

INCLUDING DARK SKY TRAVELS NIGHTSCAPE PHOTOGRAPHY

ISSUE 111

# AMATEUR ASTROPHOTOGRAPHY

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## Astrophotography with Cristina Cellini

### Q1. Please can you introduce yourself?

My name is Cristina Cellini, I'm 57 and I live in Italy in the countryside north of Ravenna. For me and my husband Fiorenzo Mazzotti astrophotography is a hobby. We have built a small private astronomical observatory, which we use to photograph the sky. My husband takes care of the optical and mechanical part, while I take care of shooting planning and image processing.

### Q2. When did you start astrophotography? Did someone inspire you?

I started to look at the night sky in 1997, when I went to live in San Romualdo, a small village 5 km north of Ravenna. My

neighbor was a very active amateur astronomer and wrote articles for the Italian magazine "Astronomia". He mostly photographed the planets and the Sun with his home-built telescope. At that time the comet Hale-Bopp was passing in the sky & he often invited us to his terrace to observe it with the telescope. I've always had a lot of skills with computers & a few years later I started processing the footage that he shot with his analog camera. I was very lucky because I experienced the transition from analog to digital directly and this was very important for the astronomical work I did afterwards. My husband & I bought the first telescope in 1999 and shortly after the first imaging camera. From 2000 to 2007 I mainly made high resolution images and collaborated with various planetary study programs. In 2007 we bought our first CCD, a QSI520wsi which we still use and since then I have devoted myself mainly to the deepsky.



### Q3: Why do you love astrophotography? Is there a moment that makes you have interest in it and turn it into your hobby suddenly?

I love astrophotography because it's a hobby where there's always something to learn. New processing techniques, new software, and in any case, as I photograph from a suburban area I have to constantly adapt to the changes in my sky.



My neighbor Ilario Melandri and I with his home-made telescope, while we took some image of the planets

### Q4: How did you learn astrophotography? What has it taken to get these achievements?

I learned astrophotography a bit as self-taught and a bit with the help of expert astrophotographers. In the early years I had the opportunity to go under the stars with Italian astrophotographers who were experts in high resolution images. Seeing them work helped me learn how to shoot images, then I collaborated with one of them and this helped me learn new processing techniques. For the deep sky I initially received a lot of information from the QSI CCD camera group, then proceeded as a self-taught. I'm currently deepening my knowledge of the Astroart software thanks to one of the developers of the program. I had to work hard to emerge in this mainly male hobby.

### Q5: What gear do you use for astrophotography? Any pictures of them?



I have two setups in a fixed location. The main one is composed of an Avalon M1 mount with two refractor telescopes (Tecnosky Apo 130/900 F/7 and Tecnosky AG70 70/350 F/5) above it and a photographic lens Askar 200 F/4. The two refractors have as a shooting camera two QSI CCD, while the lens has a CMOS QHY294C. The CCD cameras have Astrodon RGB and Narrowband filters to counteract light pollution, while the color CMOS have Optolong narrow-multiband filters. The second setup is a

a LX200 12" GPS in equatorial mode. Initially this station was supposed to be dedicated to high resolution shooting, but the worsening of the seeing led me to use it for planetary nebulae and galaxies. On the LX200 12" I alternate a QSI CCD camera or a CMOS QHY533 depending on the type of object I decide to shoot. I also own a solar setup with an old refractor acro Antares Callisto 120/1000 F/8 with Hershell's Prisma and a LX200 12" GPS in equatorial mode. Initially this station was supposed to be dedicated to high resolution shooting, but the worsening of the seeing led me to use it for planetary nebulae and galaxies. On the LX200 12" I alternate a QSI CCD camera or a CMOS QHY533 depending on the type of object I decide to shoot. I also own a solar setup with an old refractor acro Antares Callisto 120/1000 F/8 with Hershell's Prisma and a Pentax75 with a Coronado 60 BF15 filter for h-alpha images. For Hi-Res images currently I use a Celestron C9.25 on a Ioptron IeQ30 Pro.



Comet C/2022 U2 Atlas in Auriga – 11th and 12th February 2023

**Q6: Do you want to say something to the newcomers? How to select equipment, how to learn astrophotography, how to do post-processing better, etc. Say whatever you want. We can definitely learn a lot from you.**

I would say to the newcomers to have a lot of patience, constancy and humility. It is impossible to expect to get good results right away, you need to gain experience, know your sky and your tools. Then don't be afraid to request information who know the most, without arrogance, but with great humility. I always say that my images are the results of more than twenty years of astrophotography activity. If people look at my website (<https://www.cfm2004.altervista.org/index.html>), they can see that I have left all the pictures, from the beginning until now, to show that it takes time and experience to get good results. During these years I have shown that it is possible to obtain good deep sky images even from suburban skies by finding the right compromises. As for the instrumentation, I always recommend starting with a photographic lens, a reflex and a star tracker and taking it one step at a time. At first you don't know what you really want to photograph and you don't even know the hidden difficulties. Image processing is the next step. There are many free programs on the net that are good for getting started. Software is not always easy to learn, fortunately nowadays there are many tutorials on the net that teach how to use them.

(An example of an Astro photo that is easy to get with just an unmodified DSLR, camera lens and star tracker)



**Q7: Which photo or location is your favorite? Would you mind telling us something about it?**

Most of my images were taken under my suburban sky. I love to photograph all celestial objects, but perhaps my favorite ones are planetary nebulae and comets. For planetary nebulae I use the technique of mixing the 5 filters (red, green, blue, H-alpha

and OIII), while for comets I do a double alignment (one on the comet and one on the stars) to have no stars trails. For the latter many times I also take images in H-alpha to enhance the objects present in the star field.



LoTr5 a faint planetary nebula in the constellation of Coma Berenices. There are very few images of this fascinating planetary nebula because it requires so many hours of exposure. I was very satisfied with the result I managed to get.



This is the comet C/2022 E3 ZTF near the very small galaxy UGC3165

**Q8: People say the complex astrophotography software is one of the reasons that makes newcomers tend to give up at the beginning. What do you think? How to get familiar with the software quickly?**

Many believe that making an astrophoto is just taking images and adding them together, but this is only the first step of processing. Of course, processing programs are not always simple,

indeed almost never. If you don't have a very good sky, the processing part becomes very important. You have to work hard, read tutorials, ask experts, if you really want to learn how to do it right. As I said initially, it's a hobby where you never stop learning.



**Q9: Have you ever travelled to distant dark places for astrophotography? Are there any interesting experiences that can share with us?**

Yes, many years ago we organized an astronomical expedition of several days under very dark skies with some friends. One of the places we visited was Campo Imperatore, a place where there is also an important astronomical observatory. We laugh again remembering that the sky was so dark and full of stars that some of us made the wrong stationing of the mount because in the polar scope we could see many more stars than we usually saw! There were so many stars in the milky way that we thought clouds were coming! We weren't really used to such a wonderful sky!

**Q10: Do you think astrophotography somehow changed you over the past times ever since you were into this hobby?**

Changed I don't know, it certainly enriched me because it led me to discover and learn many new things. I certainly know the sky much better, and I certainly have more skills in using software. The whole world of astrophotography has certainly changed in these 25 years, but fortunately I still have the enthusiasm that brought me closer to the sky many years ago!