

Research Committee report for April 2017

**Spring is here with pleasant temperatures and no mosquitoes yet.**

**Solar system Observations:** Clif Ashcraft imaged the first quarter Moon on April 2 and the crescent moon on April 29. Videos with three different exposures (.54, .74, and 1.19 ms) were combined to give a high dynamic range (HDR) mosaic showing sharp lava wrinkle ridges in Mare Fecuntidatis and Mare Crisium. In the early morning on April 11 Clif imaged *Venus as a thin crescent* with a sharp limb and a fuzzy terminator. This fuzziness is proof that we are seeing the atmosphere on that planet and not just bare rock.

Tony Sharfman caught *Io and its shadow on Jupiter* in steady seeing on April 19. Io is the yellow dot just to the left of its black shadow. Clif also saw a transit a few days earlier and reports that Jupiter's SEB (South Equatorial Belt) has certainly been busy this year.

A sunspot group was imaged by Helder Jacinto and by Tony, but spots are few and far between as the sun is in a period of low activity this year.

**Galaxy Observations:** Tolga Gumusayak imaged several dozen galaxies in the Virgo cluster around M58, M59, and M60. He also began a discussion of the possibility of increasing an image's SNR (Signal to Noise Ratio) by stacking many short exposures rather than adding up a few longer exposures with the same total time. However, this works only if your camera has a very low read-out noise, the subject is fairly bright, and you have lots of storage space available.

**Presentations:** Dennis Conti gave a presentation and a workshop at NEAIC (North East Astro Imaging Conference on April 6) and two presentations at NEAF (North East Astronomy Forum on April 8) in Suffern, NY. They were on Exoplanet Observing by Amateur Astronomers, Exoplanet Observing Using AstrolmageJ, and Exoplanet Detection via Microlensing. (See [rocklandastronomy.com](http://rocklandastronomy.com)) Tolga gave a talk at NEAIC on Automating Your Portable Imaging Setup, and posted a blog about his impromptu imaging at the entrance of the Crowne Plaza hotel that evening ([www.tolgaastro.com/ap-blog/2017-neaic-neaf](http://www.tolgaastro.com/ap-blog/2017-neaic-neaf)).

I organized and hosted the Pro/Am sessions at NEAF on April 8 and 9, and also gave a talk on Eclipsing Stars at AAI's Astronomy Day at Sperry Observatory on April 1.

On Astronomy Day at Trailside Nature and Science Center Steve Lowe and Charlie Holdom led the Star Wheels children's activity, and I led the "Where Am I" puzzle activity.

**Other activities:** Steve, Mary Ducca, and Aaron Zuckerman joined the March for Science in NYC, while Mark Zdziarski marched in Trenton (4/22). Clif suggested renting time on a telescope in Chile.

Respectfully submitted, Mary Lou West, Research Chair

