

New York @ Night

The New York City panoramic photography collaboration

by John Goldsmith and Luis Figueroa



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by John Goldsmith (Perth, Western Australia)
and Luis Figueroa (New York, USA)

Photos © Luis Figueroa / New York City USA

Image processing by John Goldsmith

Text © John Goldsmith / Western Australia

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Introduction

In 2013, New York astrophotographer, Luis Figueroa, contacted The World At Night astrophotographer, John Goldsmith, (based in Western Australia), seeking advice on how to take better astrophotographs. What developed was a collaboration which became known as the New York City Skyline Panoramic project, which has documented the unique city skyline by night, via a collaboration between the two astrophotographers, located half a world away.

About Luis Figueroa

Luis Figueroa is a keen astrophotographer, based in the Bronx, New York, City, USA. His interest in astronomy has developed during secondary school, and continued ever since. In 2008 he purchased a Celestron telescope, and began astrophotography.



About John Goldsmith

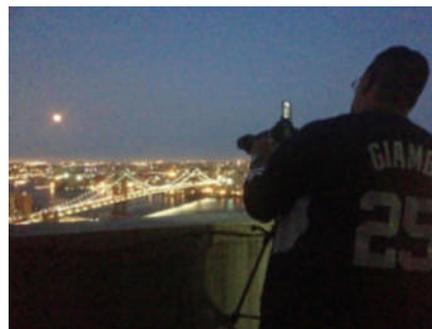
John Goldsmith is a member of The World at Night (www.twanight.org), a leading global network of astronomical landscape photographers. He is the creative developer behind Celestial Visions (www.celestialvisions.com.au) and is based in Western Australia. His astro-imaging is exhibited worldwide. He completed his PhD in 2014 at the International Centre for Radio Astronomy Research, Curtin University, which focussed on cultural astronomy and the documentation, communication and sharing of Aboriginal sky knowledge. The PhD features the outstanding “*Ilgarijiri- Things Belonging to the Sky*” Aboriginal art exhibition and collaboration between radio astronomers, Aboriginal Elders and artists, associated with the Square Kilometre Array radio telescope project, Murchison Radio Observatory. His PhD research also investigated Aboriginal sky knowledge associated with Kandimalal, the 300,000+ year old meteorite crater known as Wolfe Creek Crater, in the East Kimberley of WA. His PhD features a suite of digital imaging for site documentation, including astronomical timelapse and 360° spherical imaging. In 2011, John was awarded the inaugural De Laeter Science Engagement Scholarship, (Gravity Discovery Centre, Western Australia), where he featured Aboriginal and scientific perspectives of Kandimalal, Wolfe Creek Meteorite Crater.





(Above) Super Moon rising above New York skyline, July 2014.

(Below) Luis Figueroa photographing the super moon. Photo by Elizabeth Figueroa.



Luis Figueroa's astronomy journey

Luis Figueroa talks about his introduction to astronomy, and his activities in this field;

I first became fascinated with astronomy when my eighth grade science teacher spoke about the Rings of Saturn and the Great Red Spot in Jupiter. Over the years I spent a lot of my time watching documentaries about space, reading astronomy magazines, books about space and learning how to read star charts. In 2008, I purchased a Celestron CPC 800 telescope with some basic eyepieces.

I live about ten miles away from New York City where there is a lot of light pollution. In order for me to see a glimpse of the sky and its offerings I have to travel about 50 – 100 miles north from the city to Wawayanda or Lake Taghkanic State Park with permits provided by the Rockland Astronomy Club in Suffern, NY. After many nights of observations I decided to take photos of what I was seeing so that I could share them with my family and friends. I purchased a Canon DSLR camera, attached it to my telescope and began taking basic pictures of the Moon, the Sun, Saturn and Jupiter. On the days that I don't take my telescope out I take landscape pictures of the NYC Skyline.

In September of 2012, I travelled to San Diego, CA and visited the Palomar Observatory. In November of that same year I travelled up to the National Forest in the Santa Fe Mountains in New Mexico. That night I was able to see the Milky Way from the beautiful dark skies of

Albuquerque, New Mexico. One day I would like to travel outside of the United States to see what dark skies in other parts of the world look like.

Recognising local photographic opportunities

An important part of this collaboration has been the shift in thinking to make use of astrophoto opportunities in the immediate neighbourhood, rather than needing to travel long distances to escape the bright city glow. Secondly, the style of photography adopted is that of *The World at Night*, in which the nocturnal terrestrial landscape is just as important as the astronomical subject. Combining these two approaches led to the recognition that New York city provided excellent photographic opportunities, in the immediate neighbourhood for Luis Figueroa.

The 9/11 Anniversary, 2013

During the early phase of the email based guidance, and field photography by Luis, the coincidence of the 9/11 anniversary was recognised, and this became an important part of the collaboration, to document the nightscape of the New York skyline, during the 9/11 anniversary. Goldsmith suggested this to Luis, in the following way;

Your photography is in some respects an anniversary commemoration. Also, what I want to let you know is that the story behind an image, in terms of its caption, can also be very important. So take note of interesting stories, insights, personal reactions / feelings as you do your photography, people that you meet, or unexpected happenings etc. Sometimes, these things can help inform and express the story and key messages of a photo, as presented in a photo caption. One interesting aspect of this collaboration, is the fact that even though we have never met, and live half

a world away, we are collaborating, working together, on a meaningful project. While you do the latest photography, have a think about what those light beams mean to you...

and the response by Luis was moving;

That is so true. A little history about me. ... I am a 9/11 first responder from the Bronx, NY with a sinus disease relating to 9/11. I was on my way to work not too far from the towers when the first plane hit. I was sent to help out with recovery after the towers went down and weeks after. So those beautiful blue lights mean alot to me also. I'm really glad that I emailed you and you were really nice enough to reply. Even though we are thousands of miles apart this is the beginning of a great collaboration. I learned so much from your tips and will always appreciate what you've done for me as an amateur photographer. Thank you.



Guidance by email

Guidance and instruction about astrophotography was provided solely via email messages. Topics and advice was based on the questions asked by Luis, in response to reviewing some sample astrophotos. Often, when reviewing a photo and looking at how to improve a photo, it is best to focus on the one main issue that needs improvement, and then deal with that. Repeat the review, and revise and improve again. When this is done several times, rapidly progress is made.

Photographic topics

In addition to some fundamentals about photography and astrophotography, a number of topics were discussed via email. These include;

- Preparing for field based photography.
- Camera set up- ensuring the camera is set at maximum resolution
- Setting for both RAW and JPEG format.
- Identifying camera shake
- Techniques for activating the camera to reduce camera shake
- Tripod gear
- White balance
- Developing critical appraisal for assessing photos
- Achieving precise focus, and composition
- Carrying heavy camera gear.
- Using manual settings to ensure consistency for panoramic processing

Issues encountered

The main photographic issues encountered included ensuring consistency of exposure settings, to enable good panoramic processing to be done, and secondly, gaining sharp images by eliminating camera movement and achieving a precise focus. It was apparent that even with the use of a tripod, some camera movement was occasionally occurring, and special effort was made to identify and eliminate the movement, to ensure that photographs were movement free. Methods to assist in achieving precise focus were also reviewed, to maximise the quality of the original photography.

Image processing

Following the photo sessions, the digital images were sent to John Goldsmith via "drop-box", an online file sharing service, which made sharing and transfer of large digital files easily done. Occasionally, some small digital files would simply be emailed as attachments, but in general, the series of panoramic photos were sent by drop-box. The digital files were then process by Goldsmith, in Western Australia, using Autopano-Giga panoramic software. Generally, at least two versions of completed images were produced, a full resolution version, which could be up to a maximum of 30,000 pixels in resolution, and a much smaller resolution version, typically with a maximum of between 2000 to 5000 pixels on the longest side. These smaller images, saved as JPEG files and less than 2 MB in file size, were convenient for sending by email.

Results

Several panoramic sequences have been generated to date, and some examples of these are shown in the following pages.

Cover page: New York skyline at night.

Page 4: (Above) Super Moon rising above New York skyline, July 2014. (Below) Luis Figueroa photographing the super moon. Photo by Elizabeth Figueroa.

Page 6: The beams of light from the 9/11 memorial site, New York skyline.

Page 8/9: Panoramic image of the New York skyline at night.

Page 10: (Above) Elevated view of New York skyline. (Below) The 9/11 memorial beams of light.

Page 11 (Above and below) Panoramics of the New York skyline.

Page 12: Beams of light from the 9/11 memorial.

Page 13: Vertical panoramic view of New York at night.

Page 14: (Rear Cover) New York at night.

Benefits of the collaboration

The collaboration has clearly resulted in successful panoramic photography, and Luis comments about the collaboration:

"The photos I took came out good, and with your help (i.e. Goldsmith), they came out fantastic" .







(Above) Elevated view of New York skyline.
(Below) The 9/11 memorial beams of light.



(Above and below) Panoramic views of the New York skyline.



(Right) Beams of light from the 9/11 memorial.



(Left) Vertical panoramic of New York by night.
(Rear cover) New York at night.

