards in teaching and research areas.

#### **CONTACT US:**

Office of Research Safety 391 College Ave., Suite 104 Clemson, SC 29631







# OFFICE OF SPONSORED PROGRAMS

#### **MISSION STATEMENT**

The Office of Sponsored Programs is here to help position Clemson University and its faculty to successfully compete for external funds through the provision of consistent, efficient and transparent systems and services delivered by highly skilled research administration professionals in the spirit of collaboration.

#### **IMPORTANT LINKS**

# FOR ADMINISTRATORS



# **FOR RESEARCHERS**

#### **SERVICES**

- Grantsmanship Education
- Finding Funding
- Sponsored Programs Certification
- Electronic Usernames
- Contract Negotiation
- Confidentiality & Material Transfer Agreements







#### **CONTACT US:**



Office of Sponsored Programs Strom Thurmond Institute 230 Kappa Street Clemson, SC 29634

Phone: 864-656-1661 Fax: 864-656-7700

# RESEARCH FOUNDATION



To maximize the societal impact of Clemson University's research and innnovation.

#### **ABOUT**

The Clemson University Research Foundation (CURF) manages the process of moving Clemson's innovative technologies from laboratories to commercial markets, otherwise known as technology transfer.

Established in 1981, CURF is a 501(c)(3) corporation founded exclusively for charitable, educational and scientific purposes.

The Clemson University Research Foundation works to identify industry sponsored research opportunities, obtain intellectual property protection, create industry relationships and license Clemson University intellectual property to the private sector through licensing agreements.

#### TECHNOLOGY TRANSFER: HOW IT WORKS

#### Invention

Technology is invented by researcher and disclosed to CURF

#### Commercial Potential

CURF works with the inventor to asses the patentability and commercial potential of the technology

#### Intellectual Property

A patent application is filed, if warranted, with the U.S. Patent and Trademark Office to protect the technology

#### Marketing

CURF markets the technology to development partners and potential third-party licensees

#### Licensing

An agreement is negotiated, granting rights of the technology to a third party.

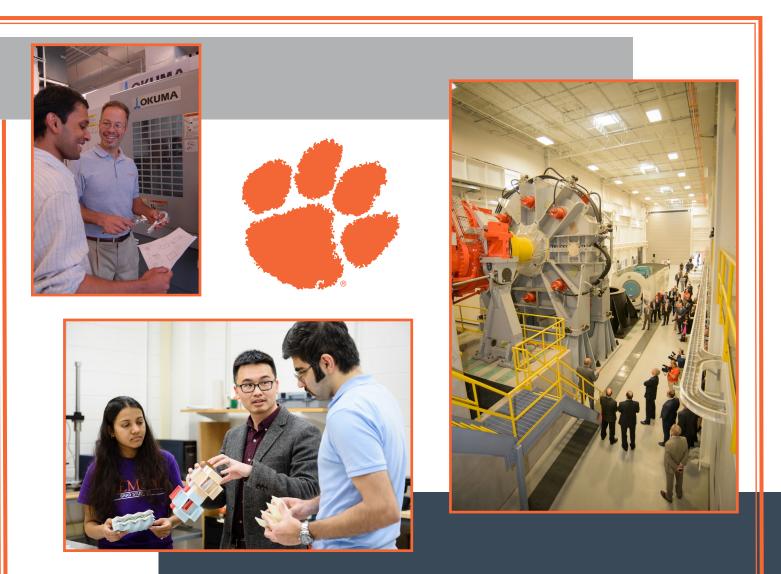
#### **INVENTION DISCLOSURE**

When you believe that you have created or invented something novel and useful in the course of research, submit an invention disclosure to CURF prior to any publication or presentation. This begins a process that could lead to commercialization of your technology.

**NOTE:** If government funds were used in research, a prompt disclosure must be filed under 35 U.S.C. & 200-212 (Bayh-Dole Act), which will be reported to the sponsoring agency.

Visit the CURF Inventor Portal:





#### **CONTACT US:**



Clemson University Research Foundation 391 College Ave., Suite 401 Clemson, SC 29631

Phone: 864-656-0797 Fax: 864-656-0474

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