

# CLEMSON<sup>®</sup>

## College of SCIENCE

### BUILDING LEADERS ACROSS THE SCIENCES

The College of Science at Clemson is driven by curiosity, with a goal of improving the lives of everyone around us. Our faculty and students will maintain a clear focus as we search for the discoveries of the future.

### DISCOVERY

The Eukaryotic Pathogens Innovation Center is an interdisciplinary research cooperative. It stands at the forefront of biomedical research on eukaryotic pathogens, which are the causative agents of some of the most devastating and intractable diseases of humans, such as malaria, amoebic dysentery, sleeping sickness, Chagas disease and fungal meningitis. The global impact of these diseases is immense, especially because they can cause illness anywhere in the world. In 2016, EPIC was awarded a \$10.5 million COBRE grant from the National Institutes of Health to accelerate the rate of discovery in the fight against pathogens.

### LEARNING

Clemson University's "Eclipse Over Clemson" mega-party drew about 50,000 people to campus on Aug. 21 to view the 2017 total solar eclipse. The event required months of planning led by Dr. Amber Porter, a lecturer in physics and astronomy, and Jim Melvin, communications director. More than 25 media outlets from around the world descended on Clemson, including The Weather Channel, The Washington Post, FOX News, Scientific American, The Wall Street Journal, BBC and even a broadcast team from Slovakia. Millions across the world saw Clemson University at its best. The weather and dramatic moments of totality were beyond spectacular. To order your copy of the Eclipse Over Clemson anthology, visit [www.clemson.edu/eclipse](http://www.clemson.edu/eclipse).

### ENGAGEMENT

Tigers on Call engages current students with Clemson alumni and friends in order to Make Connections in Healthcare. This annual fall event includes presentations and educational elements in the fields of medicine, dentistry, pharmacy, physical therapy and occupational therapy. Students have the opportunity to gain exposure to a variety of sub-specialties, learn about the reality of medical and professional schools and ask questions in an open, engaging forum. In 2017, we welcomed more than 50 alumni and friends and 180 students for the third year of the event. The Health Professions Advising Team, based in the College of Science, helps coordinate the event.

### FOUNDING DEAN CYNTHIA Y. YOUNG



Cynthia Young joins the Clemson Family as the founding dean of the College of Science. As an interdisciplinary scholar, Young developed mathematical models governing atmospheric effects in laser communication channels. In 2001, she was selected by the Office of Naval Research for the Young Investigator Award, and in 2007, she was selected as a fellow of the International Society of Optics and Photonics (SPIE). The author of more than 70 books and publications, Young has secured continuous federal funding exceeding \$5 million since 1999.

Previously, she served as the vice provost for Faculty Excellence and UCF Global at the University of Central Florida, where she led university-wide initiatives to strengthen, recruit and retain exceptional and diverse faculty and internationalize the university. Young joined UCF as an assistant professor of mathematics in 1997 and is a co-founder of UCF's EXCEL program, created to increase students' success in their first two years in STEM disciplines. Since its inception 10 years ago, the program has helped improve STEM majors' graduation rates by 40 percent. Young served in several other leadership roles at UCF, including the NCAA faculty athletics representative and associate dean for research in the College of Sciences.

"I am honored to lead the new college in its ascension to a world class College of Science that is both locally relevant and globally impactful in its quest to expand our knowledge of the natural world," Young said. "To do that within the context of a 21st century land-grant University focused on improving lives and livelihoods of the citizens of South Carolina and beyond is a spectacular challenge. After engaging with the Clemson faculty, staff, students, senior leadership and community members I am confident that we will harness all of our experiences, talents and energy to collectively advance Clemson forward," she said.

## CENTERS AND INSTITUTES

**Center for Excellence in Mathematics and Science Education (CEMSE)** Established in 1986, the Center of Excellence in Mathematics and Science Education provides support, professional development, curricula, instructional materials and coursework to improve the teaching of mathematics and the sciences in grades K through 16.

**Center for Human Genetics** In partnership with the Greenwood Genetic Center, the Clemson Center for Human Genetics solves the real-world problems that children with autism and their families face. Every day, our research team is making new discoveries about autism and genetics that will lead to early diagnosis and new therapeutic interventions.

**The Eukaryotic Pathogens Innovation Center (EPIC)**, founded in February 2013, is an interdisciplinary research cooperative at Clemson University. It stands at the forefront of biomedical research on eukaryotic pathogens, which are the causative agents of some of the most devastating and intractable diseases of humans including malaria, amoebic dysentery, sleeping sickness, Chagas disease and fungal meningitis. Globalization has resulted in an increase in such infections in the U.S., and many eukaryotic pathogens are also classified as bioterrorism agents and/or neglected tropical diseases (NTDs). The global importance of these pathogens is what motivates our faculty members, who have established a lengthy track record of major contributions in this area of research.

### **Life Sciences Outreach Center (CULSOC)**

- Makes science relevant and fun through hands-on labs, camps and activities for learners of all ages.
- Engages the public through lectures and discussions of scientific issues.
- Supports classroom teachers through course offerings and lesson ideas.
- Science Saturdays, activities for the whole family.

**Statistics and Mathematics Consulting Center (SMCC)** serves researchers from Clemson University, commerce, industry and government by offering data analysis, statistical guidance and interpretation, problem solving, scientific computing and mathematical modeling. SMCC provides an interdisciplinary environment for collaboration and consultation. The mission of SMCC is to improve the quality of scientific analysis in support of Clemson's research efforts across a broad range of disciplines.

## DEPARTMENTS AND DEGREE PROGRAMS

### **BIOLOGICAL SCIENCES**

Clemson's biological sciences department aims to produce informed citizens who contribute not only to the scientific community but also to the ongoing dialogue concerning the many ethical, social and political issues that have biological context or consequences.

- Biological Sciences, B.A., B.S., M.S., Ph.D.
- Microbiology, B.S., M.S., Ph.D.

### **CHEMISTRY**

The goal of Clemson's chemistry department has been and continues to be nationally recognized among peers as an outstanding department that responds to the educational, technological and economic needs of South Carolina, the southeastern United States and the nation.

- Chemistry, B.A. B.S., M.S., Ph.D

### **GENETICS AND BIOCHEMISTRY**

The Department of Genetics and Biochemistry at Clemson offers the advantages of both a large major research university and the personal attention and collegial environment of a small private institution, creating a recipe for personal development and future success.

- Biochemistry, B.S.
- Genetics, B.S., Ph.D.
- Biochemistry and Molecular Biology, Ph.D.

### **MATHEMATICAL SCIENCES**

From economic development to environmental concerns, from advanced medical technology to computerized communication systems, mathematics touches nearly every facet of our world. At Clemson, you can experience the power of mathematics in the context of the exciting and dynamic science that it really is.

- Mathematical Sciences, B.A., B.S., M.S., Ph.D.

### **PHYSICS AND ASTRONOMY**

Clemson's physics and astronomy department is internationally recognized for its experimental, computational and theoretical work in astronomical, atmospheric, biological, condensed matter and fundamental physics. Our theorists and experimentalists explore, test and discover phenomena that provide evidence for novel and unified theories based on these physical laws.

- Physics, B.A., B.S., M.S., Ph.D.