

Florida astronomy clubs setting up alongside KSC Visitor Complex Rocket Garden—Hubble Space Telescope's 25th anniversary celebration. Photo by BAS member Himanshu Saxena, 4/24/2015.



ASTRONOMY IN A ROCKET GARDEN

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A single, imposing rocket poised on a launch pad appears to us to represent the peak of technical advancement in space exploration and often leads us to imagine what the future has in store as we probe deeper into the universe. But for a moment, picture yourself having set up your telescope for an astronomy outreach event next to a showcase of rockets representing part of America's space history. There, amidst the rockets that propelled Earth-orbiting satellites, deep space probes, and even humans into a world most of us have only viewed through our telescopes, one can experience a flight of imagination, embarking on a journey towards your favorite celestial object.

Over the last few years, the Kennedy Space Center (KSC) Visitor Complex staff has invited the Brevard Astronomical Society (BAS), located in Brevard County along the "Space Coast" of Florida, to support special events on three occasions: the space shuttle *Atlantis* rollover, the space shuttle *Atlantis* exhibit grand opening, and, most recently, the Hubble Space Telescope's 25th anniversary celebration.

The first event BAS supported was the space shuttle *Atlantis* rollover held on November 2, 2012, a perfectly clear, sunny day. Hundreds of visitors and former space shuttle workers witnessed the daytime, final rollover of the space shuttle *Atlantis* orbiter from the Vehicle Assembly Building to its new home 10 miles away, the *Atlantis* exhibit facility in the KSC Visitor Complex. In anticipation of a large crowd, BAS set up solar telescopes in Space Florida's Exploration Park, the location along the rollover pathway chosen by KSC officials to provide a festive half-day for close-up viewing of the shuttle *Atlantis*. Amongst all the awe and wonder of a space shuttle approaching, we found ourselves surrounded by a steady flow of visitors viewing our nearest star through club members' solar telescopes. On that day, the Sun exhibited spectacular activity with many sunspots and prominences visible. At the same time, our attention was occasionally—okay, often—diverted to watching the historic spacecraft. Soon thereafter, the shuttle continued with its last

trek towards the KSC Visitor Complex.

After the last-ever flown space shuttle was fully integrated into the *Atlantis* exhibit about eight months later, BAS was invited for a second event—this time for the space shuttle *Atlantis* exhibit grand opening on the weekend of June 29–30, 2013. Although retired from active service, the orbiter's mission is to provide inspiration and education regarding the history of the shuttle program. In addition to key activities centered on the space shuttle *Atlantis* exhibition, visitors, employees, and several astronauts were treated to solar observing through club members' telescopes positioned just inside the main visitor entrance.

On the second day, Sunday, mid-afternoon, a pattern all-too-familiar to Florida amateur astronomers repeated—we scrambled to tear down our gear in a matter of minutes due a fast approaching thunderstorm. This is a skill we've developed and need to implement on occasion living in the lightning capital of the world. And let's hope we can always be that fast again when so threatened.

While BAS provided solar viewing at the two previous daytime events at Exploration Park and the KSC Visitor Complex, the third event involved nighttime observing

alongside massive towering rockets—the Rocket Garden. This impressive display of vertical and horizontal spacefaring vehicles was our backdrop for the Hubble Space Telescope's 25th anniversary celebration on April 24, 2015. Off to the other side, a minute away, two full-scale replica solid rocket boosters with external tank greeted visitors to activities inside the shuttle *Atlantis* exhibit. While preparing for the event, the excitement level within BAS was at an all-time high. With KSC Visitor Complex staff requesting as many telescopes as possible, central Florida astronomy clubs, including Brevard Astronomical Society, Kennedy Space Center Amateur Astronomers, Melbourne Astronomical Society, Central Florida Astronomical Society, and the Amateur Astronomy Club of Embry-Riddle Aeronautical University came together to provide over 30 telescopes for a night of stargazing.

As many amateur astronomy clubs are aware, trying to reduce nearby lighting has its own frustrations during local public outreach events. In the case of the recent Hubble Space Telescope's 25th anniversary celebration, the KSC Visitor Complex staff, with advice from participating



Left: Shuttle *Atlantis* rollover at Exploration Park. Photo by BAS member Oscar Sifuentes, 11/2/2012. Center: Hubble Space Telescope's 25th anniversary celebration at KSC Visitor Complex—nighttime observing with shuttle *Atlantis* exhibit in background. Photo by BAS member Ken Diller, 4/24/2015. Right: Central Florida astronomy clubs join together to support Hubble Space Telescope's 25th anniversary celebration at KSC Visitor Complex. Photo by BAS member Ken Diller, 4/24/2015.



astronomy clubs, planned in advance to reduce lighting while keeping safety in mind. Several facility lights and path lamps were dimmed, and visitors, mainly the kids, were given small red stick-lights. In addition, the Kennedy Space Center and the Visitor Complex reside in what's generally considered a remote area of the county, overlapping the 140,000-acre Merritt Island National Wildlife Refuge. This combination of location and dimly lit rockets still allowed for reasonably dark skies.

Along with a favorably clear sky that night, and 500 guests eager to observe and learn about the night sky, the Hubble anniversary event proved to be another successful and most enjoyable experience involving local astronomy clubs and the KSC Visitor Complex. As KSC

Visitor Complex consumer events specialist Ryan Beltzer and staff shouted "Thank you astronomers!," it culminated a night filled with guests, staff, and volunteers expressing appreciation for astronomy outreach support. BAS president John Small also acknowledged that BAS is committed to "sharing the

wonders of the universe" with visitors to KSC and throughout the Florida space coast community as a whole.

While BAS also conducts various local astronomy outreach events supporting schools, scouts, and county parks, our proximity to the spaceport has allowed us the

fortunate opportunity to support stargazing adventures at the KSC Visitor Complex. BAS extends its sincere thanks to the KSC Visitor Complex team for the pleasure of sharing views of the universe with Floridians and visitors alike in a unique setting, the Rocket Garden. ☀



Shuttle *Atlantis* exhibit grand opening at KSC Visitor Complex—BAS solar observing. Photo by BAS member Darlene Saunders, 6/29/2013.



Shuttle *Atlantis* rollover at Exploration Park—BAS outreach coordinator Oscar Sifuentes explains characteristics of the Sun to a visitor. Photo by BAS member Thyne Saunders, 11/2/2012.