

AAI Research Committee Report for March 2020

On March 14 non-essential stores closed for social distancing from the COVID-19 virus pandemic. Staying open were grocery stores, pharmacies, gas stations, hardware stores, liquor stores, and gun stores. Hmmm. Public observatories and colleges were closed.

Solar System: John Kozimbo warned us about a tiny asteroid making a close approach to the Earth on 3/22. Luckily, it missed us.

Clif Ashcraft imaged the moon and Venus while his dog Chewie kept any bears away.

Clif also displayed beautiful images of Mars by Damian Peach and Jupiter by Christopher Go, both taken from more southerly latitudes than New Jersey.

Jim Nordhausen alerted us to Comet ATLAS passing through Ursa Major. It will be closest to Earth on May 23 and pass perihelion on May 31 and may be much brighter than magnitude 8 by then.

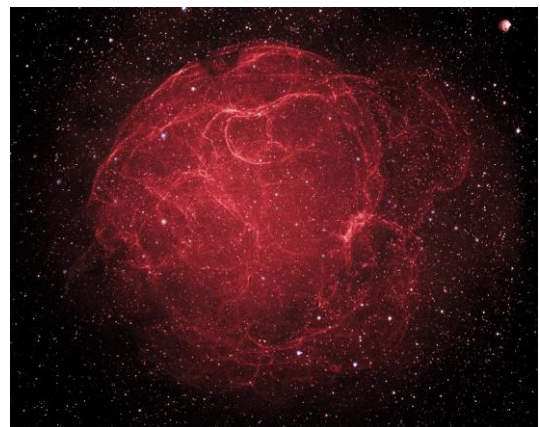
Stars: Clif used his C14 telescope for speckle interferometry of a double star, and is doing the data analysis with the powerful Bispectrum software to measure the angular separation and position angle of the fainter star from the primary.

Deep space: Bobby Marinov imaged Thor's Helmet Nebula in H alpha for 4.5 hours over three nights from his backyard. He also took a 3 hour LRGB image of the *Whirlpool Galaxy M51* with his Celestron EdgeHD 8 from his club's dark sky site near Houston.

Tony Sharfman has been imaging in hydrogen alpha and learning more about processing with Photoshop, including the Rosette Nebula, the Seagull Nebula, M42, and *Simeis 147, the Spaghetti Nebula*. This is the remnant of a supernova which exploded 40,000 years ago and is now about 3 degrees across in Taurus.

Presentations: I spoke on "Medieval Astronomy: What Dante Knew in 1300 AD" at NJAG at Montclair State University on 3/11, their last meeting for the foreseeable future.

Other: John Kozimbo alerted us that NASA is now taking applications for astronauts to go back to the Moon and possibly to Mars. Minimum requirements



are US citizenship, a STEM master's degree or test pilot training, two years of experience or 1000 hours flying a jet aircraft, and a tough physical exam. NASA plans to establish sustainable lunar exploration by 2028 and to send people to Mars in the mid 2030s.

John also pointed out that the newsletter of the Planetary Society is online at <https://www.planetary.org/explore/the-planetary-report/>

If you would like to have a Clyde Tombaugh autograph John suggests looking on e-Bay.

Earth Hour was Saturday 3/28 at 8:30 -9:30 when lights should be turned off for the environment.

Clif Ashcraft pointed out that the British Astronomical Association newsletter is now online and there will be weekly meetings by Zoom on Wednesdays.

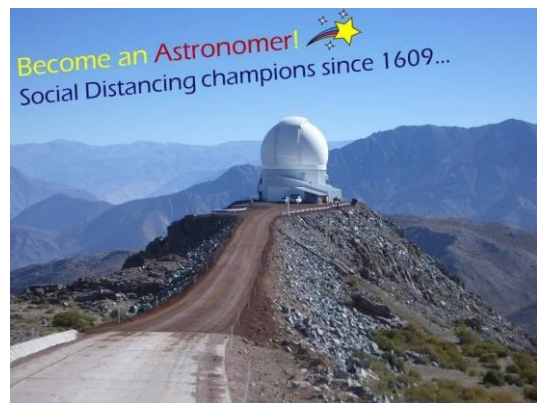
Clif also reported a hypothesis for a new possibility for light-quark dark matter.

Bobby Marinov unearthed a historical Debate on Guidance for the Saturn V rocket in the 1960s.

I reported that the dimming of Betelgeuse in recent months is thought to be due to external dust clouds rather than to internal variability. The measured change in the star's effective surface temperature is minimal. Red supergiant stars often eject blobs of gas which then cool and coagulate into carbon-rich dust which can be fairly opaque.

Happy Uranus Day on March 13. It's been 239 years since 1781 when Uranus was discovered by William Herschel in Bath, England. He was making a careful star map and noticed that the star 34 Tauri had moved. He thought it was a comet at first. Now it's a planet and there is no star 34 Tauri anymore.

Mark Zdziarski sent a timely cartoon on *astronomers doing social distancing*.



Respectfully, Mary Lou West, Research Chair