

*** CAS ***

Charlottesville Astronomical Society Monthly Meeting



April 6, 2016

Agenda

- Welcome ~ New Members and Guests
- Guest Speaker, Trey Wenger, “Structure in the Milky Way”
- Club Business
- Member Activities
- Outreach Activities
- Recognition and Awards
- Questions and Comments?
- Door Prize Drawing
- Final Thoughts





WELCOME!

NEW MEMBERS AND GUESTS

- New Members
 - James Dodrill
 - Rick Gillete
 - Andrew Johnston
- Guests?



Guest Speaker Trey Wenger

Structure in the Milky Way

- Originally from Ft. Wayne, Indiana, Trey has a B.A. Astronomy & Physics, Boston University, 2013 and an M.A. Astronomy, UVA, 2015
- Currently, Trey's a Jefferson Fellow and Ph.D. candidate at UVA expecting to graduate in 2019
- Trey's research focuses on the structure of our Galaxy, the Milky Way, including the morphological structure (spiral arms) and chemical structure using the Green Bank Telescope, Arecibo Telescope, Jansky Very Large Array, and the Australia Telescope Compact Array.
- You may have seen Trey at Kid-Vention or the RES Science Expo as he volunteers with UVA's Dark Skies, Bright Kids program to bring science literacy, through astronomy, to elementary school children throughout rural Virginia



Club Business



Financial and Membership Status

a/o February 29, 2016

- CAS Checking Account Balance : \$5,449.24
- Uncleared Checks : \$0.00
- Net Balance : \$5,449.24
- Petty Cash : \$109.00
- **Total CAS Cash Assets :** **\$5,558.24**
- **3 New Members:** **James Dodrill, Rick Gillete, and Andrew Johnston**
- CAS Memberships:
 - Individual 25
 - Family 13
 - Senior 33
 - Student/Military 2
 - Educators 9
 - # of Memberships 82
 - **Total Members*** **95** (** Includes one additional person per family membership*)

Michael Hegedus, CAS Treasurer

April 1, 2016

A stylized silhouette of a mountain range in shades of brown and tan, positioned at the bottom of the slide against a blue gradient background.

Membership Benefits

- ***Club Observing at Private and Restricted Dark Sky Sites***
- ***Club Retreats and Special Events (e.g. 8/21/2017 solar eclipse)***
- ***Club Field Trips***
- ***Club Social Events***
 - *Family Day: Monthly Mtg at JMU's John C. Wells Planetarium (Sun. June 5th at 2 PM)*
 - *Family Picnic at Fan Mt. (August 6, 2016)*
 - *Christmas Party (7-11 PM, December 9, 2016)*
- ***Club Mentoring, Training, and Certification Program***
 - *26" Clark Refractor Operator and "Dog House" Training & Certification*
 - *New/Novice Member Mentoring Program (e.g., the purchase and use of astronomical telescopes, celestial navigation, how to read star charts, how to locate/identify galaxies, nebulae, and star clusters generally not visible to the naked eye, etc.)*
- ***Club Loaner Equipment***
- ***Club Monthly Meetings and Guest Speakers***
- ***Membership in the Astronomical League***
- ***Membership in the International Dark Sky Association***
- ***Discounts***
 - *Astronomy and Sky and Telescope Magazine Subscriptionss*
 - *Equipment at Selected Manufacturers and Retailers*



Club Logo Shirts and Hats

(Minimum Order is Six of Any One Item)

| Item (Royal Blue or Orange) | Member Price |
|--|--------------|
| Men's Polo Shirts: S, M, L, XL | \$20.00 |
| Men's Polo Shirts: 2XL, 3XL, 4XL, 5XL, 6XL | \$25.00 |
| Ladies' Polo Shirts: S, M, L, XL, 2XL, 3XL | \$20.00 |
| Watch Cap/Beanie | \$15.00 |
| Baseball Cap | \$20.00 |



Member Activities

UVA and NRAO Events



UVA Department of Astronomy Events

- **Friday, April 8th, Fan Mountain Observatory UVA Public Night, 7 – 11pm**
- **Need CAS Members with telescopes and volunteers for 1-Hour shifts staffing the CAS Information/Literature Table and Refreshments Stand**



UVA/NRAO Colloquia

| Date | Time and Location | Host | Name and Institution | Title |
|--------------------|-------------------|------|-------------------------------------|--|
| Thur, Apr 7, 2016 | 4 PM NRAO Aud | UVA | Sarah Horst, JHU | Understanding Planetary Haze Formation: Lessons from the Lab |
| Thur, Apr 14, 2016 | 4 PM NRAO Aud | NRAO | Tessa Baker, Oxford | Testing Gravity on Cosmological Scales |
| Thur, Apr 28, 2016 | 4 PM NRAO Aud | UVA | Zeljko Ivezic | LSST: the greatest movie of all time |
| Thur, May 5, 2016 | 4 PM NRAO Aud | UVA | Hilke Schlichting | Crash, Boom, Bang: Giant Impacts & the Formation of Planets at home and abroad |
| Thur, May 12, 2016 | 4 PM NRAO Aud | NRAO | Michael Rowan-Robinson | Far infrared and submillimetre surveys, from IRAS to Spitzer-SWIRE and Herschel: A Tribute to Carol Lonsdale |



Member Activities

Club Observing and Other Events



“What’s Up”

~ April 2016 ~

- <https://www.youtube.com/watch?v=af0zVX8nIBc>



8 Club Observing Sites

- **Two CAS Member Residential**
 - Susan Bender's Farm
 - Rich Drumm's Farm (Lombardi Observatory)
- **One Public**
 - John Avellone's Skyline Drive Observatory
- **Two Restricted**
 - Leander McCormick Observatory – *Rich Drumm*
 - Fan Mountain Observatory – *Rich Drumm*
- **Three Overnight Retreat**
 - Fan Mountain - *Rich Drumm*
 - Bear Mountain (Pending) – *Scott Duresky*
 - Camp Nakanawa, TN (?) – *Steve Layman*



Upcoming Club Observing

Observe/Cancel Decision: Susan Bender or Rich Drumm

Saturday, April 30, 2016, 7-11PM

Member Observing at Susan's Farm - 3129 Old Lynchburg Road, North Garden, VA *Directions: Coming from Charlottesville, South on US 29, turn left at Rt 708, turn right at 4-way stop, go 1.9 miles and turn left into the driveway and pick your place in the field*



Upcoming Member Activities

- **Thursday- Friday, April 7-8, 2016**, Northeast Astro-Imaging Conference, at Crowne Plaza Conference Center, Suffern, NY
- **Friday-Sunday, April 8-10, 2016**, Northeast Astronomy Forum, at SUNY Rockland Community College, Suffern, NY
- **Saturday, April 30, 2016, 7-11PM**, Member Observing at Susan's Farm



Member Activities

*Monthly Meetings, Field Trips, Retreats,
and Special Events*



2016 Monthly Meetings

- May 4, 2016, LMO – Nicholas Troup, 4th Yr, UVA Grad Student, “Combing the Brown Dwarf Desert with APOGEE”
 - Jun 5, 2016, JMU – CAS Family Day, Sunday - 2 PM, JMU’s John C. Wells Planetarium
 - July 6, 2016, LMO – Sabrina Stierwalt, Ph.D, UVA Research Associate, Astrophysicist NRAO, “ALMA Telescope, Chile” or “About Galaxy Mergers”
 - **Aug 3, 2016, LMO – Open. Seeking a Guest Speaker - if you know of a potential speaker please see or contact me**
 - Sep 7, 2016, LMO – Robin Garrod, Ph.D, UVA Assistant Professor of Chemistry
 - Oct 5, 2016, LMO – Alan Howard, Ph.D, UVA Professor Geosciences
 - Nov 2, 2016, LMO – Ken Seidelmann, Ph.D, UVA Research Professor
 - Dec 7, 2016, LMO – Anne Verbiscer, Ph.D, UVA Research Associate Professor
- 

Field Trips ~ Pending

- **NASA Goddard**
- **NASA Wallops Island**
- **Green Bank, WV, NRAO – Combine with Club Retreat (?) at Bear Mountain**



Three Annual Club Retreats

(Spring, Summer, and Fall)

- **Summer Club Retreat (Tentative)**
 - Fan Mountain
 - Friday evening July 29th (or Saturday morning July 30th) to Sunday morning, July 31st
- **Fall Club Retreat (Sept-Oct)**
 - Bear Mountain – Scott Duresky: Go/No-Go Decision by May Meeting (*Combine with Field Trip to Green Bank – NRAO*)
 - Camp Nakanawa – Steve Layman (?)
 - Fan Mountain - Rich Drumm
 - Date (TBD)
- **Spring Club Retreat (March 2017)** – *Messier Marathon Retreat at Fan Mountain, in planning process. (Need volunteers for Messier Marathon Planning Committee, no experience needed.)*



2016-17 Special Events

- **JMU Planetarium Family Day 2-5 PM, Sunday, June 5, 2016**
- **Summer Club Retreat** – *Friday evening July 29th (or Saturday morning July 30th) to Sunday morning, July 31st (Tentative)*
- **CAS Family Picnic and Observing at Fan Mountain, Covesville, VA, Saturday, August 6, 2016, 6-11PM** *Directions: Coming from Charlottesville, South on US 29 for approximately 13 miles (after the I-64 overpass), turn left at Covesville Lane/Fan Mountain Road and proceed for three to four miles to the observatory.*
- **Christmas Party, Friday, December 9th from 7 to 9 PM,** *Any interest in a restaurant dinner party?, Catered party at McCormick?, or a House party?*
- **2017 Solar Eclipse – August 19th through 22nd,** *Camp Nakanawa (near Crossville, TN) – 38 CAS, UVA, and JMU people are signed up*



Member Activities

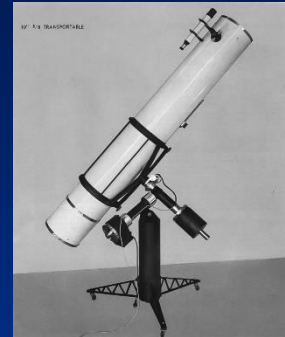
Club Projects



CAS Public Outreach Observatory

- **Available Telescopes?**

- 10" Astrola (7 + foot tube) →→→→→→→→→→→→→→→
- John Avellone Custom-Refurbished White Sands Refractor
- Other?



- **Telescope Observatory?**

- Rich Drumm's Explora Dome →→→→→
- Custom Construction?
- Other?



- **Observatory Site?**

- Fan Mountain?
- McIntire Park?
- LMO?
- Rich's Farm (Next to the Lombardi Observatory)
- **JMRL-Crozet? (WAHS Use/Support?)**
- **Western Albemarle HS?**
- **PVCC?**



Member Activities

Training, Certification, and Mentoring



Member Training, Certification, and Mentoring

- **Clark 26" Refractor Operator Training & Certification – completed 2/13/16**
- **Member Mentoring – in process, mentors have been assigned to each interested member**
 - **Volunteer Mentors (7)**
 - Steve Layman
 - Wes Epperly
 - Bill Phillips
 - Allan Mayer
 - Rich Drumm
 - Ed Preston
 - Karl Stein
 - **New/Novice Members**
 - Jane and Bill Clarke
 - Carolyn Chionchio
 - Ed Tourangeau
 - And any member with an unused telescope in a closet or garage

Assigned Mentor and New/Novice Member get together at a club observing activity for Astronomy 101 training and hands-on OJT sessions



Member Activities

Club Loaner Equipment



Club Equipment

- **Club Equipment Status as of April 1, 2016**
- **What's Available for Member Check-out?**

<http://cvilleastro.com/club-telescopes-available-for-club-member-use/>

- **Contact Ed Preston to Checkout Club Equipment or for additional information**



Member Activities

Web Site



CAS Web Site Status

- **Larry Saunders conducted Course on Website Management 101 on 2/13/16, possible advanced course at tbd date**
- **Calendar Updates**
 - **Member Activities**
 - **CAS Outreach Activities**



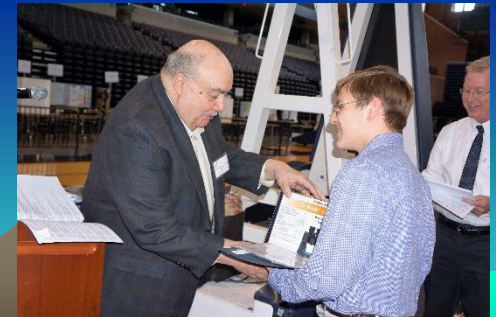
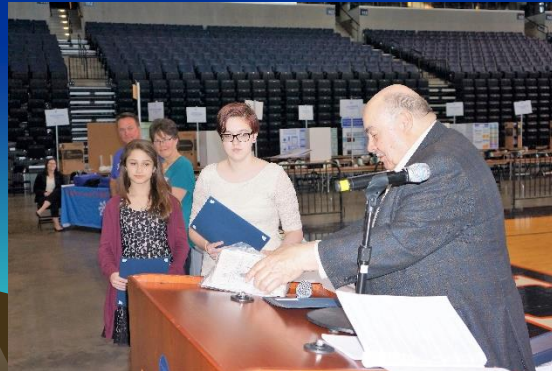
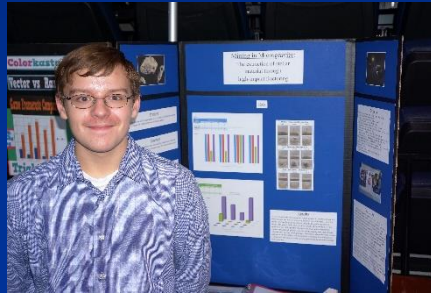
Outreach Activities



Virginia Piedmont Regional Science Fair

JPJ Arena, March 24, 2016

(Special Thanks to "Telegraph"-Jim Wilson for Photographs)



Upcoming Outreach Activities

- **April 8, 2016, 6-11PM, UVA Public Night at Fan Mt – Rich** - need CAS Info-Refreshment Table Volunteers (1-2 Hr shifts) and Members with Scopes
- **April 29, 2016, 7-10PM, Heidi's Night at LMO – Steve** - need 26" Clark and Dog House Telescope Operators, Speaker, CAS Info Table and Traffic Coordinator, Laser Night Sky Tour Guide, and Members with Scopes
- **May 12, 2016, 7-10PM, Astronomy Night at JMRL, Northside Branch – Fritz** - need Speakers, CAS Info Table Coordinator and Members with Scopes
- **May 14, 2016, 10AM-10PM, Astronomy Day at Leander McCormick Observatory – Steve** - need day/night-shift 26" Clark and Dog House Telescope Operators, Speakers, CAS Info Table and Traffic Coordinators, and Members with Scopes
- **July – August, Palmyra Girl Scout Troop Night Sky Observing – Rich** - need Members with Scopes



Recognition and Awards



Questions and Comments?



Door Prize Drawing

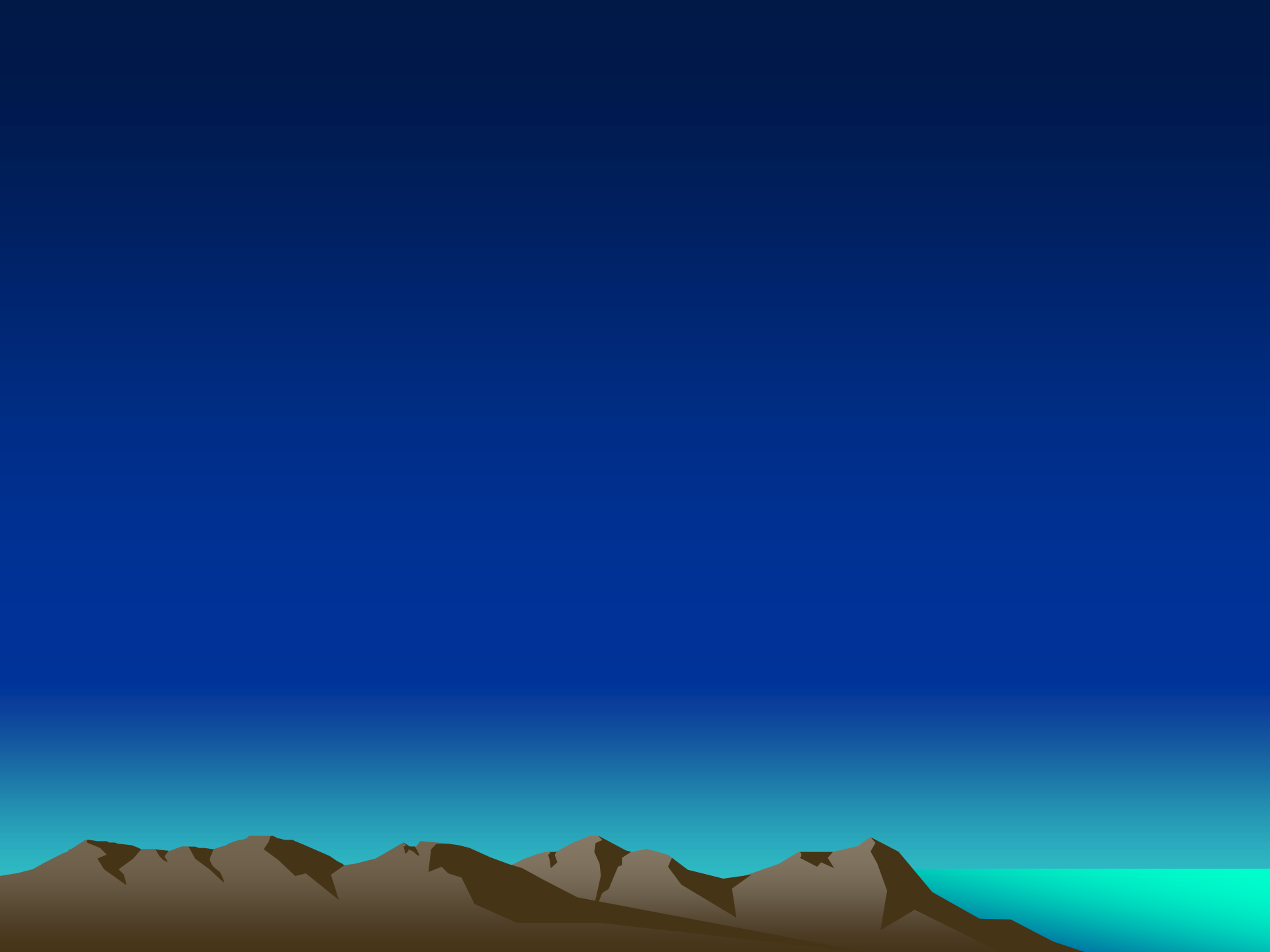
*Did you enter
your name for
the door prize
drawing?*



Final Thoughts

- “Keep your eyes on the stars, and your feet on the ground”
~ *Theodore Roosevelt*
- “Don't watch the clock - do what it does, keep going”
~ *Sam Levenson*
- “A successful man is one who makes more money than his wife can spend, a successful woman is one who can find such a man” ~ *Lana Turner*
- “Be decisive make a decision, the road of life is paved with flat squirrels who could not make a decision” ~ *Unknown*





Member Activities

August 21, 2017 Solar Eclipse
Camp Nakanawa, near Crossville, TN

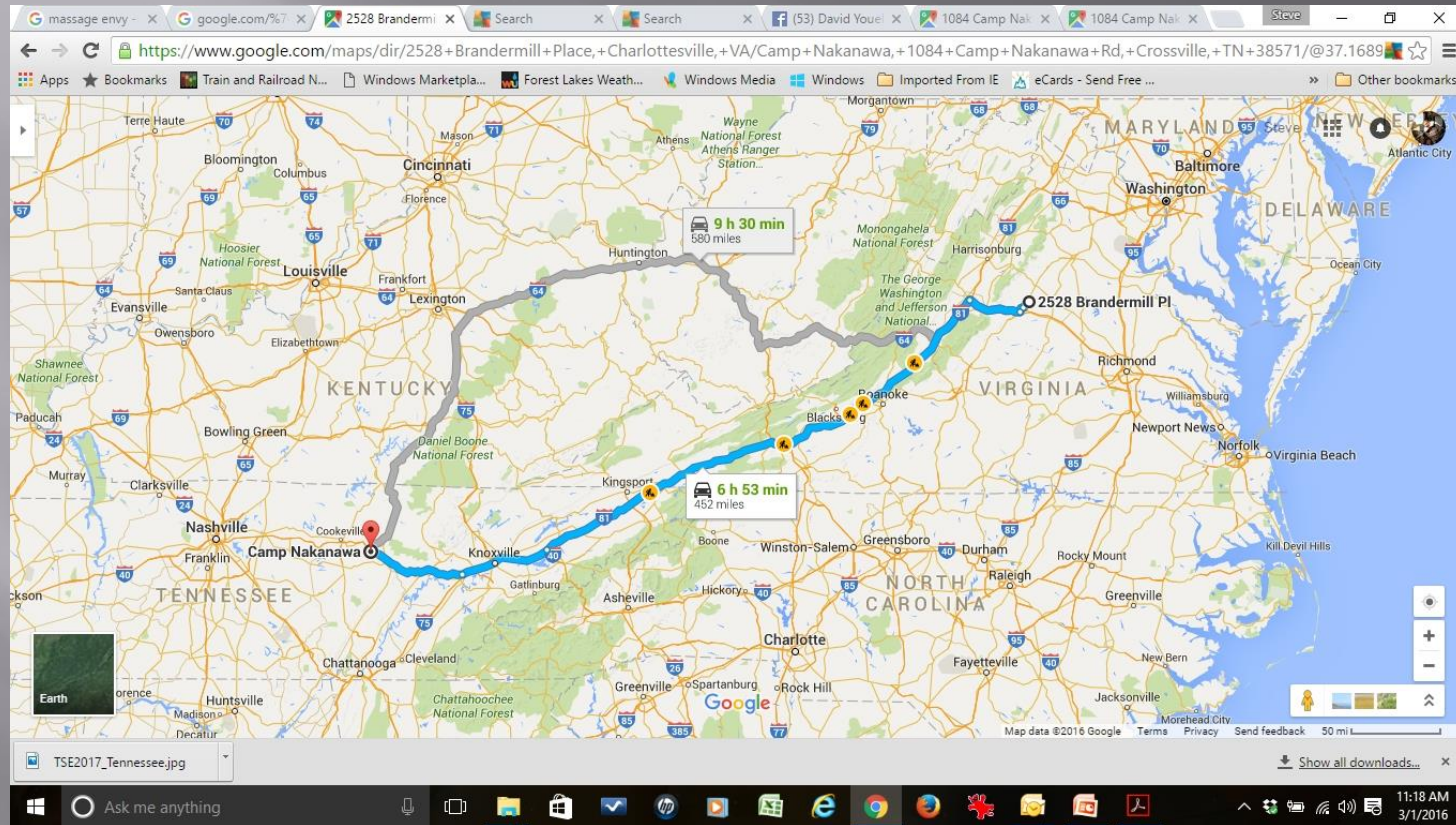
Reservations made for 38 CAS, UVA, and JMU People



2017 ECLIPSE

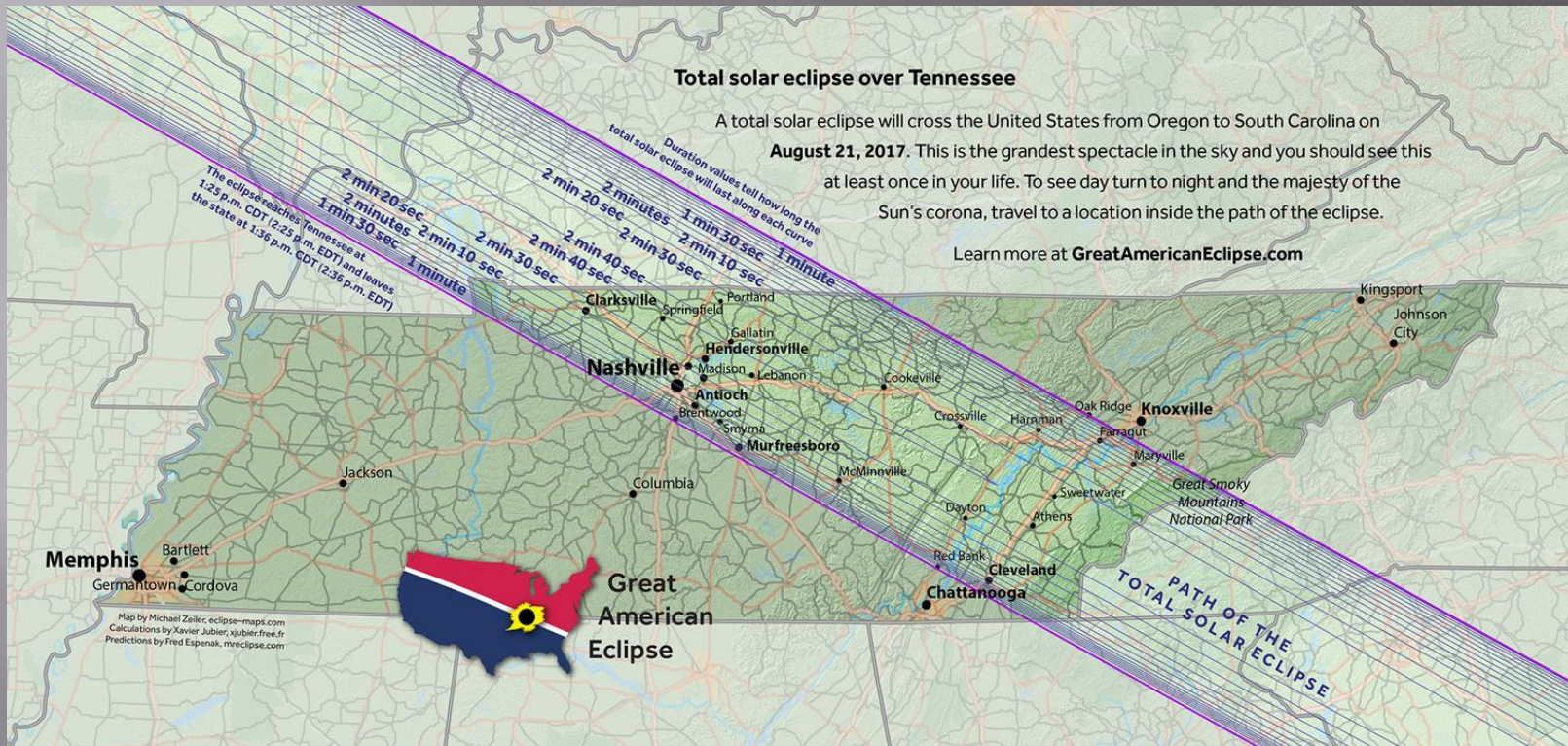
Lodging at Camp Nakanawa
Crossville, TN

Travel from Charlottesville



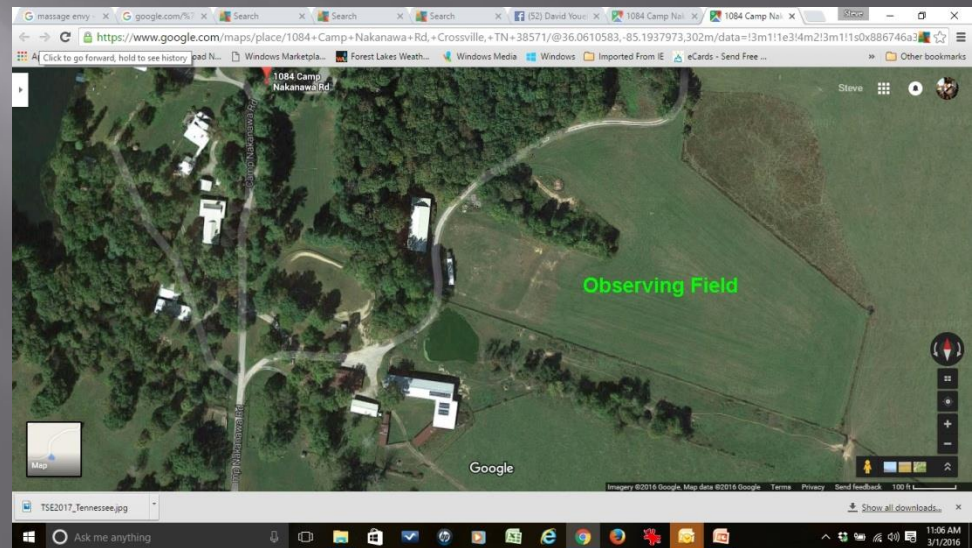
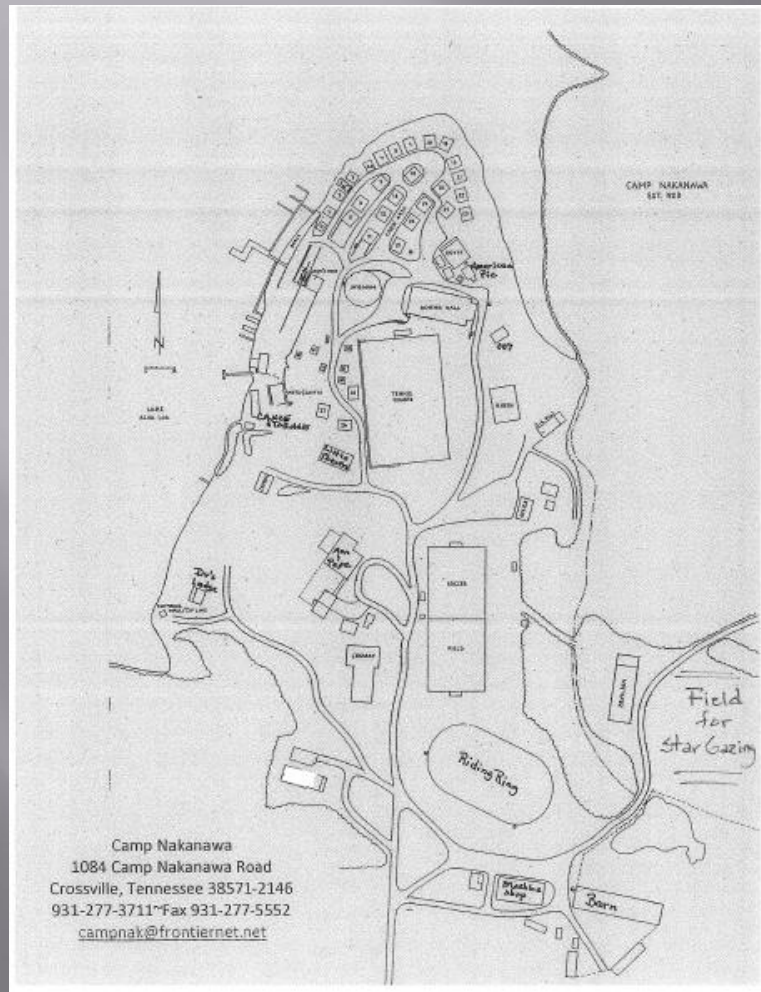
6 hr. and 53 min. from Charlottesville
By way of Interstate Highways I-64, I-81 and I-40

Eclipse Track



A little more than 2 minutes and 30 seconds of totality

Camp Map



Camp Background

- ▣ Camp Nakanawa is a Girls Camp established in 1920. The season runs mid- June through the end of July
- ▣ Located on 1,000 acres on the Cumberland Plateau, 13 miles west of Crossville, TN and just south of I-40
- ▣ Camp centers on a lake and has a variety of trails, courts and activities
- ▣ The camp has hosted astronomy events and star parties in the past
- ▣ My wife has been associated with the camp for more than 50 years as camper and counselor and my daughter is Junior Camp Director in 2016

Weather Statistics

- ▣ The weather for the area on August 21 for the last 10 years has been
- ▣ Low 64°F (18°C)
- ▣ High 84°F (29°C)
- ▣ Dew Point ranges between 56°F and 68°F (13°C and 20°C)
- ▣ Sky conditions at approximately 1:30 pm 4/9 clear and 5/9 partly cloudy

Details for Summer 2017 Eclipse Event

- ▣ We can check in on Saturday, August 19th and check out Tuesday, August 22nd
- ▣ There is no minimum number of participants required
- ▣ The cost is \$50 per night per person. This includes 3 meals. If we decided to do a brunch and dinner the cost would be \$45.
- ▣ There are a variety of accommodations available including bunk houses and small cabins

Details Continued

- ▣ There are male and female bathhouses for restroom and showers
- ▣ Camping may be available but cost would be the same
- ▣ Dogs must be on a leash at all times and cleaned up after
- ▣ We would be required to have a Red Cross certified lifeguard if using the lake
- ▣ Meals would be served at a set time in the dining hall and they would work with us on a menu

Details Continued

- ▣ We would need to bring bed linens or could sleep on bunks using sleeping bags
- ▣ We would be required to do basic cleanup when leaving (sweeping cabin and taking trash to dumpster)
- ▣ The Camp is a smoke-free area
- ▣ Alcoholic beverages are allowed in moderation
- ▣ No hair dryers or high wattage appliances
- ▣ Campfires only in approved areas

What's Next

- ▣ They would like a preliminary number from our club by the end of March so that they can determine if there is room to open this up for any other interested astronomy clubs
- ▣ Final payment would be due July 1, 2017

Camp staff and locals would very much appreciate being able to look through our scopes if we were to have a star party one evening.