

# Photonic Cleaning Technologies presents Don Bouc – It's never too late



Messier 42 (Orion) – 30 5sec. exp. and 30 180sec. exp. – OSC CMOS camera

About 20 years ago, my wife and I were invited to a dinner in Tucson sponsored by a company we had been doing business with. This company arranged with Starizona to have 4 or 5 telescopes setup outside so that, after dinner, the guests could view what these telescopes were set to and talk to the astronomers there. We were both fascinated by what we saw. I remember both of us went to view Saturn and were blown away. We were convinced there was a sticker in front of that scope since Saturn and its rings were so clear and sharp. Our wedding anniversary was the next day, and my wife bought me my first telescope from Starizona that day as a surprise. It was an 8" Celestron SCT with an Alt/Az mount. I played with it for several months after that, but since I was still working,

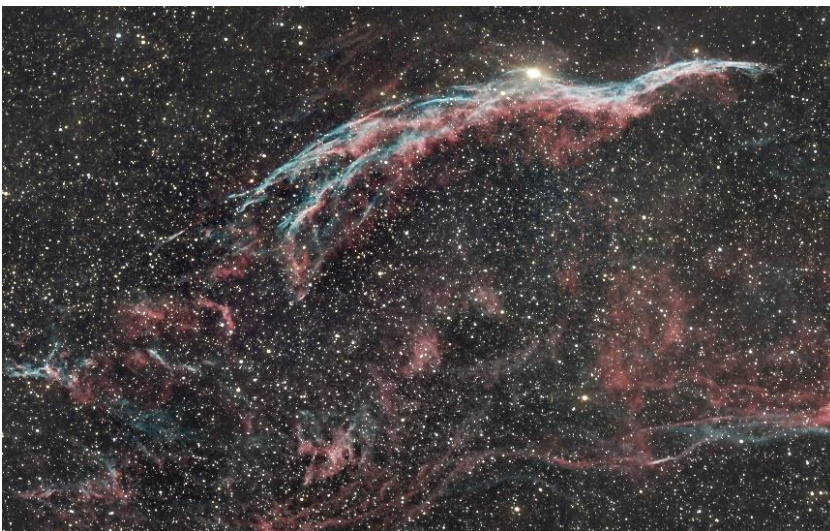
I didn't have a chance to get too involved.

Fast forward to 2015. I had retired and decided I wanted to get back to trying to figure out "what's out there". I knew technology had advanced quite a bit since the original scope, so I purchased a 9.25" SCT and got busy on the internet and YouTube to try to figure it all out. With the help of Dean, Scott and the rest of the Starizona staff, I got my first dedicated CCD camera and started on my new hobby...which quickly became an obsession.

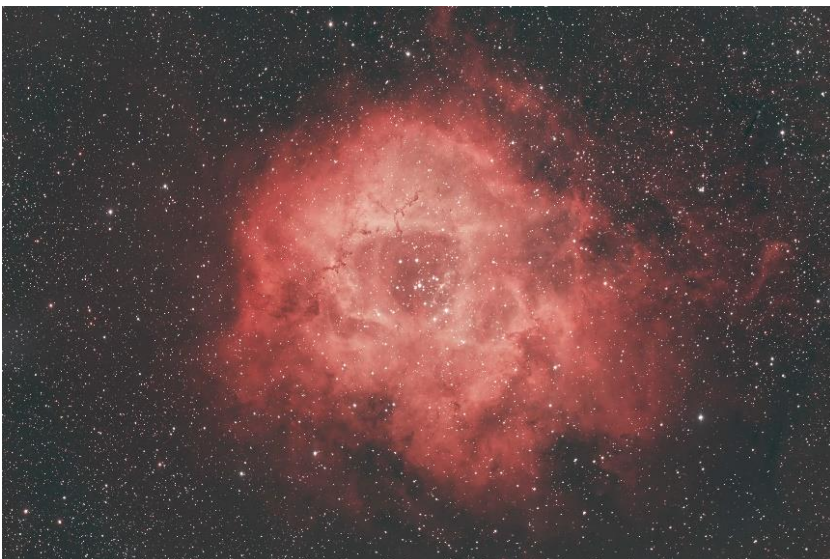
Now, at 78, I discovered 2 things: 1) it's never too late to start this incredibly fascinating hobby and, 2) some more recent changes in hardware and software have made it easier than ever to be successful.



Messier 31 (Andromeda) – 60 120sec. exp. – OSC CMOS camera



NGC 6960 (Witch's Broom) – 37 300sec.exp. – OSC CMOS camera



NGC 2237 (Rosette Nebula) – 20 300sec. exp. – OSC CMOS camera

One of the interesting things I have learned about this hobby was actually a surprise...no image is ever "done"...by that I mean, you always feel you can do "better". When I first started, I was trying to get as many different Deep Space Objects (DSO's) as I could. I was excited to see the different nebulae, galaxies, hydrogen areas, etc. and impressed that I could actually capture these images myself...very gratifying.

Then, as I continued to see these same DSO images captured by others, I realized it wasn't as important to get a LOT of images, but rather get BETTER images...so, I began re-taking most of the images I had already captured but with more exposure time, better software, and most importantly, more experience. I rarely discarded an image, so looking back at what I thought were great images I realize how bad they really were, though I might feel the same about images I take today in a few years.

Unquestionably, the best example of this is seen by comparing the first image I ever captured (it was the Orion Nebula, naturally, in 2015) with a more current version.

I still have a special place in my heart for the 2015 version...It's what got me started on this road. Of course, getting better results wouldn't have been possible without the terrific YouTube videos from Patriot Astro, VisibleDark, AstroBackyard, Cuiv, Heavenly Backyard, View into Space, and others. Like most nerds, I'm not a big fan of "reading the directions", but hearing/watching someone deal with software, hardware, etc. makes grasping concepts and principles much easier.

Sitting next to telescope and realizing that you are taking a picture of a DSO hundreds or thousands or millions of light years away is humbling.

You realize that there is NOTHING between you and the DSO you are imaging. NOTHING. And, the extremes of what you are imaging in terms of size, temperature extremes, velocity, gravity, etc. can be intelligently discussed, but is totally incomprehensible. My favorite description of this phenomenon was a quote I heard from Martin Rees, a famous astronomer and astrophysicist from Cambridge University in Great Britain (and main subject of many great YouTube videos), "Man trying to comprehend the cosmos is like a guppy trying to comprehend a tree."



Sh2-132 (Lion Nebula) – 49 300sec. exp. – OSC CMOS camera

Like all astrophotographers, I constantly look for better hardware and software to enhance the pictures I take. I currently have a 14" Celestron SCT with Hyperstar, a 100mm Skywatcher refractor, a small "observatory", and 3 ZWO CMOS cameras. Keeping all the optical train surfaces as clean as possible is always mandatory, so using First Contact Polymer from Photonic Cleaning Technologies is a requirement.



NGC 1333 (Embryo Nebula) – 43 180 sec. exp. – OSC CMOS camera

For software, I use NINA (game-changer), Pixinsight (with a lot of help from Russell Croman and Darkarchon plug-ins), Photoshop, AstroPlanner, and Stellarium.

I feel like I have come a long way since my first photos, and I know there is still a long way to go before I can submit an image to APOD, but I plan to continue trying...

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My SkyShed Pod observatory with a 14" SCT in Colorado