

Photonic Cleaning Technologies presents; Rick Laird - My dive into Astronomy is a year and a half old

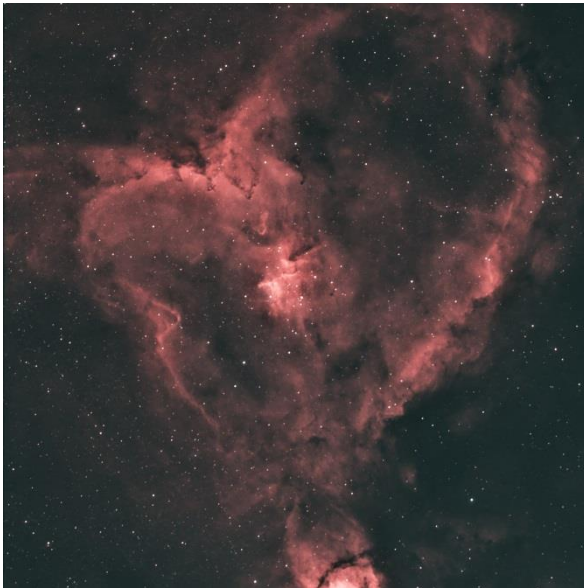


NGC 3372 The Carina Nebula

"I can't believe OPT is closed. I always wanted a telescope from there". I said this to my girlfriend as we drove past the now-shuttered showroom of Oceanside Photo and Telescope in Oceanside, California. For many years I would drive past OPT thinking I want to get a telescope one day. My girlfriend now had the perfect idea for my 50th birthday present. On the big day, I unwrapped the perfect starter telescope. A Celestron SLT130 5.5-inch reflector nicknamed "Celest", was to be my opening into a hobby with which I am now obsessed.

The following months were spent out on cold dewy nights solidifying astronomy as my new passion. Under a clear sky, in Bortle Class 6 suburbia, the stars and solar system objects did not disappoint. Seeing the rings of Saturn with my own eyes for the first time is a delight hard to fully describe.

I was amazed that my eye could catch photons that have traveled thousands of light-years from distant stars. Seeing planets bright in the night sky, illuminated by the sun, which then bounced photons back to fill my eyepiece was mesmerizing. Massive craters on the moon casting shadows of deep impacts were revealed in detail by the 5.5-inch reflector. I spent a lot of time scanning back and forth over the moon to see more details with different eyepieces. Knowing me well, my partner had included a smartphone adaptor in the bundle of birthday presents. Making quick use of the phone adaptor, I took my first images of the moon and shared them with friends. Trying to capture Orion's nebula with my smartphone adaptor, a 5.5" reflector on an Alt./Az. mount was more difficult, yet still amazing; I wanted more.



IC 1805 Heart Nebula

I did not want to seem ungrateful for my wonderful birthday telescope as I started to look for an astrophotography setup. Unbeknownst to me my partner had already expected this move as I described the machinations of taking photos with my phone. She was only wondering why it had taken so long for me to jump into the astrophotography pond and buy another scope. Kurt at OPT, who had helped my partner pick out my first telescope, was only too happy to suggest a new system for me. A William Optics Gran Turismo 71mm small refractor paired with a relatively lightweight iOptron Gem28 and the ASI533MC-Pro was the perfect selection. This scope got the nickname Gizzy. I was all set and ready to capture the spectacular images I was seeing online. I soon realized there were many more items to purchase to get my rig dialed in. I also found out that, when OPT closed their showroom and went strictly online, they put their warehouse 2 miles from my house. Great for OPT, but not for my wallet.

I count myself lucky to have joined this hobby in the age of YouTube and blogs. My favorite YouTube channel is called "Cuiv the Lazy Geek". On this channel Cuiv, a French guy living in Tokyo shares his infectious love for astrophotography with a light-hearted fun perspective. His philosophy of building a system that is very automated so you can be lazy later, was the perfect approach for my techie background. It took a while to get my

small, attached computer running perfectly with the Night Imaging 'N' Astronomy (NINA) automation software and all the drivers to pilot the system, but I was super happy with the result.

High overhead in Cassiopeia the Heart Nebula with its bright red hydrogen alpha emission was a perfect first target. The patio of my condo affords approximately a 150-degree view of the northern sky, while also being partially obscured by two very large palm trees and the roof line close to Zenith. Guided by all I had learned about NINA from "Cuiv The Lazy Geek", I set Gizzy going. A couple of clear still winter nights meant 8 hours of imaging provided wonderful results. Tutorials by Cuiv and lessons from Adam Block Studios on how to get the most out of PixInsight image processing software, meant the result was a perfect Valentine's card image to send to friends and family.

Due to the earth's rotation, any objects I wanted to image would come and go from the patch of sky visible from my patio. Luckily NINA's advanced sequence capability provided a mechanism to image multiple targets in one night, such as the Bubble Nebula and M51 the Whirlpool Galaxy. With the aid of sample NINA advanced sequences from Chad at the YouTube Channel Patriot Astro, I was able to automate the process without too much difficulty. I still have a lot to learn about NINA, but I guess that is true about all aspects of astronomy and astrophotography.

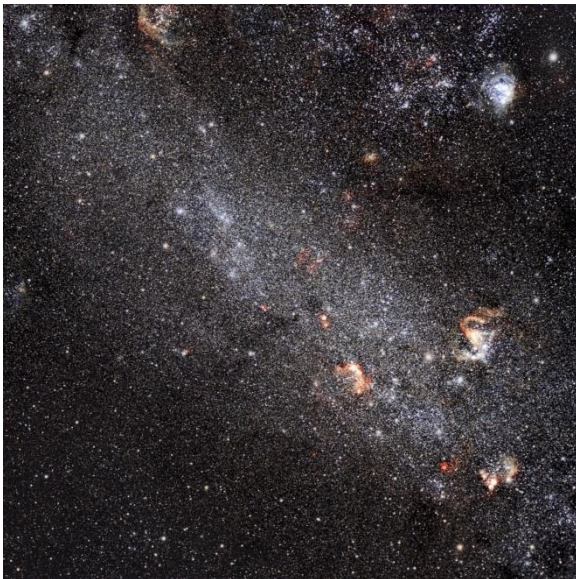
The New Zealand stars of my childhood are different from those of my SoCal adulthood. The COVID pandemic lockdowns kept my mum safe in New Zealand, but also meant I did not see her for a couple of years. As the restrictions lifted, I planned a month-long visit to reunite with my mum, telescope in tow. Portability turned out to be a welcome side effect of the small refractor I purchased. With the tripod and mount as checked bags, scope, and camera in a pelican case as carry-on, Gizzy was mobile. The Southern Cross or Crux constellation is a nostalgic part of life in New Zealand and



NGC 7635 The Bubble Nebula



M51 Whirlpool Galaxy



Large Magellanic Cloud

warms my heart when I see it. Now equipped with a telescope, the southern skies opened in a whole new way. The milky way seen from dark skies in the southern hemisphere is something to behold. To make sure I did not turn up at my mum's door with COVID I spent a week in isolation. I stayed at the northern end of Lake Rotarua in the center of the North Island, which is Bortle Class 3. The location affords naked-eye views of the Large Magellanic Cloud. Multiple nights of imaging provided fantastic details of the LMC; a satellite galaxy of our Milky Way.

My mum was ecstatic to see me as I arrived in Feidling, New Zealand. My routine for the next three weeks was working, occasional bingo gatherings with my mum's friends, dinner, and TV with mum, then returning to my Airbnb to set Gizzy going to image the night sky. With a narrow band light pollution filter to combat the Bortle Class 4 sky, I aimed my portable rig at the Carina Constellation. This rich region is full of objects with The Carina Nebula being the most famous. From this vantage, I also captured the Statue of Liberty Nebula, Gabriel Nebula, Lobster Nebula and Lambda Centauri Nebula (Running Chicken).

Continuing my New Zealand trip, I headed up to Kuaotunu on the Coromandel Peninsular to visit Stargazers Astronomy Tours. Under Bortle Class 2 sky, Alistair gave a great tour of the night sky pointing his 14" scope at several fabulous objects. Later that night, while sitting out under the dark sky, I caught a naked-eye view of Omega Centauri. The 10 million stars looked like a fuzz ball of light to my naked eye yet provided a rich target to aim my small telescope. The dense cluster of stars is thought to be the core remnant of a disrupted dwarf galaxy. It was hard to leave the dark sky of Kuaotunu, but it was time to return to the USA.

An installation of astronomical images was commissioned at KNVS, a charming small gallery/restaurant in Oceanside California. The San Diego Astronomy Association sent out a request for submissions. I submitted many of my southern hemisphere collection and was delighted when 6 of my images were selected.

The 4 month-long installation was made up of printed images and two large projected screens showing a rotation of images. On opening night my girlfriend and I dined on the astronomy-inspired menu and watched as expansive colorful astrophotography fill the room. The cocktails like Apollo and Europa, The Prawn Nebula appetizer, and Carl Sagan's Shrooms main course, delighted our pallet as the images wowed our eyes.

Membership in the San Diego Astronomy Society (SDAA) has been a welcome addition to the solo hobby of astrophotography at home. Weekly public Star parties all over San Diego County provide a way for members of the public to dip their toes into astronomy. Yearly the SDAA hosts a festival called the Julian Star Fest. This year, 1500 members of the public made the drive into the mountains and were greeted by about 100 astronomers with their telescopes set up to show off the wonders of the universe. The weekend also afforded me a dark sky imaging opportunity to capture the Elephant trunk Nebula.

The SDAA also has property out in the desert near Tierra Del Sol. There are multiple observatories on the site and a couple of long concrete pads with power, providing a perfect place to set up and image. I have spent some very cold winter nights tent camping at TDS under Bortle Class 4 sky. The fantastic resulting images such as the Rosette Nebula are worth the chilly bones.

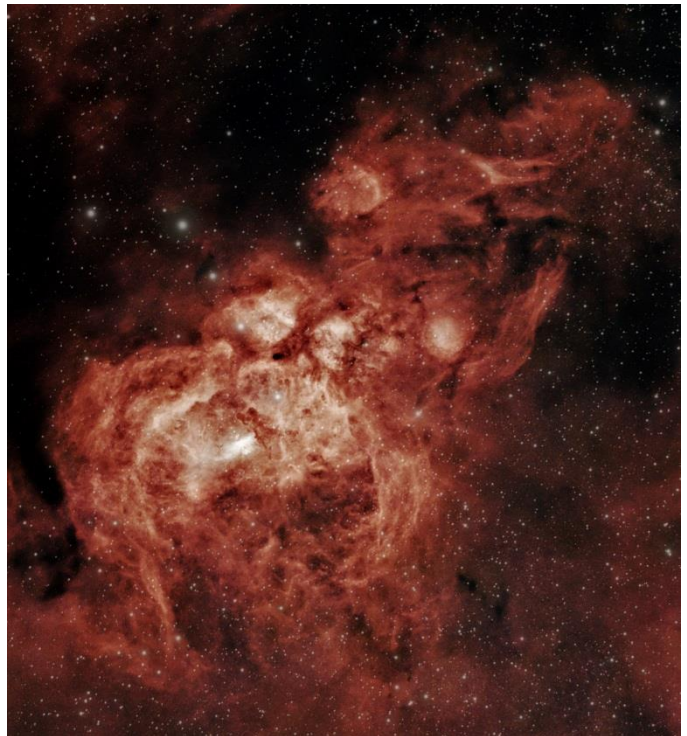
The Nightfall Star party in Borrego Springs, California was to be my second star party festival of the year and I wanted to make sure all my equipment was in tip-top shape. I noticed the lens of my telescope was far from spotless. Imaging nights on my patio, evenings in New Zealand, and nights at TDS had left dust and residue on the objective lens. I needed a good cleaning process. Nervous about scratching the lens with a cloth, I remembered a video I had seen about a special cleaning polymer.



NGC 3676 The Statue of Liberty Nebula



NGC 3324 Gabriela Mistral Nebula



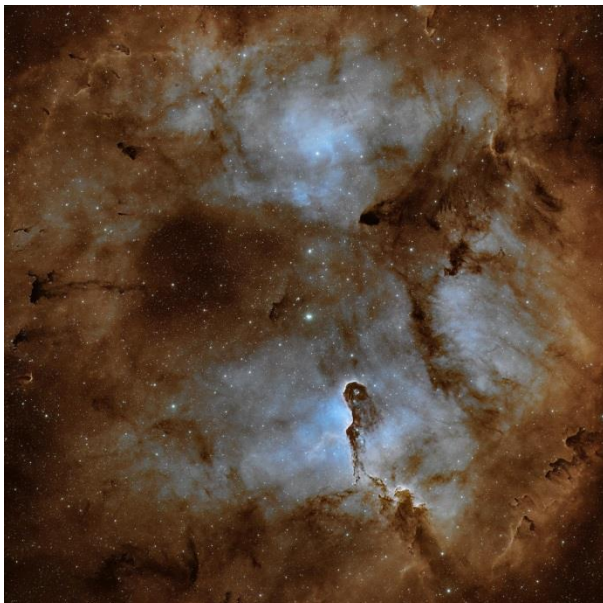
NGC6357 The Lobster Nebula



IC 2944 Lambda Centauri



NGC 5139 Omega Centauri



NGC Elephant Nebula

David Giesen from Photonic Cleaning Technologies, home of First Contact Polymer, was a guest on the YouTube channel called The Astro Imaging Channel. David explained the process of applying a liquid polymer to clean the lenses and mirrors of telescopes. It involved gently pouring the polymer onto the lens of the scope, waiting for it to dry, and then peeling back the dried polymer to reveal a beautiful clean lens. I watched a few more instructional videos, purchased a kit, and then set to work. Following the detailed instructions, I poured a small amount of the polymer onto the lens and moved the liquid into the right place with the provided tiny brush. For the next hour, I watched the timer count down and checked the drying of the polymer. Finally, I peeled back the now solidified polymer to reveal a super clean lens, nearly as perfect as it was on the day I first unboxed the telescope. I could hardly believe the improvement. I was ready for the dark sky of Nightfall and excited to capture a whole new set of photons.

I have spent the first 50 years of my life looking up at all the starry pinpricks of light which blanket us. This past year and a half I have delighted in the experience of pointing my telescope at the wonders of the universe not seen with the naked eye. These images reveal the vast beauty of the dark deep sky. As I think about the vast expanse of the visible universe, I wonder what Gizzy and I will see next.

I share my images on Astrobin at <https://www.astrobin.com/users/ricklkiwi/>

Are you a First Contact Polymer user and Astro Imager? Contact us at sales@photoniccleaning.com for the chance to be selected as a featured guest in an upcoming issue of Amateur Astrophotography Magazine courtesy of Photonic Cleaning Technologies! Not familiar with our products? See our ad on the next page or visit us at <http://www.photoniccleaning.com>