



ECLIPSE

OVER CLEMSON

SOUTH CAMPUS GREEN OUTSIDE
WATT FAMILY INNOVATION CENTER
AUGUST 21, 2017



When, where and how to watch the total solar eclipse on the campus of Clemson University

WRITTEN BY JIM MELVIN / DESIGNED BY PETE MARTIN

HOST



CO-SPONSORS

THE COLLEGE OF SCIENCE WISHES TO GIVE SPECIAL THANKS TO OUR GENEROUS CO-SPONSORS AT CLEMSON UNIVERSITY:

College of Engineering, Computing and Applied Sciences

College of Business

Watt Family Innovation Center

Public Service and Agriculture

College of Agriculture, Forestry and Life Sciences

College of Architecture, Arts and Humanities

College of Education

The Libraries

College of Behavioral, Social and Health Sciences



◀ For anyone planning to attend the Aug. 21 “Eclipse Over Clemson” viewing party on the campus of Clemson University, this guide is your indispensable resource. PHOTO: 123RF

MEDIA INQUIRIES

Address media inquiries about the “Eclipse Over Clemson” event to Jim Melvin, public information director, College of Science, Clemson University. ■ Email: jsmelvi@clemson.edu ■ Phone: 864-784-1707

A WORD ABOUT THIS GUIDE

PLEASE NOTE: Schedules and information in this guide were accurate as of Aug. 20, 2017. Schedules subject to change. **VISIT THE ECLIPSE WEBSITE:** <http://www.clemson.edu/eclipse>.

VIEWING DISCLAIMER

IMPORTANT NOTICE FOR “ECLIPSE OVER CLEMSON” EVENT: ALWAYS FOLLOW SAFE SOLAR VIEWING PROCEDURES. LOOKING DIRECTLY AT THE SUN DURING A SOLAR ECLIPSE WITHOUT SPECIAL PURPOSE PROTECTIVE SOLAR FILTER GLASSES (“ECLIPSE GLASSES”) CAN RESULT IN SERIOUS EYE INJURY INCLUDING BLINDNESS. NASA (the National Aeronautics and Space Administration) recommends only using eclipse glasses that meet the following criteria:

- Have certification information with a designated ISO 12312-2 international standard, and have the manufacturer’s name and address printed on the product.
- DO NOT use if they are older than three years, or have scratched or wrinkled lenses.
- DO NOT use homemade filters.
- DO NOT use ordinary sunglasses — even very dark ones.
- DO NOT look at the uneclipsed or partially eclipsed sun through camera, telescope, binoculars, or other optical device.

TOTALITY: The only time you do not need to wear the eclipse glasses when viewing the sun is the brief period when the moon completely covers the bright parts of the sun, known as totality. On the main campus in Clemson, SC, totality lasts from 2:37:11 to 2:39:46 p.m. EDT. If you can see any part of the sun through the eclipse glasses, it is not safe to take them off. **IT IS YOUR RESPONSIBILITY TO DETERMINE WHEN IT IS SAFE TO REMOVE ECLIPSE GLASSES GIVEN YOUR VIEWING LOCATION.** Clemson University assumes no responsibility for any people causing harm to themselves or others by following unsafe solar-viewing procedures. By participating in the event “ECLIPSE OVER CLEMSON” and in the viewing of the solar eclipse, you assume the risk of any possible injury, and you agree to hold Clemson University harmless for any harm caused by following unsafe solar viewing procedures. You are responsible for making sure you and, if applicable, your minor children follow safe solar viewing procedures. For more information and recommendations from NASA visit <https://eclipse2017.nasa.gov/safety>.

Eclipse filter glasses might not securely fit small children, in which case they should not be used. Small observers can follow the progress of the eclipse by looking at images of the sun produced by pinhole and other projectors that will be on site at Clemson, as well as on sidewalks under trees, which they can be encouraged to seek out.



The Eclipse Over Clemson home base will be on the South Campus Green in front of the Watt Center and adjacent to the Cooper Library. PHOTO: Jim Melvin/Clemson University

WHEN, WHERE AND HOW

Watching the total solar eclipse at Clemson

CLEMSON, South Carolina — For anyone preparing to view the upcoming Aug. 21 total solar eclipse on the campus of Clemson University, here's what you'll need to know to make plans for our "Eclipse Over Clemson" viewing party.

The actual eclipse will begin here at 1:07 p.m. and end at 4:02 p.m. But the totality of the eclipse — the part that viewers will find most fascinating — will begin at 2:37 p.m. and last for, coincidentally, 2 minutes and 37 seconds.

Our free, family-friendly "Eclipse Over Clemson" event — which is sponsored by the College of Science, with additional sponsorship by the Watt Family Innovation Center — begins several hours before the start of the eclipse.



The only costs will be for any food and beverages you might choose to purchase.

Solar glasses — they're free (and also vitally important)

We will be giving out up to 50,000 free pairs of solar glasses. These eclipse-viewing shades,

▲ **Clemson University** will be giving out up to 50,000 free pairs of solar glasses, which are necessary to protect your eyes from the damaging rays of the sun. PHOTO: Dieter Hartmann/Clemson University

'Eclipse Over Clemson' will be free — mostly

Except for a few selected parking areas, "Eclipse Over Clemson" will be free. There will be no charge to attend the event and no need for tickets. You'll simply park and stroll in to join the fun.



▲ **The Kinard Hall Planetarium will be available for viewings on eclipse day.** PHOTO: Clemson University

which are certified for users to view the sun without harm during the eclipse, will be distributed at strategic locations on our main campus on the day of the eclipse. They are not available for preorder.

To avoid injury to your eyes, these glasses must be worn any time a user is staring directly at the sun. However, there is one exception: During the brief eclipse totality, it will be safe — and highly recommended — to remove the glasses and watch totality with the naked eye. But when totality ends, the glasses must be worn again whenever staring directly at the sun.

All attendees are encouraged to take this seriously. Responsibility for wearing the solar glasses at the appropriate time lies with each attendee, or each parent or guardian of minor attendees. This does not mean that you will need to wear these glasses during the entire three-hour extent of the eclipse, but when staring directly at the sun, it will be essential to put on the glasses. For more information on how to view the 2017 solar eclipse safely, visit the Eclipse Over Clemson website at <http://bit.ly/2saxumb>.

On-campus event venues

Our home base will be on the South Campus Green in front of the Watt Center and adjacent to the Cooper Library. Here is where most of our

experts will be situated, and it's also the location of our main stage.

From there, attendees will spread out to our amphitheater and beyond.

For a good view of the eclipse, all one needs is a clear view of the sun in the southwestern sky. In the near future, we will be publishing a detailed campus map showing our various venues.

Calendar of events

8-10 a.m.: The day will begin with a series of cosmic tours held at our university's futuristic planetarium located on campus. No more seats are available.

11 a.m.-12:45 p.m.: A team of renowned speakers will take the stage for brief talks about the eclipse and the event. There will also be music, hands-on demonstrations and opportunities for one-on-one chats with our experts. Food and beverages will be available.

1:07 p.m.: The eclipse begins.

2:37 p.m.: Totality begins and will last 2 minutes and 37 seconds.

4:02 p.m.: The eclipse and the event end.

Download a printable calendar of events at <http://bit.ly/2tv3CxK>.

CALENDAR AT A GLANCE

This is the schedule for the “Eclipse Over Clemson” event as of Aug. 20, 2017. Schedule subject to change.

8:00 – 10:00 a.m.	Planetarium shows (no seats remain available)
10:45 – 10:55 a.m.	Introductions from Amber Porter, astrophysics lecturer
10:55 – 11:15 a.m.	Overview of event with Mark Leising, astrophysicist/professor
11:30 – 11:55 a.m.	Great American Eclipse from Clemson with Rick Brown, eclipse-chaser
Noon – 12:35 p.m.	Students discuss outreach opportunities; Eclipse Bingo
12:35 – 12:45 p.m.	Promotion of upcoming “Eclipse Over Clemson” book with Jim Melvin
12:45 – 1:10 p.m.	First contact between sun and moon; scientific team launches balloon
1:10 – 1:20 p.m.	Impact on animals by Clemson conservationist Rob Baldwin
2:00 – 2:10 p.m.	Welcome from Clemson president James Clements; Tiger Band performs
2:10 – 2:50 p.m.	Prepare for totality
3:00 – 3:20 p.m.	Observations with Amber Porter and Mark Leising
3:20 – 3:30 p.m.	More on upcoming “Eclipse Over Clemson” book with Jim Melvin
4:02 p.m.	Eclipse ends as sun emerges from behind the moon



◀ There is plenty of shade surrounding the main venue area, perfect for viewers on eclipse day. PHOTO: Jim Melvin/Clemson University

EVENTS OF SPECIAL INTEREST

■ From the rooftop of the Watt Center, Sean Brittain, professor of physics and astronomy at Clemson University, will be taking images for the Citizen CATE Experiment. Brittain will use an 80-millimeter (about 3-inch) diameter refracting telescope equipped with a glass lens to form the image of the sun that will be recorded by a digital camera.

Brittain's images will then be live-streamed on monitors outside and inside the Watt Center, as well as on select monitors throughout the university. His telescope is one of a fleet of more than 70 identical telescopes that will be placed along the path of totality across the Contiguous United States during the Aug. 21 solar eclipse, in an effort being organized by the Citizen Continental-America Telescopic Eclipse Experiment.

■ A collaborative team of scientists from the University of Maine and Montana State University will be launching a video-equipped balloon 100,000 feet into the atmosphere, where it will live-stream the eclipse from the edge of space. This video will also be shown on monitors



Sean Brittain



The eclipse will be live-streamed via a video-equipped balloon that will be launched 100,000 feet into the atmosphere.
PHOTO: Montana State University

throughout our campus.

■ Experts in Clemson's Social Media Listening Center (SMLC) will monitor eclipse chatter around the world to share with media.

HELPFUL LINKS

Maps and directions:

<http://bit.ly/2vXHPiI>

Parking and directions:

<http://bit.ly/2h0uyDx>

Park-N-Ride shuttle:

<http://bit.ly/2tHd9Wo>

Clemson Area Transit (CAT) bus service:

www.catbus.com

Where to park, when to arrive — and carpool, please

With fall classes starting just two days later, eclipse day will be an extremely busy one on our campus, which means that many of our parking areas will already be filled by student, faculty and staff vehicles. However, we will still provide plenty of free parking for our eclipse visitors. You will be directed to several remote lots that are within relatively easy walking distance of our main venues. Both the East and West Campus shuttles will be available from some parking lots for those who choose to ride, and the Clemson Area Transit (CAT) Bus will also be running its normal Red and Campus route schedules. We will also have parking reserved for those with disabilities.

Please carpool. This will be an enormous help to us, as well as making things easier on you. Expect traffic to be relatively similar to game-day traffic. It might not be quite that heavy, but it's unlikely you'll be cruising into campus unimpeded.



Clemson University will provide plenty of free parking for eclipse visitors. PHOTO: Clemson University

For this reason, we advise that you arrive early. More specific details about parking, including the location of the parking lots and what time they open, will soon be published on our "Eclipse Over Clemson" webpage and on our "Eclipse Over Clemson" Facebook page.



Amenities, first-aid and other details

As mentioned above, we will have food, beverages and plenty of bottled water. There are a half-dozen restaurants within convenient walking distance of our inner campus and food trucks will be available on-site. However, it is welcomed (and encouraged) for you to bring your own food and drink. Alcohol will not be served at this event. You might also consider bringing blankets and foldable chairs for a picnic-style view of the eclipse.

We also will have bathroom facilities.

A large team of student volunteers — wearing Clemson-orange VOLUNTEER T-shirts — will be on hand to answer questions and give directions. The Watt Family Innovation Center will be open to the public, providing a break from the expected summer heat, as well as displaying internal views of the eclipse on its numerous

high-resolution monitors.

We will have a first-aid station near the Strom Thurmond Institute for any potential minor issues, and emergency personnel will be on hand if anything serious were to occur.

Finally, don't forget to bring plenty of sunscreen. It's going to be sunny and hot — with the keyword being sunny!

'Tailgazing'

We are offering another viewing location on the Clemson University campus in addition to the South Campus Green. Spectators can bring their family to the Snow Family Outdoor Fitness and Wellness Center, park their car from the hours of 10 a.m. to 6 p.m., and enjoy the expansive view of the sky from a designated "tailgazing" spot. Proceeds from the tailgazing location will go toward enhancing student experiences at the Snow Family Outdoor Fitness and Wellness Center. You can learn more at <http://bit.ly/2v1fZpu>.

▲ From the South Campus Green, attendees can spread out to our amphitheater and beyond. PHOTO: Jim Melvin/Clemson University



Clemson University President James Clements (above) will speak at “Eclipse Over Clemson” and will be accompanied by the Tiger Band. PHOTOS: Clemson University



Dignitaries, scientists, special guests and media

Our lineup will include:

- Clemson University President James Clements (accompanied by the renowned Tiger Band)
- Founding Dean of the College of Science Cynthia Young
- College of Science expert physicists and astronomers Mark Leising, Sean Brittain, Dieter Hartmann, Jeremy King, Amber Porter and Chad Sosolik
- College of Agriculture, Forestry and Life Sciences conservationist Rob Baldwin
- Renowned “eclipse-chaser” Rick Brown
- University of Maine electrical engineer Richard Eason

For more details about these speakers, visit our website: <http://bit.ly/2saxumb>.

In addition to our speakers, a plethora of local and national media will be attending our event. Most local media will be represented, and also planning to attend are The Weather Channel, CNN, NBC, CBS, FOX, NPR, The Washington Post and Scientific American, to name a few.

A portion of the venue space will be reserved for amateur astronomers and photographers who would like to record the total solar eclipse from a secure location.

These spaces are now filled and are no longer available.

Additional sponsors

The College of Science at Clemson University is actively pursuing sponsorships for this event. We are offering a variety of attractive packages. For more information, please contact Sarah Arbogast at sarboga@clemson.edu or Margaret Owens at mr6@clemson.edu.

Coffee-table book

Clemson University plans to produce a hard-cover, coffee-table book of the event that will include chapters written by Sean Brittain, Nic Brown, Clinton Colmenares, Darlene Edewaard, Dieter Hartmann, Wanda Johnson, Drew Lanham, Donald Liebenberg, Mark Leising, Patrick McMillan, Jim Melvin, Amber Porter, Cindy Pury and Chad Sosolik. Renowned Southern author Ron Rash will now write a poem to open the book and set the mood.

The book will include dozens of photos of the eclipse and its attendees. We are aiming for a mid-December release. Anyone interested in preordering or receiving updates on the publication date of the book is encouraged to sign up at <http://bit.ly/2tA9ci2>. You will not need to pay for the book at this time.