Alaska Society of Outdoor and Nature Photographers

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# Computational Photography

Written by Ray Bulson

Photography as a craft has always been married to technology. For photographers who wanted to practice that craft as an art form it has presented many challenges throughout its history. I believe no other art form has been transformed as much as photography. each transformation has With come rigorous debate, and at times, self-doubt, among photography's practitioners. Are photos art compared to paintings? Is color photography a legitimate fine art medium compared to black and white? Are 35 mm (single lens reflex) cameras for serious photographers? Is digital photography real photography compared to film pho-

tography? Fortunately, the answer to each question has come back in the affirmative, but the subsequent questions are becoming harder, more frequent and with less time to ponder. If we think that the transition to digital photography twenty years ago was a sea change for photography, we are on the cusp of a miraculous technological change - some might say wizardry - called computational photography.

In a recently published <u>TechCrunch</u> article, "The future of photography is code," by Devin Coldewey, he writes, "the future of photography is computational, not optical." Coldewey lays out a convincing case that technology is reaching the limits of sensor design and optics especially as it pertains to the small spaces in the cameras most people



Remnant Snowfield at Thompson Pass near Valdez, AK

use today - smartphones. Hence, Apple, Google, and Samsung are investing millions in software improvements to their smartphone cameras. These improvements go beyond the in-camera computations like panoramas photographers routinely have come to expect. They include the ability in Apple's latest iPhones to adjust bokeh (i.e., the blurring of the background by changing depth of field). This is accomplished with two lenses of different focal lengths. Taken to the extreme is Light's (light.co) folded optics L16 camera which uses ten lenses to create a 3D depth map. The ten images generate a single 52 MPix composite that allows the aperture to be adjusted from f/2 to f/15 after the fact (and

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#### **CALENDAR OF EVENTS**

#### AlaskaWild 2018 Photography Exhibit Schedule

Feb. 1 – Feb. 24, 2019: Crush 328 G St, Anchorage, AK 99501

March 1 – Mar. 31, 2019: Steam Dot at Williwaw 609 F St. Anchorage, AK

#### ASONP general membership meetings:

Held the second Tuesday of each month from October through May at 7:00 p.m. in the auditorium at the Anchorage Museum, Rasmuson Center. We will have an exciting and interesting series of speakers lined up for our monthly meetings this coming year beginning in the fall of 2018.

June thru September: Summer break—no general meetings

October 9: Member's Images

November 13: Daryl Pederson—Prince William Sound

**December 11:** Gayle Neufeld—Africa Trip

January 8: Charles Mason—Denali Wet Plate Photography

**February 12:** Jackie Sawyer—Bohemian Waxwing Bird Photography

March 12: Roy Corral—A 50-year Odyssey of a Photojournalist

April 9: AlaskaWild 2019 Exhibit photos showcased

May 14: Brendan Smith—Research Photography: Capturing the science,

life, and times of an arctic voyage aboard R/V Sikuliag

Please join us for our March 12th meeting. If you would like to share up to 20 images during the member slides portion of the meeting, please use the following link to submit them through dropbox.

### Member Slides Upload

We are looking for up to 20 images per member. Files should be in the JPEG format and sized to 1200 pixels on the long side. Please name the file as: Photographer's name or initials-sequence number-name of photo. Sequence number should be 2-digit (01, 02, 03, etc.). This will make Alan Musy's job easier. If you want to e-mail the files send them to Alan at <a href="musya@admphoto.com">musya@admphoto.com</a> by Monday evening prior to the meeting.

### **ASONP Business Reminders:**

The end of the fiscal year is approaching and with it the end of your 2018 membership. Please renew your membership either through the link on our website <u>asonp.org</u> or at one of our monthly meetings.

Your Story Could Be Here!

Consider Contributing Text or Photos to Your Viewfinder

Newsletter

#### **WORKSHOPS, OUTINGS, & OTHER INTERESTS**

#### Landscape/Wildflower Workshop

Mark your calendars for July of 2019 to visit the quaint town of Hope for this three-day landscape and wildflower workshop.

Photographer Ray Bulson will lead you to a remote alpine valley near Hope filled with streams, ponds, waterfalls and tarns. In mid-summer this lush place explodes with dozens of wildflowers. This is a target-rich place for macro and landscape photographers. We'll also explore the tidal flats around Hope during low tide to photograph the unique glacial silt patterns.

Discussions indoors at a local lodge will include photographic techniques, equipment and Lightroom post-processing as well as image reviews.

You won't want to miss this chance to discover this charming location a short distance away from the hustle and bustle of the big city.

For more information visit the website: <a href="https://www.raybulson.com/hope-workshop.html">https://www.raybulson.com/hope-workshop.html</a>

# <u>Post-processing with Lightroom Classic CC</u> - More Photoshop for Nature Photographers by Ray Bulson

Building on the previous workshop, Photoshop for Nature Photographers, photographer Ray Bulson presents six new techniques to easily enhance your nature photos:

- 1. Removing color casts; 2. Color enhancements with B&W filter layer; 3. Selective color;
- 4. Color range for selections; 5. The power of blend if; 6. Luminosity masking.

Participants will be guided through each technique and leave with clear written instructions so that you can follow up at home on other images. Completion of the first workshop is recommended since the techniques discussed assume knowledge of layers and some masking.

Saturday March 9, 2019
9.00 am - 4:00 pm
Carr-Gottstein Hall, Room 226, Alaska Pacific University, Anchorage
Cost - \$179 (limited to 20)

https://www.raybulson.com/more-photoshop-for-nature-photographers-workshop.html

#### Macro Master Series Workshop

Andrea Gulickx, Don Komarechka, & Jackie Kramer

Anchorage, Alaska July 18 – 20, 2019. Register online at: <a href="https://tinyurl.com/PhlorographyMS">https://tinyurl.com/PhlorographyMS</a> Three vastly different styles, gear, vision, & techniques come together in this high energy & intensely focused workshop. \$575.00 [\$525 before 9/1/18] \$200 payment to hold spot

Workshop will include focused sessions with each instructor in small groups of 15 or less on photography & editing techniques that can be applied in the field or indoors when shooting flowers. After the initial plenary session, the group will be split into 3 breakout groups who will work directly with Andrea, Don, and Jackie. Everyone will go home with creative images that reflect each of their teachings.

Call Jackie if you have any questions at 907-317-4667

# Computational Photography

### Written by Ray Bulson

#### Continued from page 1

focal length from 28-150 mm) in a form factor slightly larger than an iPhone. Another improvement is portrait lighting introduced in the iPhone X last year that simulates studio lighting. Both Apple's and Light's cameras perform these advanced photographic features instantaneously with the press of the shutter button and a lot of computational might. While most photographers will rejoice about having this capability at their fingertips, there is another application of computational photography that I believe presents an alarming trend especially to professional creatives.

Even before digital photography became mainstream, the launch of Photoshop in 1990 heralded the age of computational photography with photo retouching. At the time, Photoshop was sold for use with scanners that digitized film. Its use as an image processor is now so pervasive that it has become a verb in our vernacular; to manipulate a photo is to Photoshop it. The myriad tools that allow selective image adjustments like dodging and burning, luminosity masking and exposure blending, high dynamic range, panorama and focus stacking compositing have expanded photographers' capabilities. All require significant computation and microprocessor power. With the introduction of content-aware fill in Photoshop CS5 in 2010. Adobe tapped into the power of artificial intelligence (AI), machine learning and neural networks. The ability to remove unwanted objects and replace it with a background appropriate to the scene as if the object were never there at times seems magical. Nevertheless, Adobe's efforts in applying Al and computational photography (part of their Adobe Sensei Technology) are just the beginning. At the Adobe Max 2018 Conference, Adobe previewed MovingStills that adds realistic, almost 3D motion to still photos. Their website on Adobe Sensei promises to turn over the tedium of culling images to Al. Using criteria like sharpness, depth of field, even composition the AI algorithms will find the "best" photos for you!

Adobe is not alone in using AI to power their photographic software. Google's AI Photo Editor also performs automatic culling. Perhaps most concerning is AI-powered post-processing to improve the

look of an image. Skylum's Accent filter applies Al in one slider to automatically adjust an image. I've used this on occasion and the results are impressive. Contrast is enhanced, skies are darkened to bring out detail, and the foreground lightened in a realistic, non-HDR way. Photolemur's 3.0 Alpowered editor "...makes all your images great automatically with the help of Artificial Intelligence" and "...makes your photos look pro without expensive gear." Topaz's A.I. Gigapixel<sup>TM</sup> offers "intelligent resizing" up to 600% with A.I. upsampling. Will smartphone resized photos be sufficient for museum quality prints? And there are many other software companies all applying this burgeoning technology.

As someone who embraced technology as an engineer for twenty-five years, and still does as an avowed gear geek, I am excited about the potential of this new field. However, as a working photographer who sees how A.I. will narrow the gap between skilled and unskilled photographers I have concerns. Does doing something with the assistance of AI make you a better post-A better photographer? Will Alprocessor? generated imagery become the new look or trend in photography? Will all photographs begin to look the same? As AI does more of the thinking for us will it turn us into dumb participants? It seems to me that AI is moving creativity away from photographers to programmers. Will this stifle creativity if photographers have a one-button solution to great looking images? A counter to this is that photography is all about light and composition and the decision making still resides with the photographer as to where, when, and with what lenses to take a photograph. But good light can be faked as well, for example, crepuscular rays (a.k.a. God beams) or rainbows with existing software. With reality fading away in so many facets of our lives, the line between imagery created by a human and that by a computer is getting thinner by the minute. We have to ask ourselves at what point does photography stop being an art?

All text @ Ray Bulson

# **DEAR JOHN COLUMN**

By John R. DeLapp

## Any Tips on Photographing Rainbows?

All text and photos @ John R. DeLapp



First, what is a rainbow? Technically speaking, a rainbow is an example of chromatic dispersion, essentially acting just like a prism which refracts white light into its color components. Each color is refracted at a slightly different angle which produces the rainbow with its separate colors. Some of the sun's rays reflect twice inside the rain drop which is what produces a second fainter rainbow at a different angle. The space between the primary and secondary rainbow is called the "dark band" which appears slightly darker than the rest of the sky. Also, the colors of the secondary rainbow are reversed from those in the primary rainbow, which you may not have noticed.

In the early 1600's, a Frenchman, Rene Descartes, was the first to conduct extensive scientific studies and authored a number of publications to explain the mysteries of rainbows. Interestingly, even today the physics of how a rainbow is produced, is not completely understood. In solving this problem, it is assumed that a raindrop falling through the air will be a perfect sphere, from which the angles of refraction and reflection of the sun's rays can be calculated. However, larger raindrops may be flattened some due to air resistance which introduces errors in the mathematics. This flattening is thought to be the reason the top of a rainbow sometimes appears less intense than that near the ground.

Regardless of the physics, the primary problem for photographers is finding a rainbow. Although we all know that rainbows only occur when the sun shines in a specific way on raindrops, finding one usually is a

matter of recognizing and watching weather patterns that might produce a rainbow, and being lucky enough to be in the right place to see it. If there is rain and direct sun shining on the rain, it is very likely that a rainbow will be produced. Our summer storms may provide better chances for a rainbow, since the spring and fall storms tend to bring large fonts of solid clouds. No sun, no rainbows! Once you find a rainbow, decide what elements of the landscape to "put" in the foreground and background. Compositions with compelling backgrounds and foregrounds will produce a better image than one with a rainbow rising from a chaotic foreground.

#### My tips can be summarized as follows:

- Look for low angle sun shining on rain.
- Position yourself so that your shadow is directly in front of you (sun directly behind you).
- Use a wide-angle lens if you wish to photograph the whole rainbow.
- Compose, keeping in mind that the spot where the rainbow "touches" the ground is an important compositional element.
- Consider photographing just a portion of the rainbow in addition to the entire rainbow.
- Set exposure for the rainbow, not the dark cloud which may exist in the background.
- Work fast! The light and rain usually change quickly, eliminating the rainbow.
- If using a polarizer, adjust it carefully so it does not eliminate the rainbow.



Telephoto shot, "end of the rainbow", Potter Marsh.



Double Rainbow, British Columbia

# **MEMBERS' PHOTOS**

#### All photographs © Bill Rome

On March 27, 1964, a massive magnitude 9.2 earthquake centered in north central Prince William Sound occurred. Much of the land south and east of the fault had lifted on average six feet with a maximum of 38 feet at Montague Island. On the north and west side of the fault, the land dropped between 2 and 7 feet. One of the most visible signs of this land drop is in western Prince William Sound where forests near the ocean shore now had their roots submerged in saltwater. These trees died and now remain a lasting visible reminder of the 1964 earthquake. These dead trees are known as "The Ghost Forests of Prince William Sound.

All text @ Bill Rome



Ghost Forest in Kings Bay

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# **MEMBERS' PHOTOS**

All photographs © Bill Rome

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Continued: "The Ghost Forests of Prince William Sound"



Ghost Forest in Kings Bay



Ghost Forest in Point Packenham

Continued on page 9

# **MEMBERS' PHOTOS**

All photographs © Bill Rome

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Continued: "The Ghost Forests of Prince William Sound"



Ghost Forest in College Fiord



The sun highlights the Ghost forest on the beach in Harriman Fiord

# **TECH CORNER**

By Chuck Maas

#### Panasonic LUMIX S1/S1R



It's official—there's another full-frame digital mirrorless offering to mix it up with Sony, Nikon, and Canon—the Panasonic LUMIX S1 and S1R. It's not like this has been a secret, as it was part of a development announcement at Photokina back in September. But now we have all the specs and can begin to get an idea how these new bodies will fit into the scheme of things.

While late to the party, Panasonic brings some very interesting features and factors into an already crowded field. First, it is now part of the L-Mount Alliance, a very clever cooperative agreement among Leica, Panasonic, and Sigma in which all will use the proven wide throat/short flange distance Leica lens mount. While the S1/S1R will debut with just three new Panasonic lenses, Leica already has five primes and three zooms with the same mount. There are numerous sites with full specs and preproduction reviews. A few will be listed below. But here are some early observations:

Built tough, for pro-level use. Size and general design comparable to high-end DSLRs. Strong moisture and dust sealing, cold resistance. 400,000-cycle shutter. Substantial battery. All good news for bodies likely to see use in harsh environments.

In-body stabilization which can combine with lens stabilization, and a viewfinder graphic that displays shake intensity.

Twin memory card slots, one for XQD (firmware upgradeable to CFexpress). Keeps the path open for high throughput as storage systems evolve.

Very high resolution electronic viewfinder with three optional magnification levels—a boon for those who wear glasses.

For those intent on extracting the highest image quality possible from a static scene—a High Resolution mode that combines eight consecutive images automatically for a total of 96MP on the S1 and 187MP on the S1R.

I find this a very intriguing offering. This pair of new bodies raises the bar in several categories. Technology on the march.

Spec list and Panasonic announcement.

What You Need to Know (DPReview).

Thom Hogan's view.

The 10 Main Differences (Mirrorless Comparison).

All text @ Chuck Maas





#### **ABOUT THE SOCIETY**

The Alaska Society of Outdoor and Nature Photographers (ASONP) is a non-profit organization with the purpose of promoting individual self improvement in, and exchanging information about outdoor and nature photography, promoting ethics among outdoor and nature photographers, assisting members with marketing and selling their photographs, and informing and educating the public on outdoor and nature photography. Yearly membership is \$25 for individuals, \$35 for families, \$10 for students, and \$100 for business members. ASONP holds meetings at 7:00 p.m. on the second Tuesday of the month from October through May at the Anchorage Museum at Rasmuson Center, 121 West 7th Avenue, Anchorage, Alaska, The public is welcome to attend all meetings.

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Joan Nunn Board member

#### **2018 BUSINESS MEMBERS**

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www.auklet.com

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www.geigabyte.com

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www.stewartsphoto.com

**Wayde Carroll Photography** 

www.waydecarroll.com

William McKinley/McKnight Family **Photography Adventures** 

www.mcknightfamilyphotographyadventure

The Viewfinder March 2019 11



# HAVE YOU RENEWED YOUR MEMBERSHIP YET?

### **2019 ASONP Membership Application**

Name	_ Home Phone	
Address	_ Work Phone	
City	_ StateZip	
email		
Web Site		
New Member?Renewal (same email & address?)YesNo		
The Viewfinder newsletters are sent by email 10 times a year in PDF format		
WE TAKE CREDIT CARDS AT THE MEETINGS!		
DUES: Individual (\$25) Fa	mily (\$35)	
Student (\$10) Bu	siness (\$100)	
	400ND 1 114	

Make checks payable to ASONP and mail to:

Alaska Society of Outdoor and Nature Photographers 3705 Arctic Blvd. #991
Anchorage, AK 99503