Eclipse Over Clemson

Amber Porter, PhD
Dept. of Physics and Astronomy
Clemson University
Who has seen an eclipse?
Solar Eclipse Geometry

Sun

Moon

Earth

www.MrEclipse.com

©2000 F. Espenak
Solar eclipse from Earth
Solar eclipse from space

DSCOVR satellite
1 million miles from Earth
“Great American Eclipse”
You live within the path of totality!
Total solar eclipses over North America in the 21st century
Moon starts to cover the Sun

1:08 pm
Aug 21
Baily’s beads and the diamond ring

2:36 pm
Aug 21
Totality reveals the Sun’s corona

Wispy corona extends millions of miles away from the Sun

2:37 pm
Aug 21

PC: NASA
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Center</th>
<th>Duration</th>
<th>Sun Alt, Az</th>
<th>Moon L, B, C</th>
<th>Moon Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 21, 2017</td>
<td>10:12 a.m. PDT</td>
<td>44°55'51&quot; W, 128°19'13&quot; W, 0m</td>
<td>1m 52.1s</td>
<td>35.5°, 110.8°</td>
<td>5.32°, -0.16°, 21.87°</td>
<td>368175.9 km</td>
</tr>
</tbody>
</table>
Moon uncovers the Sun

4:03 pm
Aug 21
Pinhole projector using a box

Basic Pinhole projector

- Sunlight
- Paper taped to inside end
- Aluminium foil with pinhole

www.clemson.edu/eclipse
Eclipse Over Clemson
# Calendar of Events

**Library Green Outside**  
**Watt Innovation Center**  
**August 21, 2017**

Please join Clemson University on the Library Green adjacent to the Cooper Library and the Watt Family Innovation Center for the Aug. 21, 2017 Eclipse Over Clemson.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 10 a.m.</td>
<td>Planetarium shows, by appointment only (<a href="mailto:hdebra@g.clemson.edu">hdebra@g.clemson.edu</a>)</td>
</tr>
<tr>
<td>11:00 – 11:10 a.m.</td>
<td>Introductions from Amber Porter, astrophysics lecturer</td>
</tr>
<tr>
<td>11:10 – 11:30 a.m.</td>
<td>Overview of event with Mark Leising, interim dean for College of Science</td>
</tr>
<tr>
<td>11:45 – 12 p.m.</td>
<td>Great American Eclipse from Clemson with Rick Brown, eclipse-chaser</td>
</tr>
<tr>
<td>Noon – 12:35 p.m.</td>
<td>Welcome from scientists and guests</td>
</tr>
<tr>
<td>12:35 – 12:45 p.m.</td>
<td>Promotion of upcoming book by Jim Melvin, COS communications director</td>
</tr>
<tr>
<td>12:45 – 1:10 p.m.</td>
<td>First contact between sun and moon; scientific team launches balloon</td>
</tr>
<tr>
<td>1:10 – 1:20 p.m.</td>
<td>Impact on the environment by Clemson conservationist Rob Baldwin</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Welcome from Clemson president James Clements</td>
</tr>
<tr>
<td>1:35 – 1:45 p.m.</td>
<td>What to look for during totality with Rick Brown</td>
</tr>
<tr>
<td>2:30 – 2:45 p.m.</td>
<td>Silence for totality</td>
</tr>
<tr>
<td>3:00 – 3:05 p.m.</td>
<td>Promotion of upcoming “Eclipse Over Clemson” book with Jim Melvin</td>
</tr>
<tr>
<td>3:05 – 3:30 p.m.</td>
<td>Observations with Amber Porter</td>
</tr>
<tr>
<td>4:02 p.m.</td>
<td>Eclipse ends as sun emerges from behind the moon</td>
</tr>
</tbody>
</table>

Please visit www.clemson.edu/eclipse for more information.

**WHAT:**  
Eclipse Over Clemson

**WHEN:**  
11:00 – 4:02 PM

**WHERE:**  
South Campus Green

**WHY:**  
To stand in the shadow of the moon
STAND BACK

I'M GOING TO TRY SCIENCE
Nature...
Art credit: Cedar Lee
thank you!