

# UNIVERSITY OF SOUTH CAROLINA RESEARCH IMPACT ASSESSMENT

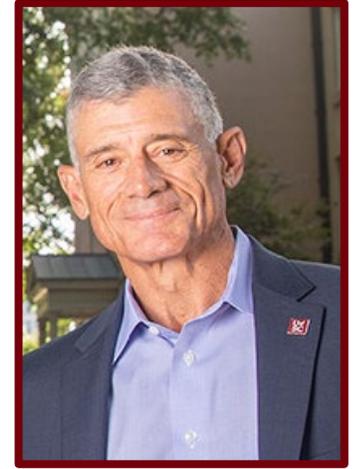
Strategic investments enhance research and innovation at all levels.

**Prakash Nagarkatti**  
**Vice President for Research**  
*September 2020*



# **BUILDING FUTURE INNOVATION TODAY**

As a Carnegie tier one university of very high research activity, the University of South Carolina enjoys a strong tradition of scholarly excellence and innovation at every level of study. In the university's new strategic plan, For South Carolina: A Path to Excellence, enhancing research across the UofSC system and being invited to join the prestigious American Association of Universities are top priorities on our path to preeminence.



Thanks to a decade of strategic investments by the Office of the Vice President for Research, we are well positioned to achieve our new research goals and continue our impact on the state and nation as a tier one research university. By funding UofSC scholars through programs targeting our broad community of undergraduate and graduate students, postdoctoral scholars and faculty members, we have built the foundation needed to take the university's research enterprise to new standards of excellence.

**Bob Caslen**

President, University of South Carolina

# OUR GROWING RESEARCH ENTERPRISE

Nearly a decade ago, the Office of the Vice President for Research developed a strategic plan focused on investment in internal funding programs to enhance the University of South Carolina's research enterprise at every level. To accomplish this, our office carefully created a slate of programs for faculty and student researchers, strategically designed to fuel the engine of research and scholarship and propel UofSC research to new levels of excellence. With nearly a decade of investments now powering our innovation capacity, we are ready to assess their long-term impacts.

As you will see in this impact assessment, we have much good news to report. The success stories you will read here reflect a decade of accomplishments by our faculty and students and serve as a blueprint through which our university will continue building toward our primary research goal of joining the ranks of the Association of American Universities, as proposed in the university's new strategic plan. Our office is excited to continue providing this support and working together to reach new research milestones for UofSC in the years to come.

**Prakash Nagarkatti, Ph.D.**  
Vice President for Research



# INTERNAL RESEARCH FUNDING PROGRAMS

## Faculty Programs

- **ASPIRE:** Advanced Support for Innovative Research Excellence
- **RISE:** Research Initiative for Summer Engagement
- **SMART:** Support for Minority Advancement in Research Training
- **Special initiatives:** SC Floods, COVID-19, Racial Justice and Equity Research Fund
- **Crowdfunding with [experiment.com](https://www.experiment.com)**

## Student Programs

- **Graduate and undergraduate research funding:** SPARC and Magellan Programs
- **Discover UofSC**
- **Caravel**
- **Summer research programs**

# ROI: ASPIRE Generates Big Returns

## ASPIRE

*For Faculty and postdoctoral scholars, ASPIRE invests in new research lines, collaborations and shared equipment*

### ASPIRE by the numbers

**597** faculty projects funded since 2012

**80** postdoc projects financed since 2015

**\$2 million+ per year**  
average investment directly in UofSC's research enterprise

**\$18.2 million+**  
total investment 2012 to 2020



## RISE

*For system faculty, RISE supports summer research and scholarship to bolster system productivity*

### The Impact of RISE since 2013

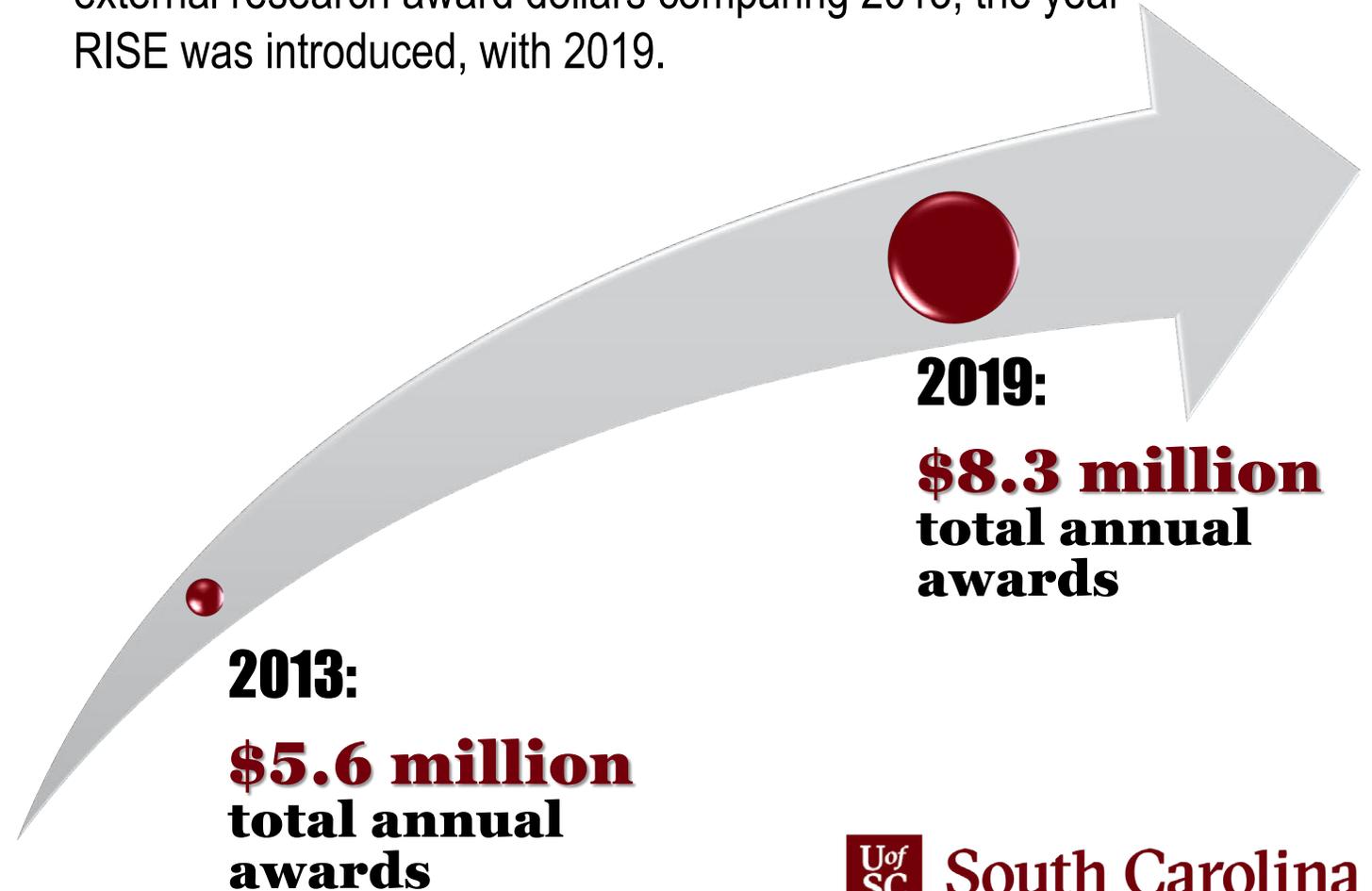
**\$1 million+** invested in UofSC's system institutions and campuses

**263** projects backed, across all disciplines

Faculty at all **7** system universities have received RISE funds

## System-Wide Impact

UofSC's three comprehensive institutions and four Palmetto College campuses saw a **48 percent increase** in external research award dollars comparing 2013, the year RISE was introduced, with 2019.



# SMART

*For all faculty, SMART provides funds to mentor underrepresented minority students during the summer*

## SMART Stats

Since 2013, SMART has provided:

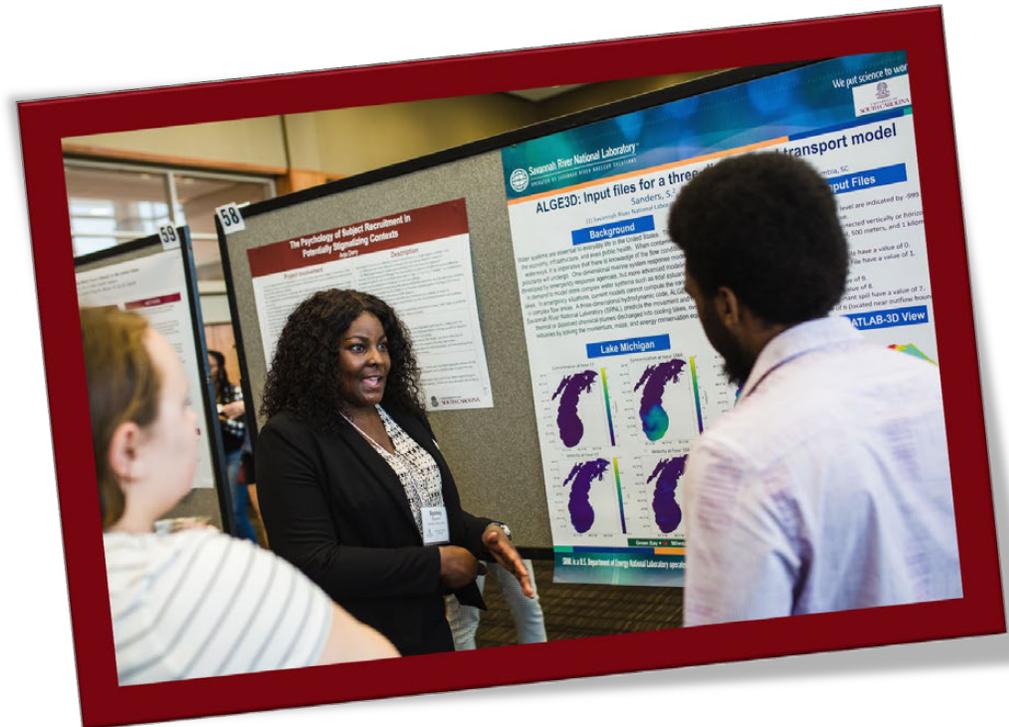
**\$204,000** for faculty mentors

**204** underrepresented minority undergraduate students with summer research experiences

# Success Story: Sydney Sanders

Sydney spent her undergraduate summers on campus, conducting research with Dr. Enrica Viparelli through the NSF SC Alliance for Minority Participation Program.

**She is now pursuing her MS in Civil Engineering at UofSC.**



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# SPECIAL FUNDING INITIATIVES

*For all faculty, our special funding initiatives provide rapid funding support to study time-sensitive issues that affect the world*

## Special funding initiatives

SC Floods Research Initiative, 2015

COVID-19 Research Initiative, 2020

Racial Justice and Equity Research Fund, 2020 (ongoing)

## Rapid Funding to Address Real-World Problems

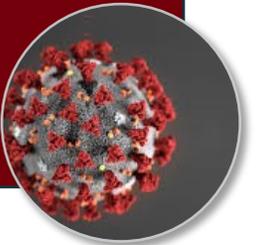
- **\$705K+** invested
- **32** funded projects
- **83** faculty recipients

### SC Floods



- **\$877K+** invested
- **42** funded projects
- **82** faculty recipients

### COVID-19



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# CROWDFUNDING WITH EXPERIMENT.COM

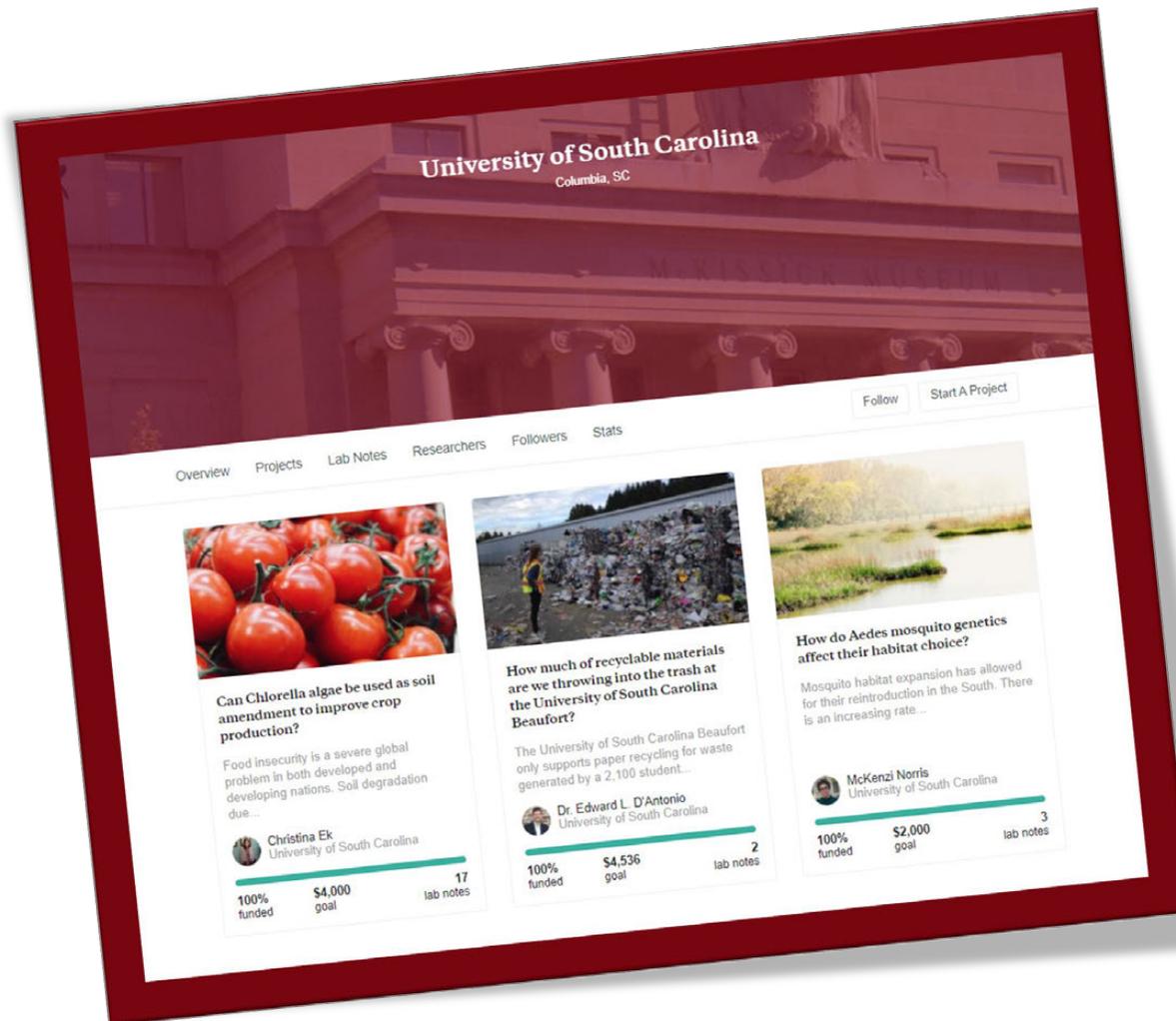
*For all students, postdocs and faculty, our office offers completing funds for UofSC researchers who raise at least 50 percent of their goal through the platform*

## Experiment.com stats

Since 2014:

**24** projects funded

**\$118K+** raised, including matching funds and independent donations through the site



# RESEARCH AND SPONSORED AWARDS FUNDING

Research and sponsored awards funding has grown steadily for a decade at UofSC.

## OVERALL FUNDING

**\$226.9 million** in FY2011,  
grew to **\$278.6 million** in  
FY2019



**5** consecutive years of record-setting funding (FY15-FY19)

## FEDERAL FUNDING

**\$141 million** in FY2011, grew  
to **\$166 million** in FY2019



**>\$100 million** in federal funding  
for health sciences in FY2019

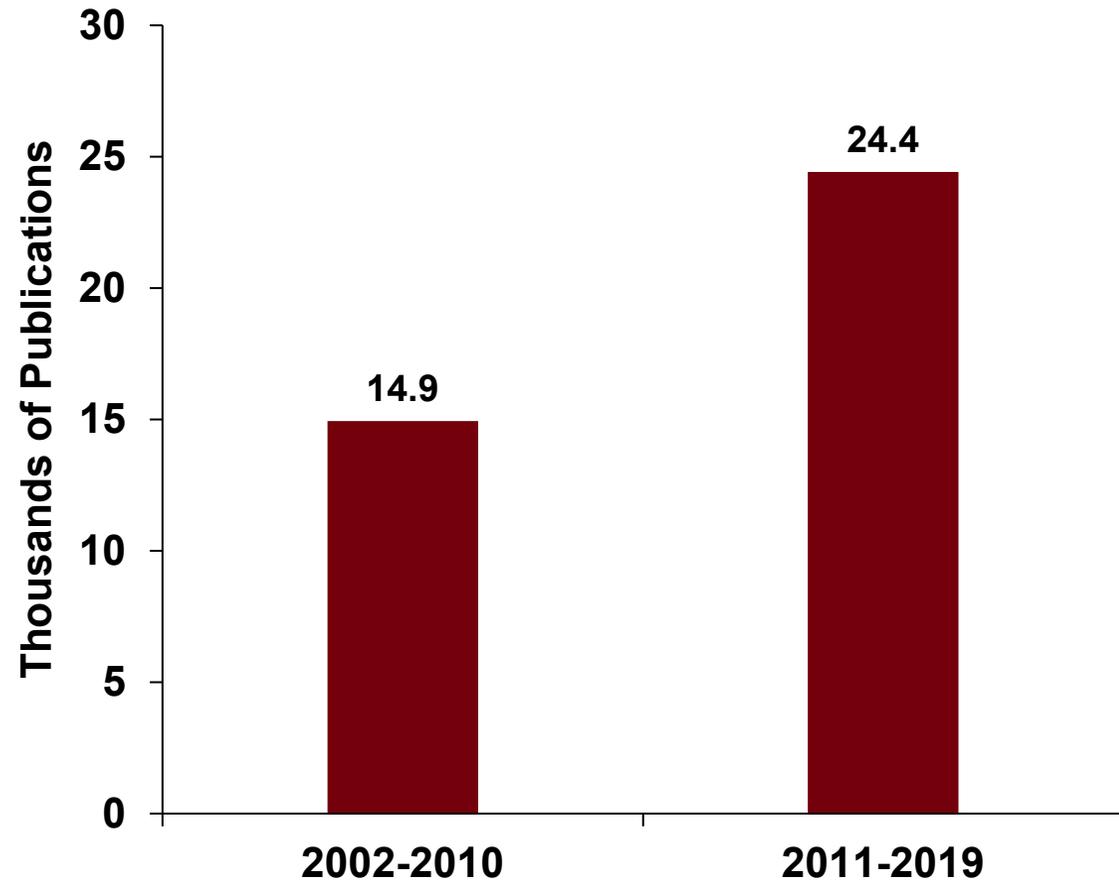
## IMPACT: FACULTY PUBLICATIONS

**64 percent**

increase in number of publications across all UofSC Columbia Colleges and Schools in 2011-2019 compared to 2002-2010

## UofSC Columbia Publications

Data Source: Web of Science

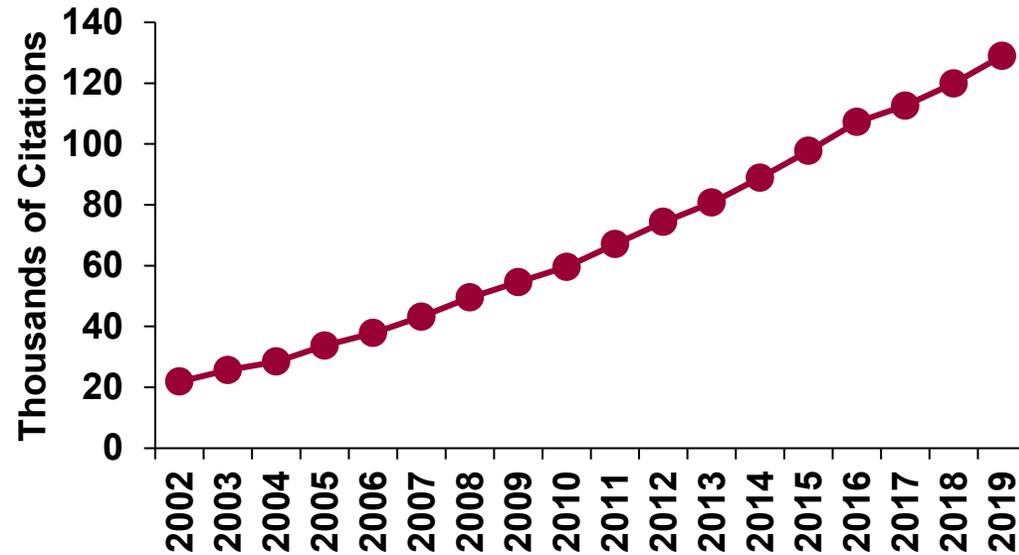


# IMPACT: CITATIONS OF PUBLICATIONS

**145 percent** increase in citations of faculty publications across all UofSC Columbia colleges and schools in 2011-2019 compared to 2002-2010

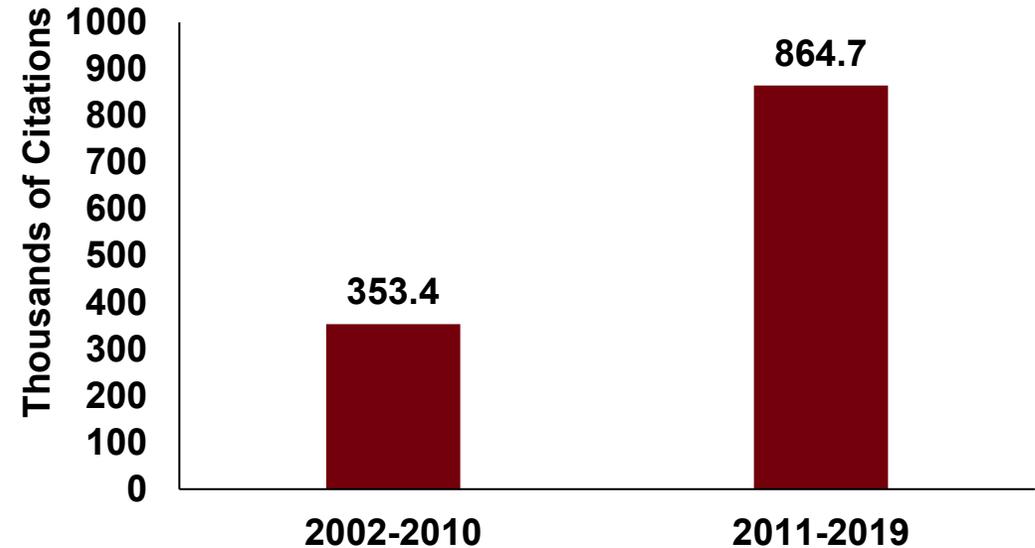
## Number of Citations - UofSC Columbia

Data Source: Web of Science



## UofSC Columbia Citations

Data Source: Web of Science



# IMPACT: GROWTH IN CENTERS AND \$3M+ AWARDS

## Federally funded Centers of Research Excellence

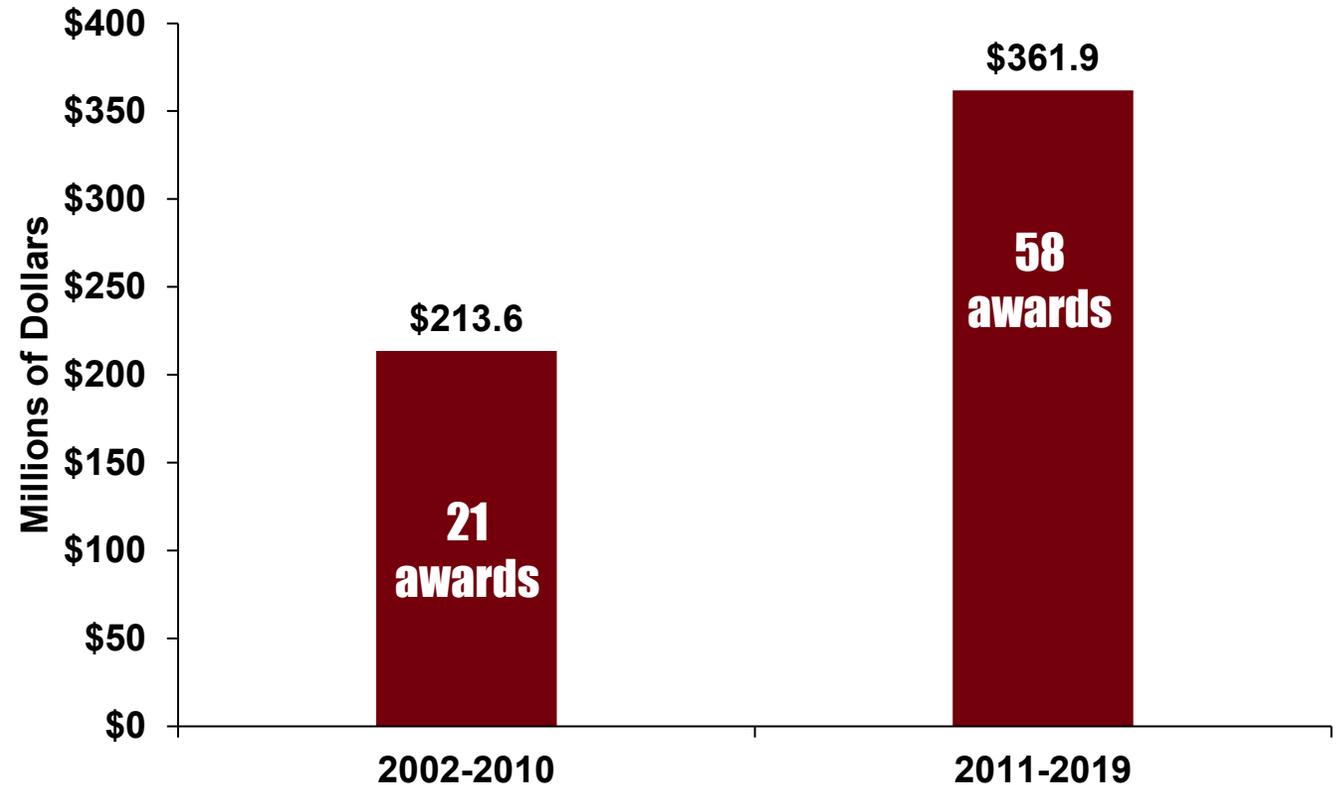
**22** federally-funded centers of research excellence since 2011

**\$200 million+** in federal funding for UofSC centers

## \$3M+ Large Awards

**176 percent** increase in number of large awards worth \$3 million+ in 2011-2019 over 2002-2010

**UofSC Awards Over \$3 Million**  
Amount of funding and number of awards



# STUDENT FUNDING PROGRAMS

*Funding programs for graduate and undergraduate students in all disciplines*

## Programs

SPARC: graduate students

Magellan: undergraduate students (program began in 2005)

Since 2013

- **\$2.1M+** invested
- **430** funded projects

**SPARC**



Since 2011

- **\$3.7M+** invested
- **1,901** funded projects

**MAGELLAN**



# STUDENT SHOWCASE: DISCOVER UOFSC

*For all students, postdocs and  
medical scholars, all campuses*

**1,000+** undergraduate and graduate students, postdocs and medical scholars present research and scholarly work at Discover UofSC, the university's signature full-day research showcase event each year since 2017.



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# CARAVEL

*UofSC undergraduates in every field of study are eligible to publish their academic articles in the online Caravel Undergraduate Research Journal.*

## Caravel by the numbers

Since 2012, Caravel has published

**31** articles with

**5** more in press for publication in fall 2020



# SUMMER PROGRAMS FOR UNDERGRADUATES

SMART faculty mentoring program for  
underrepresented minority students

*Research: Next Steps to Success* professional  
development workshops

SC Alliance for Minority Participation Program

## Summer Research Symposium

*All summer research undergrads, all  
campuses*

**420+** undergraduate students have  
presented results from UofSC faculty-mentored  
summer research experiences since 2014.



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# SUMMER RESEARCH TRAINING: MINORITY UNDERGRADUATES

## SC Alliance for Minority Participation Program

**169** UofSC and Midlands  
Tech undergraduate student  
research projects funded since  
2011



# SUPPORT FOR POSTDOCTORAL SCHOLARS

## ASPIRE for Postdocs

**80** postdocs funded

**\$398,468** in funding

## UofSC Postdoctoral Association

Our office has supported **UofSC Postdoctoral Association** since its inception in 2014. We provide an Institutional Membership to the **National Postdoctoral Association** for all UofSC postdocs.

## Success Story: Kandy Velázquez

Former ASPIRE for Postdocs recipient **Kandy Velázquez, Ph.D.**, received a **Pathway to Independence Award** of nearly \$1 million from the National Institutes of Health to study how a traditional herbal compound may help curb pain in cancer patients. She is now an Assistant Professor in the Department of Pathology, Microbiology and Immunology at the UofSC School of Medicine in Columbia.



# RECOGNITION PROGRAMS FOR FACULTY AND GRADUATE STUDENTS

The signature **Breakthrough** “family” of awards, presented each year by the Office of the Vice President for Research, recognizes UofSC faculty and graduate students for their excellence with three distinct honors.

**Since 2012, we have honored**

**43** senior faculty with **Breakthrough Leadership in Research Awards**

**113** early career faculty with **Breakthrough Star Awards**

**116** exceptional graduate students with **Breakthrough Graduate Scholar Awards**

**25** faculty members have received the **Distinguished Research Service Award** since 2018.



# SPECIAL THANKS TO

**All of the Office of Research staff members who make these programs possible.**

- Department of Laboratory Animal Resources
- Office of IT and Data Management
- Office of Research Compliance
- Office of Research and Grant Development
- Office of Sponsored Awards Management
- Office of Undergraduate Research

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