



Clemson University is the only major research university on the East Coast that lies directly in the path of totality for the 2017 solar eclipse. Clemson has invited the public to watch the eclipse from our main campus. Expert sources from astronomy will be available for interviews before, during and after the eclipse. **For more information:** Contact Jim Melvin, public information director for the College of Science, at jsmelvi@clemson.edu.



Rob Baldwin Professor, Department of Forestry and Environmental Conservation

- Rob Baldwin is available to discuss the natural effects a total solar eclipse has on the local environment.

Rob Baldwin, Ph.D., is a conservation biologist at Clemson University concerned with mitigating the effects of human activities on ecosystems.

He and his students map where and when new conservation management activities should occur.

His work has helped decision makers in conservation NGOs, federal and state agencies, and private companies.

Baldwin has studied reptiles, amphibians and mammals. He is a professor in the department of forestry and environmental conservation, which is part of the College of Agriculture, Forestry and Life Sciences and chair of the Margaret H. Lloyd-SmartState Endowment.



Sean Brittain Professor, Department of Physics and Astronomy

- Sean Brittain is available to discuss the Citizen CATE (Continental-America Telescopic Eclipse) Experiment.

Sean Brittain is a professor on the faculty of the department of physics and astronomy at Clemson University. He holds a Ph.D. from the University of Notre Dame (2004) where he studied the formation of stars and planets.

After completing his Ph.D., he was a Michelson Science Postdoctoral Fellow at the National Optical Astronomy Observatory in Tucson, Ariz., where his research focused on the study of planet forming disks

around young stars. He is currently working to identify forming gas giant planets and thus connect the initial conditions of planet formation to the dizzying array of planets observed around mature stars. To accomplish this work, he uses telescopes in Hawaii, Arizona, Chile and outer space to study the birthplace of planets. In addition to research, he greatly enjoys teaching and talking about science with the public.

Brittain is particularly passionate about working with K-12 teachers to translate cutting edge research in physics and astronomy to material teachers can present in the classroom.



Rick Brown Eclipse Chaser

- Rick Brown is available to discuss the interesting phenomena with the sun and shadows that can be seen during a total solar eclipse.

Rick Brown was born in 1953 and developed an interest in astronomy as a young teen. He was able to travel to Virginia Beach in 1970, where he witnessed his first total solar eclipse.

Clemson University will be Brown's 16th total solar

eclipse. He has escorted more than 1,000 people to witness — all over the world — the awe and beauty of totality. Brown's longest view of totality was 9 minutes and 23 seconds, as seen from 39,000 feet outside the window of a jet aircraft that was chartered solely to see the eclipse from the sky.

"I will continue to chase as many eclipses as I possibly can, because I need to be in the shadow of the moon," he says.

■ **CONTACT:** Jim Melvin, public information director, College of Science: jsmelvi@clemson.edu



Richard Eason
Associate Professor, University of Maine

■ Richard Eason is available to discuss the Eclipse Ballooning Project.

Rick Eason is an associate professor of electrical and computer engineering at the University of Maine. He received his Ph.D. from the University of Tennessee in Knoxville in 1988, having previously worked as a VLSI design engineer in Silicon Valley.

At the University of Maine, his teaching and research areas have included robotics, steganography, programming, embedded systems and logic design.

In 2011, he started a high-altitude ballooning

program at the University of Maine where he and his students create experiments and design sensing systems that are then launched aboard a high-altitude balloon that travels into the stratosphere to altitudes of 120,000 feet or more.

The balloons are tracked over the 2-3 hour flight and the payloads are recovered. To date, he and his students have launched 74 balloons and so far have a 100 percent recovery rate. He also does high-altitude balloon flights for other schools in Maine.

Eason is a licensed professional engineer and certified flight instructor.



Dieter H. Hartmann
Professor, Department of Physics and Astronomy

■ Dieter Hartmann is available to talk about the science of eclipses and why studying the corona of our star is important.

Dieter H. Hartmann is a professor of astrophysics on the faculty of the department of physics and astronomy at Clemson University. He holds a Ph.D. from the University of California Santa Cruz (1989).

After studying engineering in Lübeck and astrophysics at the Gauss Observatory in Göttingen, a Fulbright stipend enabled him to study at UCSC, where his research interest turned to gamma-ray bursts (GRBs). At Lick Observatory he searched for their op-

tical counterparts and investigated radiation transport in neutron star magnetospheres. After his Ph.D., he held a postdoctoral research position at the Lawrence Livermore National Laboratory. In 1991, Hartmann joined Clemson University to pursue nuclear and ray astrophysics.

He serves the astrophysics community as a scientific editor of *The Astrophysical Journal* and a member of the Astronomy and Astrophysics Advisory Committee (AAAC). His current research lies in the area of time-domain astrophysics, which explores explosive phenomena such as novae, supernovae and GRBs.



Jeremy King
Associate Provost, Office for Institutional Effectiveness

■ Jeremy King is an astrophysicist and is available to discuss the science behind how eclipses occur.

Jeremy King is a professor in the department of physics and astronomy, and the associate provost for Institutional Effectiveness at Clemson University.

He is a passionate astrophysical spectroscopist, higher-ed advocate and critic, and infovore.

King was a NASA Hubble Postdoctoral Fellow at the University of Texas at Austin and a postdoctoral fellow at the Space Telescope Science Institute. His scientific interests include near-UV/optical/near-IR spectroscopy of stars to determine chemical abundances, internal stellar physics and important stellar parameters. King holds a Ph.D. and M.S. in astronomy from the University of Hawaii at Manoa.

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Mark Leising Professor, Department of Physics and Astronomy

- Mark Leising is available to talk about the College of Science's involvement in the Eclipse Over Clemson event.

Mark Leising was the interim dean of the College of Science after its establishment in 2016. In this role he was a scientist, an entrepreneur and engineer for newly created institutional systems, a leader and advocate for the departments, personnel, and students of biological sciences, chemistry, genetics and biochemistry, mathematical sciences, and physics and astronomy at Clemson University.

Leising has been on the faculty of the department of physics and astronomy at Clemson since 1991, and served as department chair from 2011–2015. He was inducted into the Thomas Green Clemson Academy of Scientists and Engineers in 2014. Leising has directed Clemson astronomy labs and the Clemson Planetarium for over 20 years. He has a B.S. in physics from the University of Notre Dame (1982) and a M.S. and Ph.D. (1987) in space physics and astronomy from

Rice University.

Prior to joining the Clemson faculty Leising was an astrophysicist for the U.S. Naval Research Laboratory (1988–91) and a research associate for the National Research Council/Naval Research Lab (1986–88). While at Clemson, he has taken leave to work at other institutions including the Max Planck Institut fur Extraterrestrische Physik in Germany as a Humboldt Fellow and the Observatoire du Midi-Pyrenees/Centre d'Etude Spatiale des Rayonnements in Toulouse, France.

Leising's astrophysics research highlights include the first detections of radioactive debris in a supernova explosion, a first-of-its-kind map of electron-positron annihilation radiation from the Milky Way and predictions of supernova radioactivity detectable in X-rays. Leising has published more than 100 articles and has delivered more than 50 conference presentations. He has directed the dissertations of 10 Ph.D. graduates and numerous M.S. and B.S. students.



Amber Porter Lecturer, Department of Physics and Astronomy

- Amber Porter is available to discuss the logistics of the Eclipse Over Clemson event, the science behind eclipses and the educational activities at the Eclipse Over Clemson event.

Amber Porter is a lecturer in the department of physics and astronomy in the College of Science at Clemson University.

She holds a Ph.D. in physics from Clemson University (2016) where she explored the three-dimensional shape of supernova explosions in distant galaxies.

Porter continues to be interested in cosmic explosions, time-domain astrophysics and the interstellar dust of other galaxies. Porter also serves as the director of the Clemson University planetarium and oversees the astronomy laboratory courses.

She is particularly interested in sharing her love of the cosmos with non-technical audiences, and discovering how the access and affordability of informal learning environments can increase the representation of diverse individuals in her field of study.

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Cynthia Pury Professor, Department of Psychology

- Cynthia Pury is available to talk about the emotional response of awe to the eclipse

Cynthia Pury is a professor of psychology at Clemson University and has been in the psychology department since 1998. She holds a Ph.D. in clinical psychology from Northwestern University (1998). Her original research focused on fear and cognition. In the

early 2000s she became interested in positive psychology, or the study of positive traits and states. She currently serves as an associate editor for the Journal of Positive Psychology and is the co-editor, with Shane Lopez, of the book “The Psychology of Courage: Modern Research on an Ancient Virtue.” Her current research focuses on courage virtue, and other positive states and traits.



Chad Sosolik Professor, Department of Physics and Astronomy

- Chad Sosolik is available to talk about the educational activities that are ongoing at the Eclipse Over Clemson event.

Chad E. Sosolik is a professor of physics in the department of physics and astronomy at Clemson University.

He holds a Ph.D. from Cornell University in condensed matter surface physics (2001). He spent two years at the National Institute of Standards in Gaithersburg, Md., working in the Electron Physics Group before joining the faculty at Clemson University in 2003.

While at Clemson, he has developed laboratory setups that probe the fundamentals of charge and energy exchange between ions and surfaces.

Most recently, he established the Clemson University Electron Beam Ion Trap (CUEBIT) facility that aims to recreate astrophysical conditions for atoms within a laboratory setting.

This one-of-a-kind ion source generates highly charged ions that allow users to recreate the radiation conditions experienced from exposures to the solar wind.



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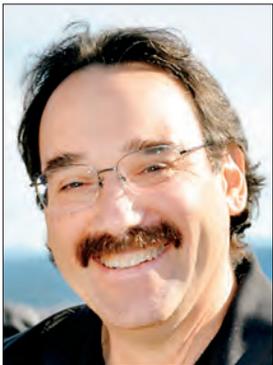
Joseph P. Mazer Associate Professor, Department of Communications

■ Joe Mazer is available to speak to media about social media chatter surrounding the eclipse. Mazer will monitor conversations around the world from the Watt Center auditorium.

Joseph P. Mazer, Ph.D., is an associate professor and associate chair of the department of communication at Clemson University. He is also the director of the Social Media Listening Center, a state-of-the-art interdisciplinary research and teaching facility that seeks to monitor, measure and engage in social media conversations from across the web, and provide learning, teaching, research and partnership opportunities

to students, faculty, collaborative research partners and external clients.

Mazer's research interests include communication in teaching and learning contexts, social media and new technologies, communication in interpersonal relationships, and measurement issues and trends in communication research. He has authored or co-authored over 70 research articles, book chapters and books and is ranked in the top 1 percent of prolific scholars in the communication discipline, according to a study published in the October 2012 issue of *Communication Education*, a national journal published by the National Communication Association.



Howard Spero Distinguished Professor, University of California, Davis

■ Howard Spero developed a passion for chasing and viewing total solar eclipses after his first experience in Baja, California, in 1991. The 2017 solar eclipse over Clemson University will be his ninth total eclipse experience.

Howard Spero is a distinguished professor on the faculty of the department of earth and planetary sciences at the University of California, Davis. He holds a Ph.D. from the University of California Santa Barbara (1986) where he studied the physiology and stable isotope geochemistry of marine planktonic organisms.

After completing his Ph.D., he was a postdoctoral researcher at the University of South Carolina in the department of geology where he studied the mechanisms of Earth's climate system during the past million years. In 1990, he joined the UC Davis faculty where he conducts research at the intersection between living and fossil organisms. His current research focuses on developing novel geochemical tools to probe environmental change throughout Earth history. He is a fellow of the Geological Society of America, American Geophysical Union and California Academy of Sciences.



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Kumar Venayagamoorthy Distinguished Professor, Department of Electrical and Computer Engineering

■ Kumar Venayagamoorthy, Johan Enslin and Rajendra Singh are available to talk about the effects of the solar eclipse on real-time power system operations.

Kumar Venayagamoorthy is a Duke Energy distinguished professor of electrical and computer engineering. On the day of the eclipse, his research group will be holding a simulation of solar-power generation at utility scale. They will be capturing the effects of the

solar eclipse on real-time power system operations with and without smart grid technologies. Their test includes one of their patent-pending technologies, which was recently approved by the U.S. Patent and Trademark Office.

The simulation will take place in the Real-Time Power and Intelligent Systems Laboratory, where Venayagamoorthy is founder and director. Visit the lab's website at <http://rtpis.org>.



Johan Enslin Duke Energy Endowed Chair, Smart Grid Technology

Johan Enslin is a Duke Energy endowed chair in smart grid technology and executive director of the energy systems program. He leads graduate education and the development and growth of research initiatives in emerging electric-grid technologies at the Clemson University Restoration Institute in North Charleston. The research program builds upon Clemson's world-

class research facilities. They include a wind-turbine drivetrain testing and research facility and the Duke Energy eGRID, which can emulate any grid. These two projects form the cornerstone of the SCE&G Energy Innovation Center and are the largest such facilities in the world. The facilities represent more than \$110 million in public and private investment.



Rajendra Singh Professor, Department of Electrical and Computer Engineering

Rajendra Singh is a D. Houser Banks professor of electrical and computer engineering, and the director of the Center for Silicon Nanoelectronics.

The White House honored Singh in 2014 as a

Champion of Change for his more than 40 years of working to promote and expand solar deployment in the residential, commercial and industrial sectors.

■ **CONTACT:** Jim Melvin, public information director, College of Science: jsmelvi@clemson.edu



Kelly Smith
Associate Professor, Department of Philosophy and Biological Sciences

■ Kelly Smith is available to talk about the broader implications of finding life beyond earth.

NASA predicts we will find evidence of life beyond earth in the next 20 years. If they are right, we are on the brink of one of the most important discoveries in human history, yet the broader implications have thus far received little scholarly attention.

Clemson philosopher Kelly Smith is seeking to remedy this oversight by founding the first academic organization dedicated to exploring the social, ethical

and theological aspects of the search for life on other planets. Smith received his M.S. in zoology (evolutionary genetics) from Duke University in 1992, followed by his Ph.D. in philosophy in 1994. He wears several different professional hats, with joint appointments in Clemson's department of biological sciences and as a C. Calhoun Lemon Fellow of the Rutland Institute for Ethics.

In 2012, he was appointed to the faculty of the University of South Carolina Medical School in Greenville, where he oversees the school's ethics curriculum.



Scott Baier
Professor, Department of Economics

■ Scott Baier is available to discuss the economic impact of the eclipse as well as the impacts on travel and tourism across the country and within the state of South Carolina.

Scott Baier is a professor at Clemson University. He is currently serving as the department chairperson of the John E. Walker Department of Economics. Baier has been at Clemson University since 2001. From 1999–2012, Scott was also a visiting scholar at the Federal Reserve Bank in Atlanta. From 2007–2008, he served as a senior economist on the President's

Council of Economic Advisors. He holds a doctorate in economics from Michigan State University. Prior to joining the faculty at Clemson, Baier was an assistant professor at the University of Notre Dame, where he was awarded the Amoco Outstanding Teacher Award. Baier's research interests include the causes and consequences of globalization, the economic impact of free-trade agreements and economic growth. More recently, he has also served as consultant to the Congressional Budget Office (CBO) and United States International Trade Commission (USITC).