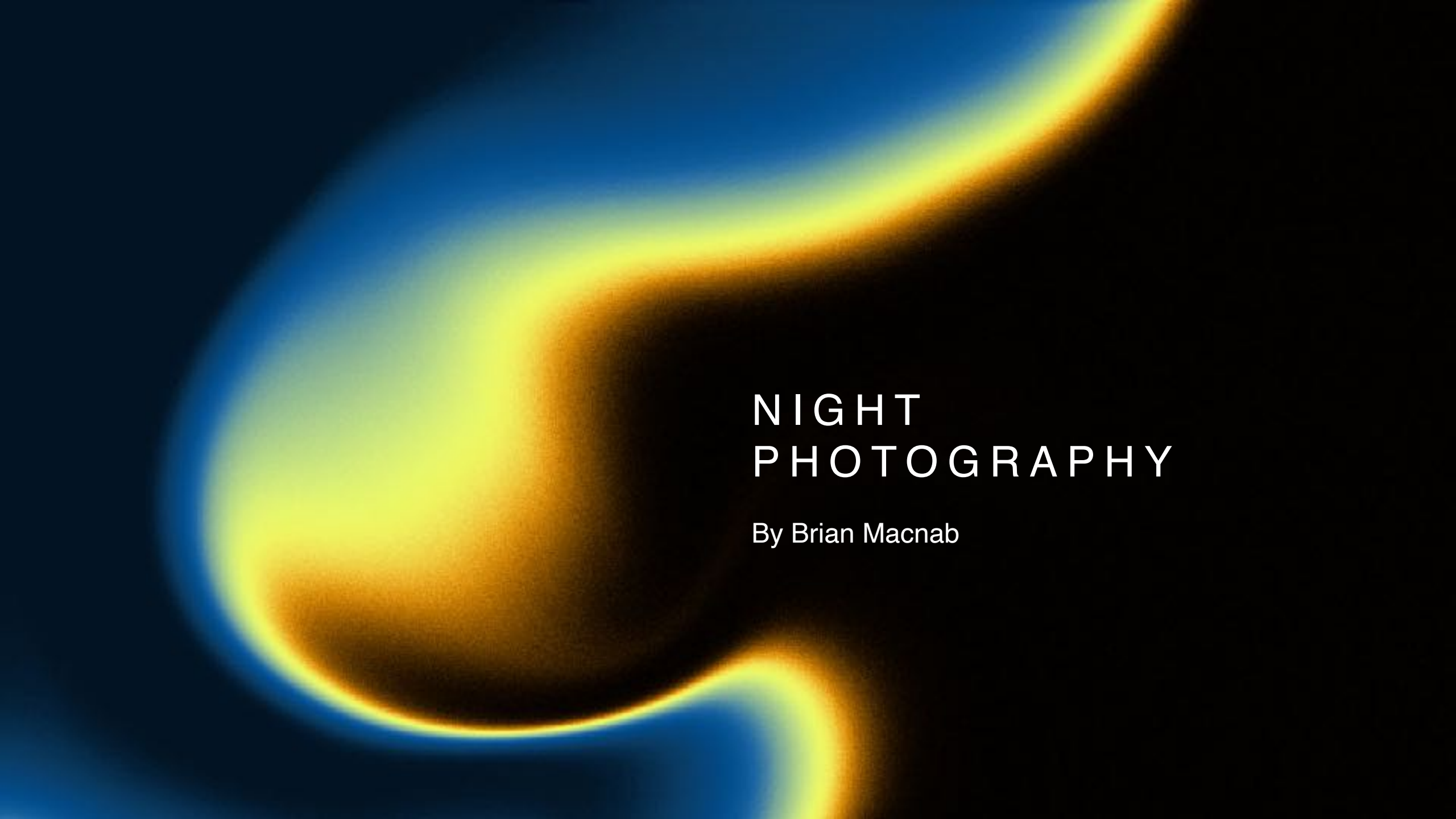


The background of the entire page is a dark, almost black, field. Overlaid on this are several bright, glowing streaks of light. One prominent streak curves from the top right towards the center, while another, slightly lower and more horizontal, stretches across the upper middle. A third, more vertical streak is visible on the left side. The colors of these streaks are a mix of deep blue and bright yellow, creating a sense of movement and energy.

NIGHT PHOTOGRAPHY

By Brian Macnab



WHEN IS NIGHT?

	TIME AFTER SUN SETS	DEGREES BELOW HORIZON
Civil Twilight	30	6
Nautical Twilight	60	12
Astronomical	90	18

After this it is as dark as it will get.

WHAT IS THERE TO PHOTOGRAPH?

- Starry background
- Moonlight landscapes
- Milky Way (especially in summer when Earth faces towards centre)
- Aurora
- Star trails
- Lunar eclipses
- Meteor showers (Perseids 11-13 August. Geminids 13/14 December)



MOONLIGHT PICTURE



VARIETY OF PHOTO TECHNIQUES

Long exposure

Panorama

Time lapse



WHAT DOES THE SKY ACTUALLY LOOK LIKE?

Greenish colour

In imagination it is blue . . .

so gives plenty of latitude for imagination =
no one can say you're right or wrong



ITS MOVING

- Try to render star as a spot or as short streak that's not noticeable
- Rule of 500 dictates exposure times
- 16mm lens = 30 seconds
- 35mm lens = 14 seconds
- Star trails. 1 minute plus
- Intervalometer.
Most newer high end cameras have them built in now but OEM can be bought cheaply now



LENSES

- 16mm f2.8 has aperture 5.7mms
- 35mm f2.8 has aperture 12.5mms
- BUT angle of view of 35mm is about half that of 16mm
Four shots to cover same area
- Signal is x4 stronger so S/N has doubled so fainter stars seen
- 35mm f1.4 is x19 greater
- 35mm not wide enough for milky way unless do panorama



FOCUSING

- See where repeatable focus is in daylight. Once achieved switch off autofocus or use live view on a bright star
- When achieved tape it in place



COMPOSITION

- Scout it in daylight if possible
- Dark adapting takes 90 seconds
- ?red filter over torch
- tell others not to use mobile phones if possible



Rule of Thirds



S-Curve



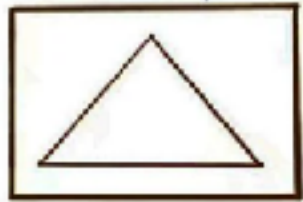
Golden Spiral



L-Shape



Diagonal



Pyramid

MILKY WAY PICTURES

- 30s f2.8. ISO 6400
- Use histogram but turn LCD brightness down
- White balance = daylight
- Shoot RAW
- Hold detail in land HDR no good as MW moves too much
- Take one picture with some daylight left or "paint" foreground if detail close



GENERAL

- Keep warm
- Chair and hot drink
- Tell someone where you are
- Strong tripod
- Checklist
- Flashlight with red cellophane
- TPE



PROBLEMS

- Clouds / Light pollution
- Lack of sleep
- Find dark skies:
 - Dales
 - Northumberland
 - Dumfries
 - Brecon
 - Highlands



MORE DETAIL

Dimensions	4000 x 6000
Authors	BRIAN MACNABq
Camera maker	Canon
Camera model	Canon EOS R6m2
F-stop	f/2.8
Exposure time	30 sec.
ISO speed	ISO-6400
Exposure bias	0 step
Focal length	16 mm
Max aperture	2.82842712106525163
Metering mode	Center Weighted Average
Flash mode	No flash



QUESTIONS?

The background features a black field with two prominent, glowing, curved lines. One line starts from the top left, curves towards the center, and then extends towards the top right. The other line starts from the bottom left, curves towards the center, and then extends towards the bottom right. Both lines have a bright yellow core that transitions into a blue outer glow.

THANK YOU