

Astro Café Photographing the Rise of the Full Nimitahamowipisim*

presented by Alister Ling and Luca Vanzella

Date: Tue Sep 1, 2020 **Time:** 19:45-22:00

Location: Viewpoint across the road from 44 St Georges Crescent
(<https://goo.gl/maps/JjRkgVYBtgm>)

* In the Cree Culture, the full moon of September 2020 is known as Nimitahamowipisim, the Rutting Moon, marking the time of year the bull moose scrapes the velvet from his antlers in preparation for mating season. See: <https://creeliteracy.org/wp-content/uploads/2019/09/2020CalendarSR-ACO6.pdf>.

The Colonial American name of the September 2020 full moon is the Corn Moon. See: <https://www.almanac.com/content/full-moon-names>

COVID-19 Protocol

Maintain 2m physical distancing at all times.

Alister and Luca will not be touching or going near your cameras. We will help from 2m distance.

Cloud/Rain/Snow Backup:

The backup date is Sep 2. If Sep 2 is cloudy, then the event is cancelled.

An update will be posted no later than 18:00 each day, here:

<https://www.facebook.com/groups/edmontonrasc/>

<https://edmontonrasc.com/2020/09/astro-cafe-sep-1-2020/>

It is your responsibility to check.

CIRCUMSTANCES OF MOONRISE (SEP 1)

20:22 Sunset

20:48 Moon ALT -0.2 AZ 111.9 Moonrise left of Quint; first view by 20:51 or so

20:58 Moon ALT 1.0 AZ 113.9 Moon above Quint & Civil Twilight End

21:07 Moon ALT 2.0 AZ 115.5 Moon above right Quint

21:15 Moon ALT 3.0 AZ 117.1 Moon above apt right of Quint, reflection opp

21:31 Moon ALT 5.0 AZ 120.3 Moon above south end of Groat Bridge. Consider ending sequence.

20:15-20:30 Practice bracketing shots for an HDR (High Dynamic Range) image. See below for details.

Center of reflected positions are approximate. As much below 0 deg as Moon's altitude above.

The reflected image will spread in the vertical due to roughness/undulations of the river surface.

SCHEDULE

19:45 Non-rushed setup of camera and tripod

19:55 Start Café – Intro and Q&A

20:05 Frame the Image & Focus the Lens (and set back to M)

20:10-20:20 Shoot pre-sunset foreground – shoot every 5 min for changes in sky brightness

20:25-20:47 Take Foreground Images (pre-moonrise) – shoot every 5 min for changes in sky brightness

20:48-21:31 Shoot Moon Exposures – Shoot every 5 sec (for timelapse) or every 1 min for (multi-composite)

> 21:31 Take Foreground Images (with Moon out of frame) – shoot every 5 min for changes in sky brightness

21:45-22:00 Pack up and Final Q&A.

Goals

- Learn the basics of shooting a Moonrise or Moonset skyscape
- Get enough images to be able to create: Single image, Composite image, Composite image sequence, Timelapse

Overview of Moonrise circumstances

- A "twilight-dark blue" rise: the foreground is much dimmer than the Moon: single shot not doable.

- Shoot a lighter foreground shot before rise. Take one every couple of minutes; choose and composite later.
- Reasonable guess of ISO200 1/60 sec for first edges of Moon. WB setting DAYLIGHT.
- Zoomed in shots may need to adjust exposure on Moon.
- Wider views: you will need to gradually shorten exposure to avoid washing the Moon out.
- Reflection in river is nice, but need bracketing because much dimmer than Moon itself.

Before the Café

What to Bring

- **Bring these notes – we will NOT be handing out paper copies.**
- DSLR camera (no phones or point-and-shoots)
- Lens
 - Zoom lens if you have one, e.g., 28-250mm or 70-300mm
 - If no zoom lens, then whatever lens you have
- Sturdiest tripod you own (with the head for the camera)
- Intervalometer, if you have one. If not, then a remote shutter release and a stopwatch or a smartphone with a timer app.
- Pants/light jacket/light gloves (mosquito repellent?)
- Binoculars (optional, but highly recommended)

How to Prepare

(Note the following uses Canon terminology. Set your camera accordingly.)

- Study your camera if you don't already know it.
- Charge camera battery (including spare if you have one).
- Empty the memory card.
- Set lens to auto-focus.
- Set camera to Manual mode.
- Set shutter speed to 1/60 (clean skies 1/100).
- Set lens opening to f/6.3.
- Set Exposure level increments to 1/3 stop (Custom Function on some Canons).
- Set ISO to 200.
- Set Quality to LARGE/HIGH QUALITY/JPG.

OPTIONAL: Choose RAW if you know what RAW is and you know that your camera can handle a burst of RAW when bracketing exposures.

- Set camera to single-point focus mode.
- Set White Balance to Daylight.
- Set Auto Noise Reduction to OFF.
- Set Picture Style to Standard.
- Set Image Review to 2 sec.
- Set AUTO POWER OFF to off (or a long time).
- Shutter Release - Do one of the following:
 - If you have an intervalometer:
 - set it to 5 sec interval (for timelapse purposes)
 - set it to 1 MIN interval (if you don't want to do a timelapse)

- If the camera can do it, set it to release the shutter every 5 sec (or 1 min per above)
- If you have a remote shutter release, prepare your stopwatch or smartphone timer app to 1 min interval
- If you don't have either intervalometer or remote shutter release, then LEARN how to set the camera to delay the shutter 2 sec (but don't set it just yet).
- **Want to do HDR?** At home, learn how to set the bracketing on your camera. Set ISO to 800 f/6.3. Starting at 0.6s, then shorter and shorter exp every 2EV for 6 frames. If not expecting a clean sky, you can get away with 5X2EV. If starting in the middle, try 1/25th, then check that your long is not more than 0.6s. High ISO is needed to “prevent” the Moon moving too much during the bracketed set.

BEFORE YOU ARRIVE, CONSIDER HOW THE FRAMING AFFECTS THE FOCAL LENGTH!

If you are wanting to do a timelapse or time slice composite, your camera is fixed for the duration!

Wider angle means smaller Moon. You probably do not want the top of the frame to be above 5 deg.

Do you want to capture the water reflection? You must use wider angle! But if you decide to shoot zoomed in for the rise, then after switch to catch the reflection, you will need 70mm or LESS, resulting in a smaller Moon.

See below for circumstances on Backup Date.

BACKUP DATE (SEP 2)

CIRCUMSTANCES OF MOONRISE (SEP 2)

20:19 Sunset

20:56 Civil Twilight End

21:04 Moon ALT -0.2 AZ 103.8 Moonrise right of Apt Near Leg; first view by 21:07 or so

21:14 Moon ALT 1.0 AZ 105.3 Moon above Tower on horizon

21:21 Moon ALT 2.0 AZ 107.3 Moon above and left of apts left of Quint

21:29 Moon ALT 3.0 AZ 108.7 Moon above left apt left of Quint

21:44 Moon ALT 5.0 AZ 111.7 Moon above left Quint. Consider ending sequence.

21:44-22:15 Practice bracketing shots for an HDR (High Dynamic Range) image.

SCHEDULE

20:15 Non-rushed setup of camera and tripod

20:25 Start Café – Intro and Q&A

20:35 Frame the Image & Focus the Lens (and set back to M)

20:45-21:03 Take Foreground Images (pre-moonrise) – shoot every 5 min for changes in sky brightness

21:04-21:44 Shoot Moon Exposures – Shoot every 5 sec (for timelapse) or every 1 min for (multi-composite)

> 21:44 Take Foreground Images (with Moon out of frame) – shoot every 5 min for changes in sky brightness

22:00-22:15 Pack up and Final Q&A.

Sep 2 Reference Image

