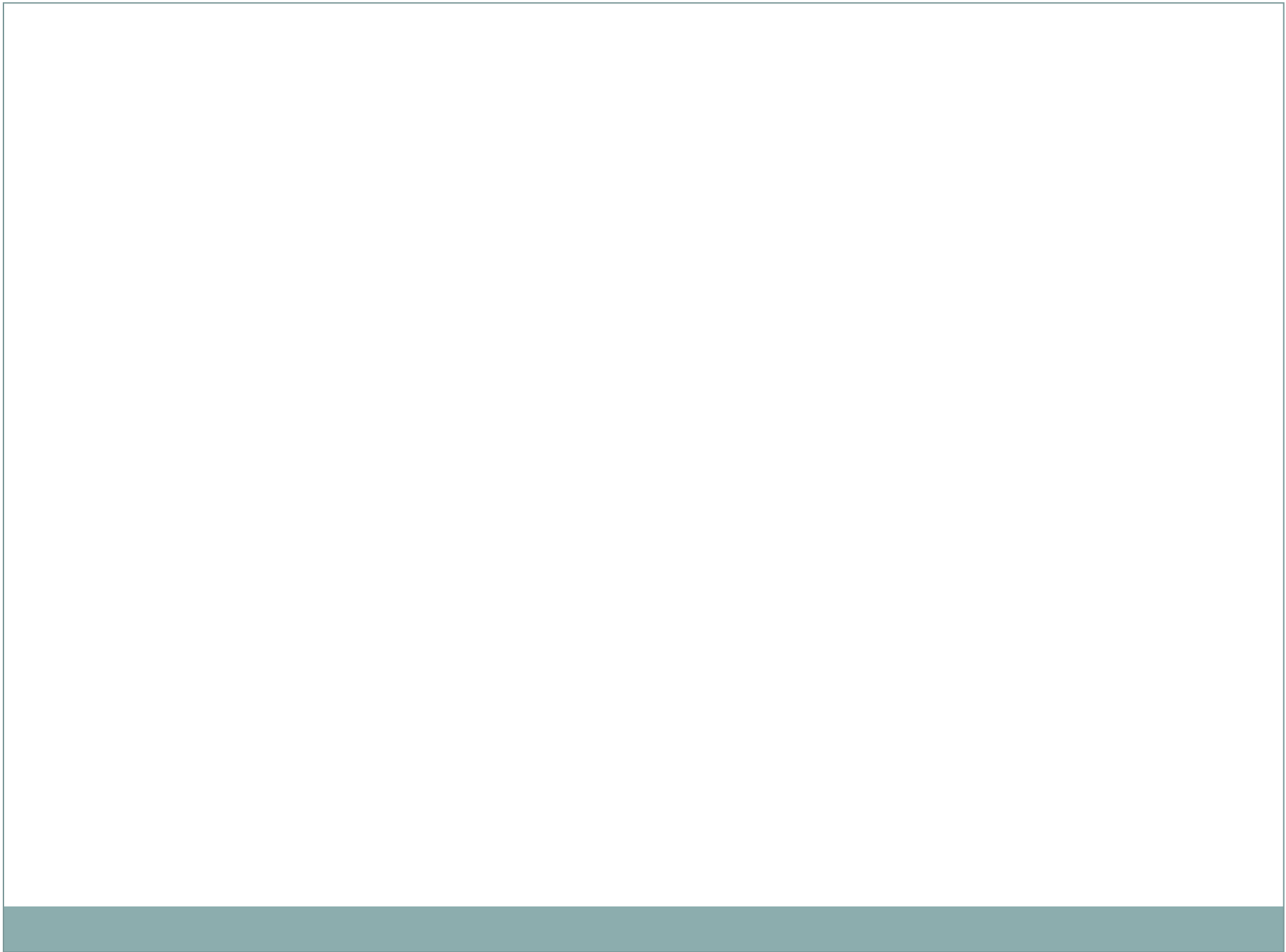




MACRO PHOTOGRAPHY

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February 21, 2019



What is it?



- It is extreme close-up photography, usually of very small subjects and living organisms like insects, in which the size of the subject in the photograph is greater than life size (though *macrophotography* technically refers to the art of making very large photographs) (Wikipedia)



- **Think small. Size matters in reverse! You want to make something that is small, larger than life size if you can.**

What is needed for Macro:

The following is a list of gear, ideas, and means of achieving MACRO

1) Camera (obvious) DSLR, mirrorless ILC, or compact camera, or cell phone



2) Macro lens 1:1 magnification if you have one, or compact camera with macro setting, or a lens with macro setting depicted usually with a flower either on the camera or on the lens. The lower the ratio the better ie 1:2,1:3,1:4 etc.



3) Tripod and remote or knowledge of using the timer mode on your camera to prevent camera shake during the exposure.



4) You want to get as close to the subject/object that you want to shoot and achieve optimal focus and **DOF** (depth of field for the articles in the image that you want to display to your taste.)



5) Do you want abstract , or accurate recognizable depiction? Most mundane everyday things (insects, snowflakes , water drops can be almost unrecognizable the larger the final image can be made). Try shooting something like a cheese grater, or cutlery close up to obtain something abstract.

Cheese Grater



Cutlery and lens ball



6) PATIENCE: This is something I do not have a lot of and you may find yourself expending yours trying to obtain the shot you want in the proper light and composition. You will have to be willing to move, or wait for the proper situation/event to occur. Experiment and try something new. I usually have unexpected results beyond my original intent!

EXPERIMENT!!



7) Light source: to illuminate your subject from above or from below, or even from the side to create shadows, or reflections as with a CD (very colourful). Possible light sources that you may already have are things like your cell phone, pocket flashlight, Ring/flash, table light etc.

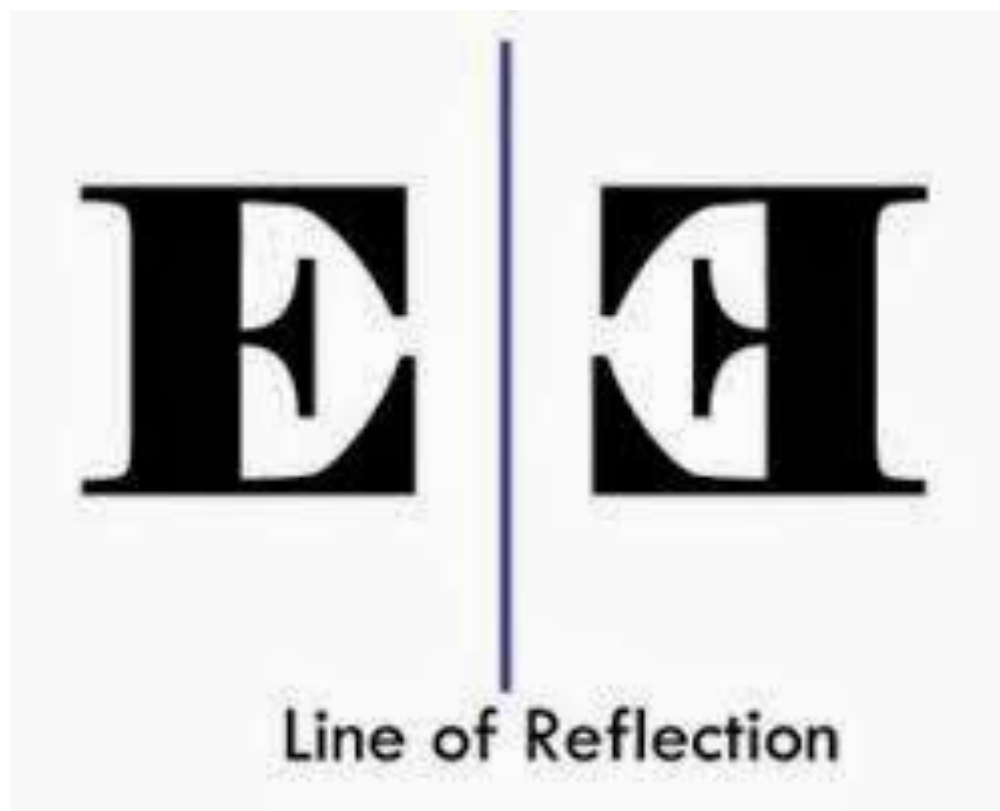


**3 Necessary Things to use for our
photographic exercise are
As follows:**



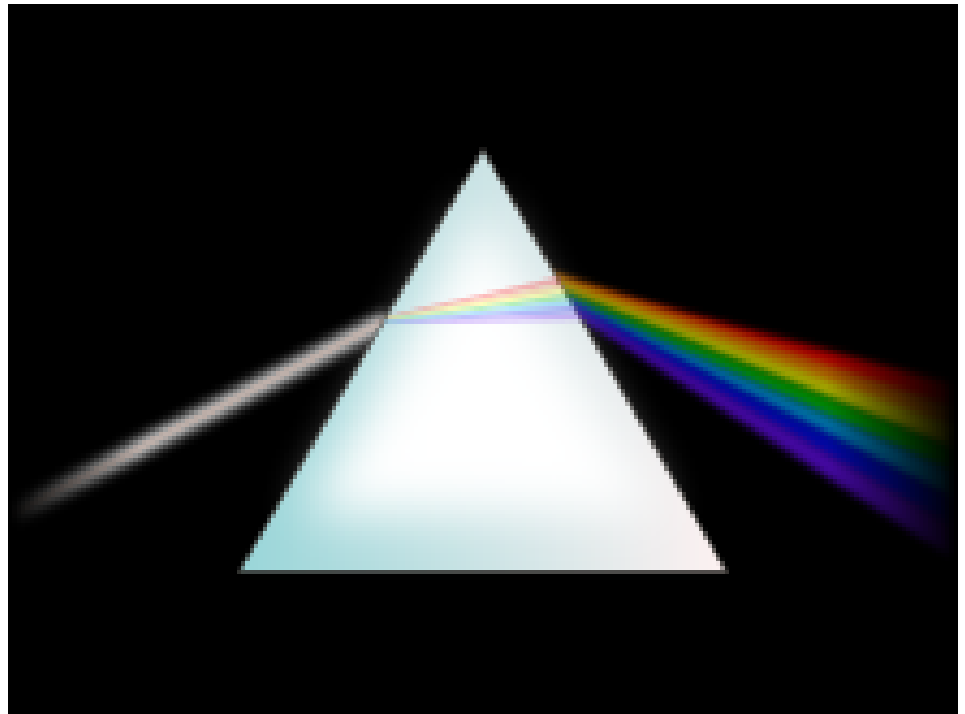
Reflection

the throwing back by a body or surface of light, heat, or sound without absorbing it.



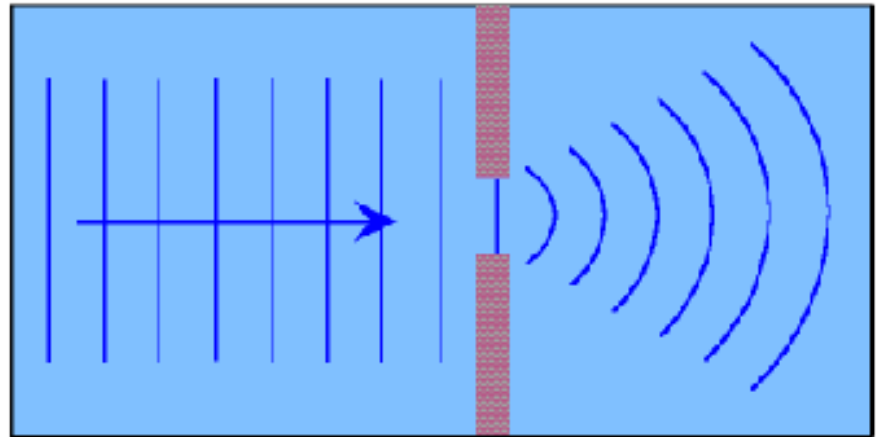
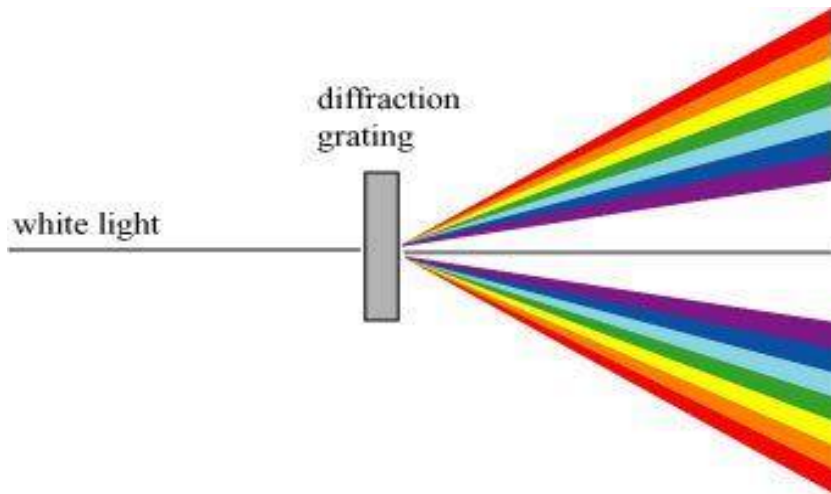
Refraction

The fact or phenomenon of light, radio waves, etc. being deflected in passing obliquely through the interface between one medium and another or through a medium of varying density.



Diffraction

is the slight bending of light as it passes around the edge of an object. The amount of bending depends on the relative size of the wavelength of light to the size of the opening. If the opening is much larger than the light's wavelength, the bending will be almost unnoticeable.



Some Different Methods and types of Macro

We will only be doing **close-up and macro photography, but there are even finer degrees of this.**

1) mini landscape – maybe a group shot of blades of grass, or flower buds, marching ants etc.



2) Close Up - may not be full on macro, but the subject can fill the frame/sensor can be close up all the way to 1:1. In this picture the ball orb is a crystal ball the size of a 5 pin bowling ball, and was achieved with a long exposure (13 seconds) at F/16 and cell phone app Spritebrush and 100 mm Canon Macro lens .



3) Macro - Close up and macro will be what us mere mortals will be doing. The following 2 types below the following images are done with professional gear, and beyond my financial means. There are some newer and cheaper $>1:1$ all the way up to $5:1$ lenses that let you get up really close and personal. I also have an Oshiro $2:1$ macro lens for shooting flakes and drops. The disadvantage of these lenses is that they are usually fully manual, so they are not for the timid point and shoot types. Below on the next page is a macro $2:1$ shot of a snow flake with the Oshiro lens. Even at $2:1$, the image needs cropping to be truly appreciated. You will probably post process to your own tastes if you do that kind of thing.

Examples on next slide

Unedited and uncropped



Edited and uncropped



Edited and cropped

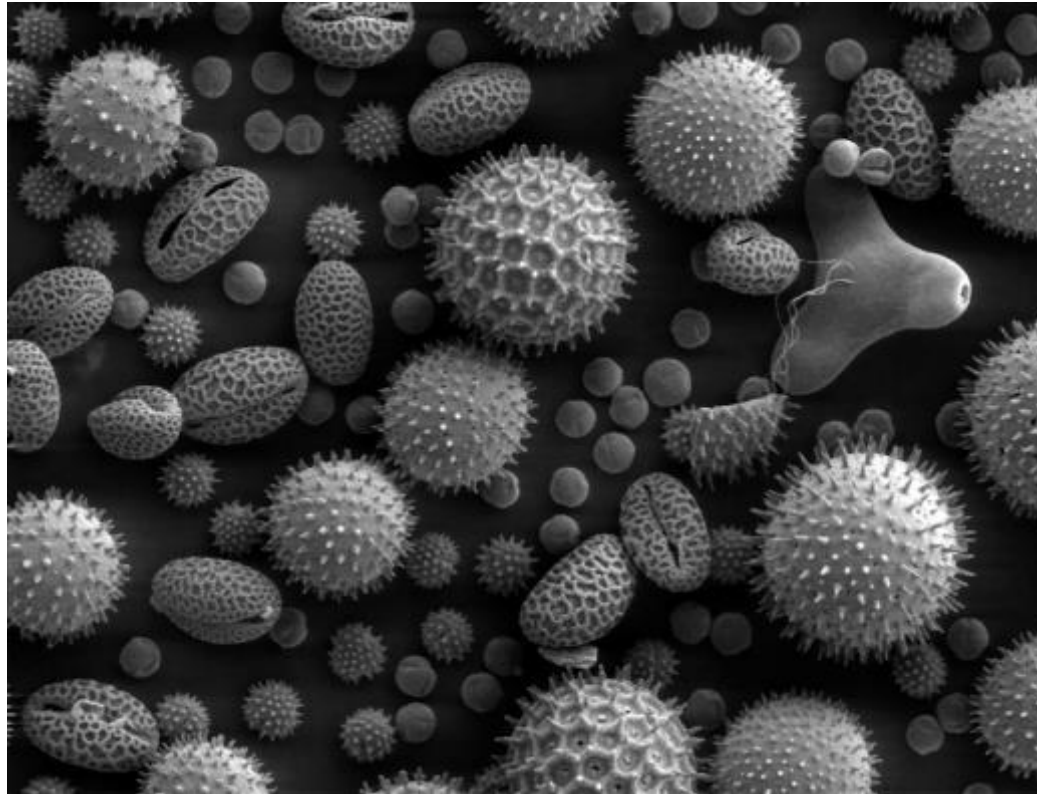


Further processed and Viveza filter applied



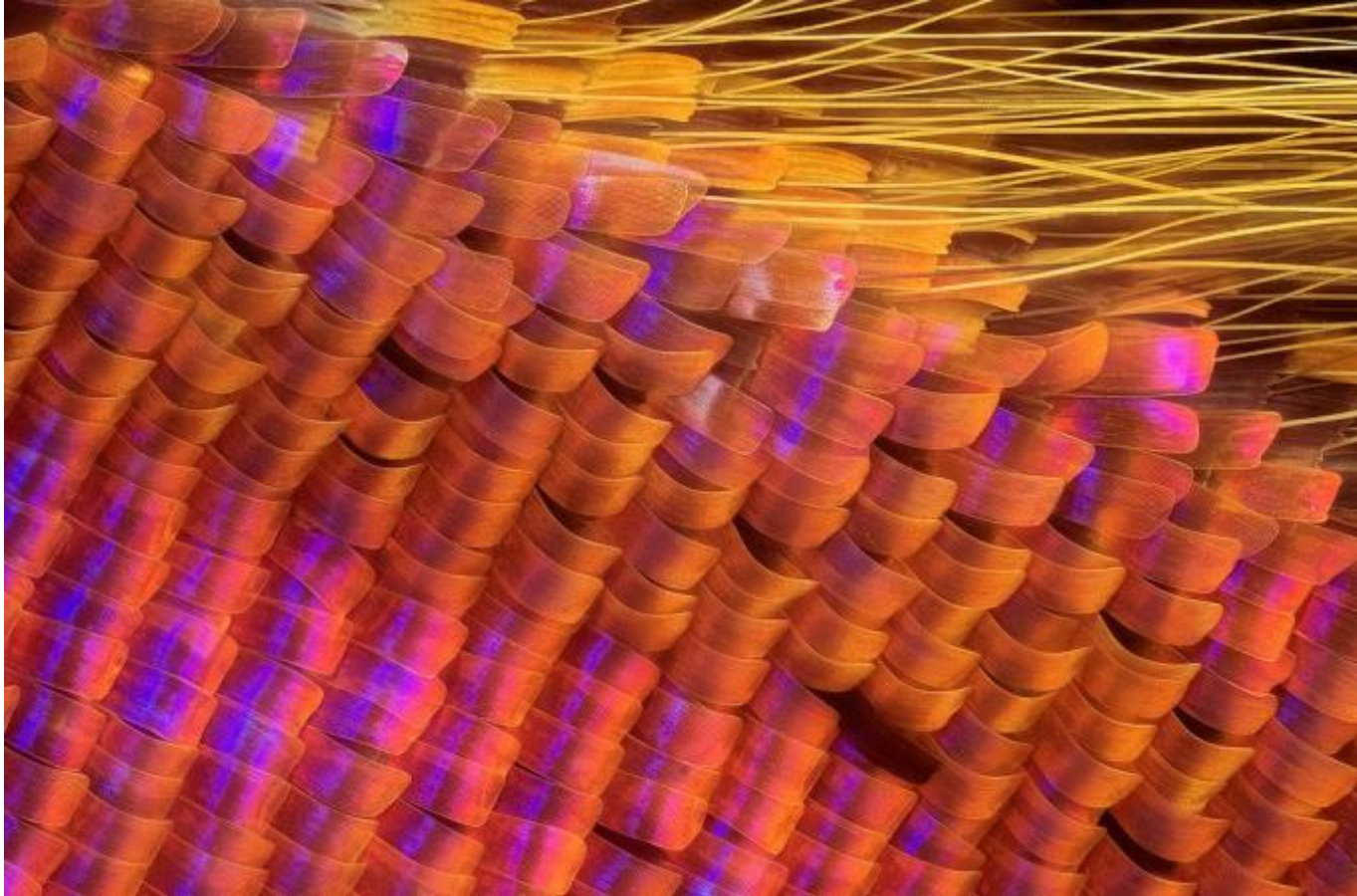
Types of Macro Continued

4) *Photo Microscopy* (We won't be doing this)



Miscpollen

5) Microphotography We won't be doing this either



Scales of a Sunrise Moth

Time for Show and Tell of gear that can be used and what it is for. Extension tubes, close up lens, lens, etc.

Finally: some example pics for stuff to do in the next session, or if there is time break off and try some stuff with gear that is at hand to play around with ideas.)



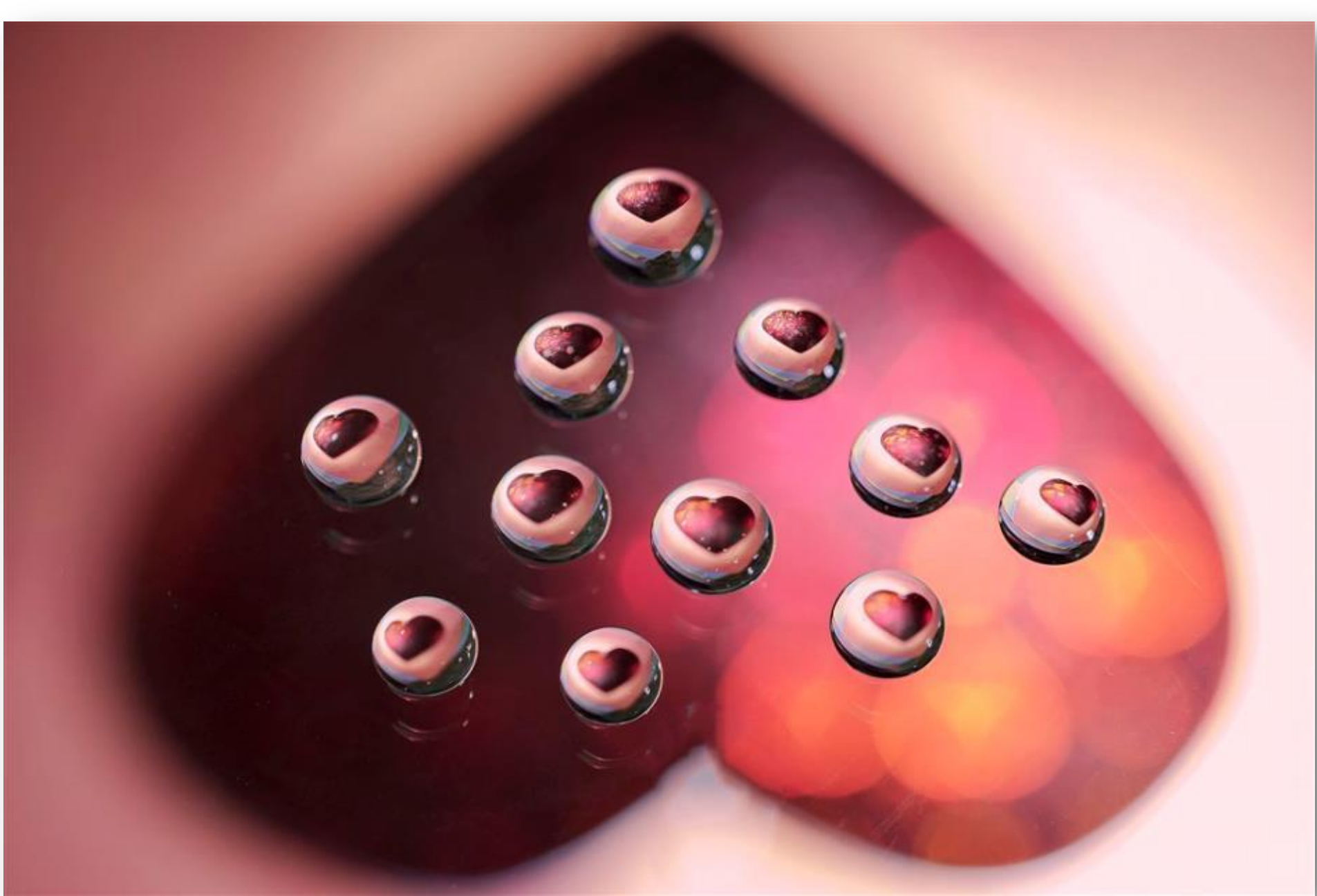
Macro, or Not?

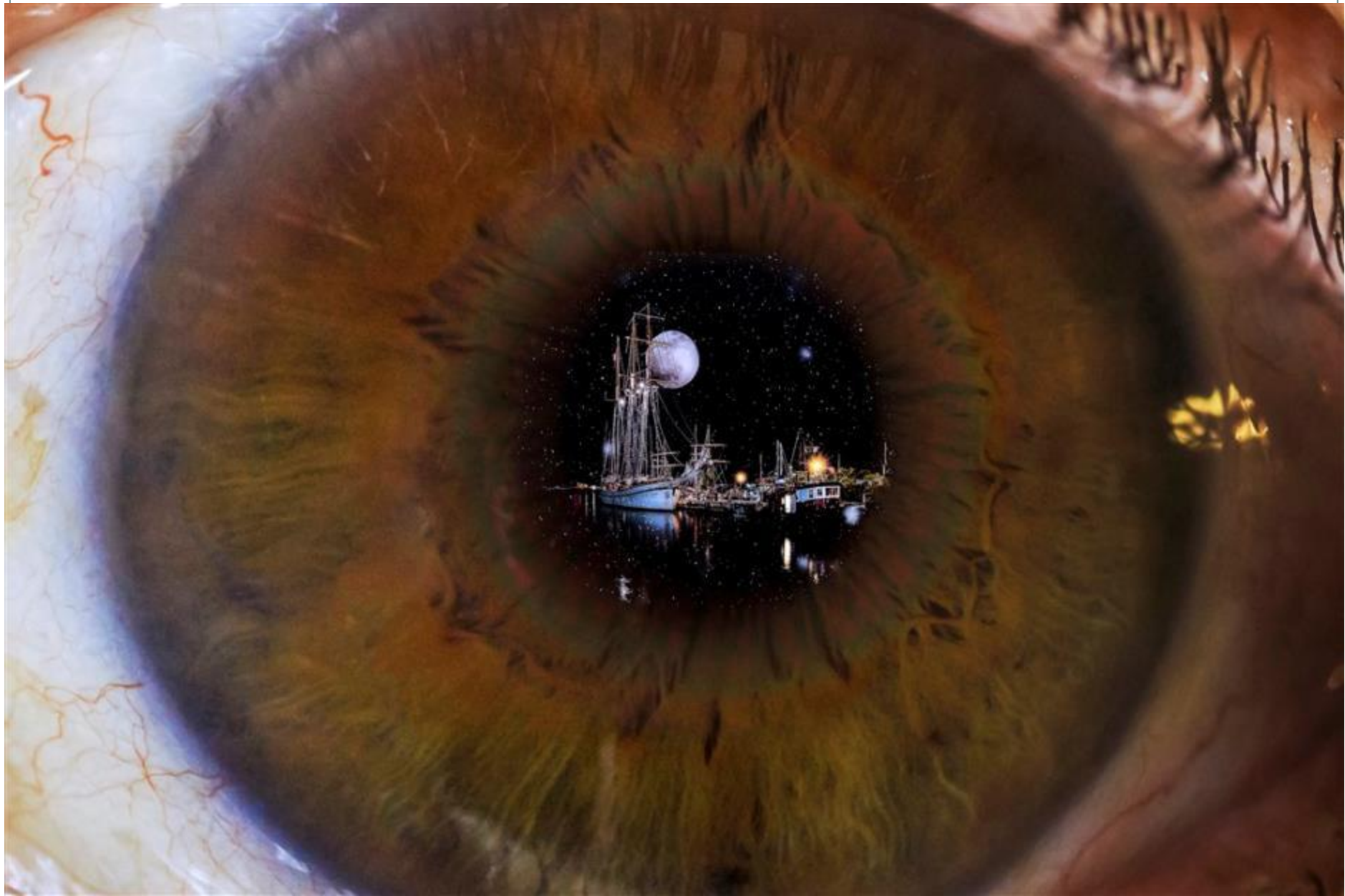
Some things to consider:

Close-Up Photography is where the reproduction ratio is from 1:10 to 1:2 - ie from 1/10th life-size to one half life-size.

Macro Photography is where the reproduction ratio is from 1:1 to 10:1 - ie from life-size to ten times life-size.

































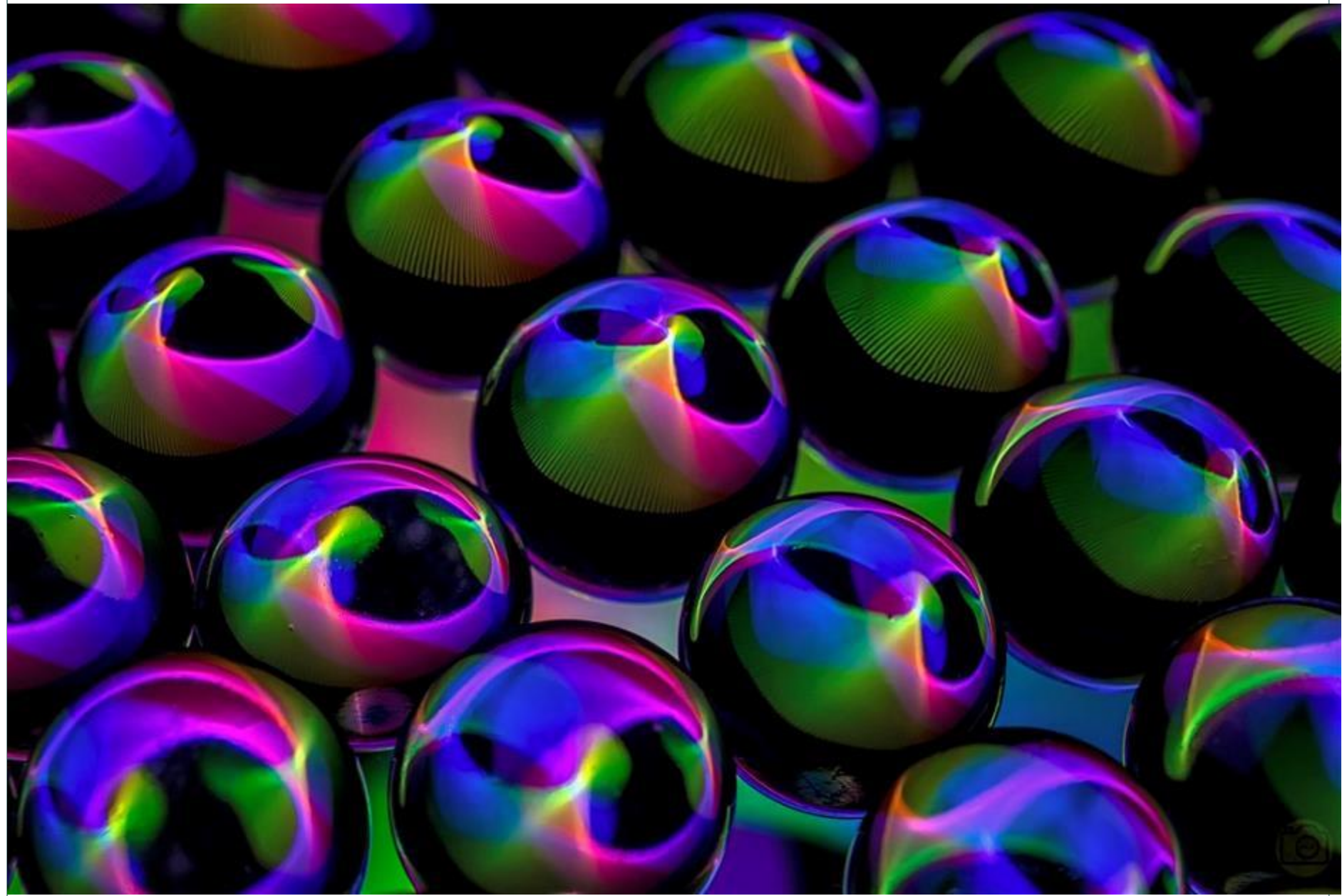












<https://www.donkom.ca/>

Don Komarechka

<http://photogeekweekly.com/series/photo-geek-weekly/>

Don Komarechka

<https://alexey-kljatov.pixels.com/>

Alexey Kijatov

<https://www.its.caltech.edu/~atomic/>

Kenneth Libbrecht

<https://hyperallergic.com/341446/the-first-snowflake-photographs/>

Wilson Bentley

<http://extreme-macro.co.uk/calculators/>

Johan J Ingles-Le Nobel