

Stockton Camera Club

The Shutter Tripper

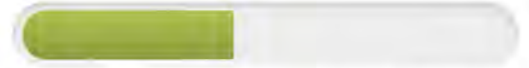
May 2019



Spring Has Sprung!



\$40,525 of \$100,000 goal



Raised by 273 people in 2 months

Donate Now

SHARE ON FACEBOOK



[Picture Tim Ulmer Healthy](#)

Picture this, our dear friend and community servant Tim Ulmer is facing a health challenge that impacts not only Tim but our entire community. Many of us know Tim as a selfless servant offering his talent of photography to our fundraising and family events throughout San Joaquin County.

Tim has been diagnosed with Hairy Cell Leukemia, a life-threatening cancer.

Tim's treatment will begin in early March with five straight days of chemotherapy resulting in compromising his immune system. For the next 3 months Tim will be in treatment that leaves him weak, unable to keep his business open, and unable to fulfill his philanthropic photography work.

Tim Ulmer has spent countless hours documenting our fundraising events-often free of charge. Tim needs us to step up now as he faces an immediate need to cover the mounting costs related to the cancer treatment, lost wages, special dietary items, meals, and other living expenses.

Photographs have a way of feeling, touching and loving. It remembers little things and captures the humanity of the moment. It is our moment to capture true humanity through our giving. Together we can and will meet our \$100,000 goal!

Picture a healthy, vibrant Tim Ulmer.



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President's Message

May 2019

By Heide Stover

We had a nice break in April so I count that as extra time to do some photography.

I am sorry that I had to miss Doug's class on layers but it sounds like the class was a great success. I wonder how many of you will be using layers in May?

The Stockton Camera Club is now a partner with Skylum. They are the makers of the Aurora HDR and Luminosity. Janelle is working on links on our website. Anyone from our club cannot get \$10.00 off when purchasing their products by using our club code. I am working on seeing if we can get a live web chat with a rep at our potluck in August. See you all at the May meeting.

Happy Shooting

A Big Thank You to Our Sponsors!



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2019 Calendar of Events

Every 3rd Thursday (Except April, June & Aug) 6:30 PM	West Lane Bowling Alley Stockton	Membership Meeting Contact Heide Stover h1stover@aol.com
Thursday May 16	West Lane Bowling Alley Stockton	May General Meeting Special Subject - Backlit
Thursday June 20	West Lane Bowling Alley Stockton	June General Meeting Prints only with no special subject
Thursday July 18	West Lane Bowling Alley Stockton	July General Meeting Special Subject - Gates/Fences
Aug TBA	TBA	Annual Pot Luck
Thursday September 19	West Lane Bowling Alley Stockton	September General Meeting Special Subject - Photo Journalism
Thursday October 17	West Lane Bowling Alley Stockton	October General Meeting Special Subject - Monochromatic Color Scheme
Thursday November 21	West Lane Bowling Alley Stockton	November General Meeting Special Subject - Prints Only
Thursday December 19	West Lane Bowling Alley Stockton	December General Meeting Special Subject - Tools

2020 Calendar of Events

January 16	TBA	Annual Banquet
Thursday February 20	West Lane Bowling Alley Stockton	February General Meeting Special Subject - Motion/Movement
Thursday March 19	West Lane Bowling Alley Stockton	March General Meeting Special Subject - Sequence of 3
April	TBA	April Workshop/Photo Opportunity
Thursday May 21	West Lane Bowling Alley Stockton	May General Meeting Special Subject - Urban/Cityscapes
Thursday June 18	West Lane Bowling Alley Stockton	June General Meeting Special Subject - Prints Only
July 19	West Lane Bowling Alley Stockton	July General Meeting Special Subject - Reflections

Stockton Camera Club
March 2019 Competition Standings
Congratulations to all the winners!!!

Digital Image of the Month – Pretty in Pink by Sharon McLemore
Print of the Month – Frosted Wolf by Dean Taylor

Please check out the website, <http://www.stockton-cameraclub.com/home.html>

Class A Standings	TOTAL	OPEN	SS	FEB	MAR	MAY	JUN	JULY	SEPT	OCT	NOV	DEC
Charlene Martin	38	27	9	0	38	0	0	0	0	0	0	0
Ron Wetherell	30	30	0	20	10	0	0	0	0	0	0	0
Susanne Nichols	0	0	0	0	0	0	0	0	0	0	0	0
Lanny Brown	0	0	0	0	0	0	0	0	0	0	0	0
Stan Sogsti	0	0	0	0	0	0	0	0	0	0	0	0
Brenda DeRoos	0	0	0	0	0	0	0	0	0	0	0	0
Ed Richter	0	0	0	0	0	0	0	0	0	0	0	0
Class AA Standing	TOTAL	OPEN	SS	FEB	MAR	MAY	JUN	JULY	SEPT	OCT	NOV	DEC
Doug Ridgway	74	56	18	38	36	0	0	0	0	0	0	0
Sheldon McCormick	73	48	18	37	36	0	0	0	0	0	0	0
Elizabeth Parrish	68	50	18	38	30	0	0	0	0	0	0	0
Trey Steinhart	38	28	10	38	0	0	0	0	0	0	0	0
Christine Blue	38	28	10	0	38	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
Class AAA Standing	TOTAL	OPEN	SS	FEB	MAR	MAY	JUN	JULY	SEPT	OCT	Nov	DEC
Heide Stover	76	57	19	39	37	0	0	0	0	0	0	0
Dean Taylor	76	56	20	36	40	0	0	0	0	0	0	0
Sharon McLemore	75	56	19	38	37	0	0	0	0	0	0	0
Joanne Sogsti	74	55	19	40	34	0	0	0	0	0	0	0
Wayne Carlson	74	56	18	39	35	0	0	0	0	0	0	0
Em McLaren	69	51	18	36	33	0	0	0	0	0	0	0

2019 Competition Policy

A. GENERAL RULES

1. Only paid-up members may enter club competition.
2. Regular print and digital image competition period: Once each month except January. A competition year is February through December. Current regular meetings are February, March, May, July, September, October and December. The number of meetings may change from time to time at the discretion of the Board of Directors and approval of the general membership as facilities permit. The Annual Awards Dinner will be held in January.
3. A total of four (4) images (all prints, all digital or a combination of both) may be entered each competition month. A total of three (3) images may be entered in the Open Division and a total of one (1) in the Special Subject Division. The number of entries may change from time to time at the discretion of the Board of Directors and the approval of the general membership.
4. Each image will be scored from 6 to 10 points. All prints or digital images receiving 9 or 10 points will be classed as an honor image. The title of each print or digital image entered will be read before being evaluated. The name of the maker will be read for 9-point honor winners. Maker's names will be announced for the 10 point images after the Print & Digital Image-of-the-Month winners are chosen.
5. A print or digital image that does not receive an honor score, may be re-entered one more time in the same division.
6. A print or digital image may be entered in all divisions for which it qualifies; i.e., an honor image in Open may also be entered in the Special Subject Division at another competition. A print or digital image that receives an honor score may not be re-entered in the same division.
7. Any print or digital image that appears to be ineligible for competition or not qualified for a specific division could expect to be challenged. The Competition Vice-President shall decide whether or not the image is acceptable.
8. The exhibitor must have exposed each negative, slide or digital image entered. All images submitted for judging must be the work of the photographer/maker including the taking of the images and any digital enhancements and/or manipulation of the image. This does not apply to the processing of film or printing by a commercial processor.
9. The same image should not be entered both as a print and a projected digital image in the same competition.
10. In the event of absence or barring unforeseen circumstances, a member may submit make-up prints or digital images for one competition night per competition year; and whenever possible must submit all make-up prints or digital images at the meeting immediately following the month a member failed or was unable to submit the prints or digital images. Make-ups in the Special Subject Division must be the same subject as the month missed. Also, in case of absence a member may assign the responsibility of submitting his or her prints and/or digital images for competition to another member.
11. A club member who serves as judge cannot enter his or her own prints or digital images in the same competition. The judge's make-up prints or digital images can then be entered in another competition during that competition year. This is in addition to the once-a-year make-up provision already

allowed.

12. Prints or digital images may be projected/viewed briefly before the judging of each division if the judge indicates he/she would like a preview.

B. PRINT ENTRY RULES

1. Each print entered must have a completed label attached to the back of the print including; name of maker, title, date entered and Division (Open or Special Subject). The writing or printing on the form must be legible. Labels must be attached on the back of the print in the upper left-hand corner for correct viewing of the print.
2. All prints must be matted or mounted with a total size (including mat board) of no larger than 18" X 24" and no smaller than 8" X 10". Exception: One side of a Panorama Print may be no larger than 36". Prints that are smaller than 5" X 7" will not be accepted. The maker's name must not appear on the viewing surface of the image. Framed prints shall not be entered.
3. Prints accompanied by entry forms should be submitted no later than 15 minutes prior to the start of the regular monthly meeting.
4. Prints receiving a score of 10 points, in each class, will be regrouped and judged for selection for the Print-of-the-Month honors. Print-of-the-Month honors will be given in Class A, AA & AAA.

C. DIGITAL IMAGE ENTRY RULES

1. Digital images must be submitted in a format and by the deadline specified by the Competition Vice-President. Digital images may be submitted by email, mailed (CD) or delivered (CD) to the Competition Vice-President. Definition of Digital Image: An image taken with a digital camera, a negative, slide or print scanned into the computer and processed digitally.
2. Images must be in a format compatible with the projector. The key thing to keep in mind when formatting photos for submission is that the projector we use in the competition has a (maximum) resolution of 1400 x 1050 pixels. This means that any photo that exceeds this size in either dimension, could end-up being cropped by the projector. In other words: the image width cannot be more than 1400 pixels and the image height cannot be more than 1050 pixels. If your image is horizontal, only change the width to 1400, if your image is vertical, only change the height to 1050. Do not change both. Down-sizing the image from the "native" resolution coming out of your camera also significantly reduces the file size. This helps when emailing the files and takes-up less space on our hard-drives.
3. The maker's name, title of image, date entered and division (Open or Special Subject) must be included as the title of the image. When you have finished re-sizing your image save your image with a new title. For example do a Save as: Smith Sunrise Splendor 05-15 O.jpeg. (O-Open or SS-Special Subject). Specify whether you're Beginner, Advanced or Very Advanced.
4. Digital Images receiving a score of 10 points, in each class, will be regrouped and judged for selection for the Digital Image-of-the-Month honors. Digital Image-of-the-Month honors will be given in Class A, AA & AAA.

Image Averaging and Time Blending for High Quality Night Photos

Reduce noise in Night Photography
with this technique
By Michael Breitung

My goal for my landscape photos has always been to have them printed large. That's why I try to avoid noise and through use of techniques like focus stacking and exposure blending I ensure best sharpness and detail.

When photographing around sunset and sunrise and into the blue hour, achieving the quality I'm after is no problem. As it gets darker I simply increase the shutter speed and there's seldom the need to use high ISOs.



Milford Blues – 10s – 30s | 35mm | f/11 | ISO 100 |
Focus Stacking + Exposure Blending

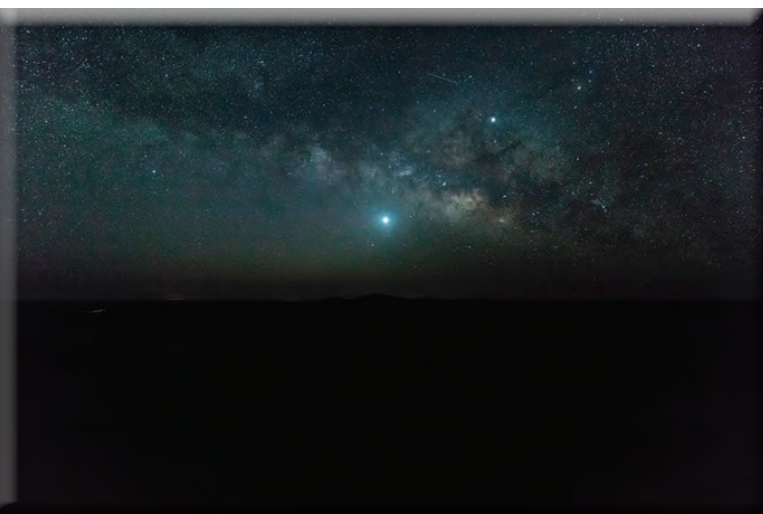
Night Photography

But when I want to photograph the night sky I have a problem. In order to get the stars razor sharp, the maximum exposure time I can use is limited by the focal length at which I'm shooting and by the desired print size.

Many people use the 500 rule to calculate the maximum exposure time at which the stars will still show up as points in the photo. When using a full-frame DSLR, dividing 500 by the used focal length gives the maximum exposure time in seconds. When using a crop sensor camera, you have to divide this time by the crop factor.

I never found this rule helpful though. It might be sufficient for small prints and presentation on the web. But for pixel peepers like me the resulting photos show too much trailing, especially to the edges of the frame. So before applying this rule or any rule, it's usually a good idea to do some tests. I found that for me instead of a 500 rule it's rather a 250 rule, if I want to print the resulting photos up to 40".

This leaves me with relatively short exposure times, even when photographing at 16mm. And because I only have an f/4 lens, I have to use very high ISOs to achieve those. If I did night photography more often, it would certainly make sense to invest in a 2.8 or even wider lens. But I like to travel light and thus had to find alternatives for getting high-quality results.



Single Exposure of the Night Sky over the Erg Chigaga at 15s |
16mm | f/4 | ISO 6400

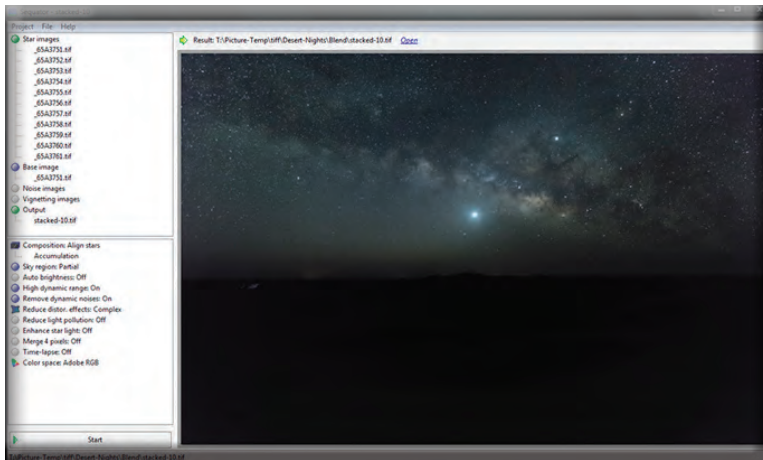


Image Averaging

The good thing about image noise is that it's random. When I take several photos of the same scene at a high ISO, the noise will look a bit different in each of those while the static features of the scene remain the same. During post-processing, it is then possible to average out the noise.

Since the stars move across the night sky this would result in even more trailing. But there are tools that allow to first align the photos for the stars and then perform the averaging.

Those are Sequator for Windows and Starry Landscape Stacker for Mac OS. Since I'm a Windows user I'll show you what Sequator can do. But I'm sure the results in and

Starry Landscape Stacker would be very similar.

During a recent trip to Morocco, I spent a few days in the desert and one morning I went out to photograph the Milky Way over the Erg Chigaga. With no clouds in the sky the conditions were perfect to apply image averaging. With my camera mounted on a tripod I took 40 consecutive photos, using a 15 second exposure at f/4, 16mm and ISO 6400.

The image below shows a comparison of the different noise levels at 100%. From left to right you see the unprocessed raw photo, the processed raw, then an averaging of 10 photos and finally the averaging of 40 photos.



1st: Canon 5DsR | 15s | 16mm | f/4 | ISO6400 out of camera

2nd: Pre-Processed in Lightroom

3rd: Averaging of 10 Photos

4th: Averaging of 40 Photos

The difference between the two photos in the middle is significant. The averaging massively decreased the noise while the stars maintained their form. The difference in quality when going from 10 to 40 photos is not that huge. But it reduced the noise even further to a level I can live with.

As with the 500 rule, the key here is to do your own tests. Find out how many photos you need to get to a result that you can live with.

Time Blending

The image averaging solved the problem of noise in the sky. But when I took the photos it was pitch dark in the desert. Even exposures of several minutes wouldn't have revealed enough detail in the foreground – certainly not at the aperture I would have needed to get everything sharp in the frame.

A solution to this is a technique called time blending, which refers to combining photos of the same scene that are taken at different times of the day. Those can be taken minutes or even hours apart.

The Milky Way that morning was best visible around astronomical twilight. And usually the best time to photograph the landscape for such a night scene time blending is during blue hour. Then the light is still very blue and soft, which simplifies the blending.

After taking the 40 photos for the Milky Way I left the camera in place for 90 minutes. In the end, the blue hour didn't provide the softest light that morning, so I ended up using the photo you see below for the landscape, which was taken just minutes before sunrise.

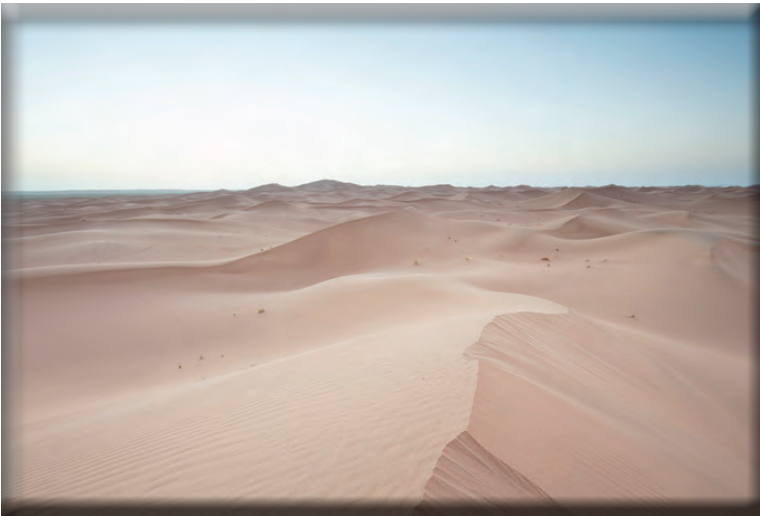
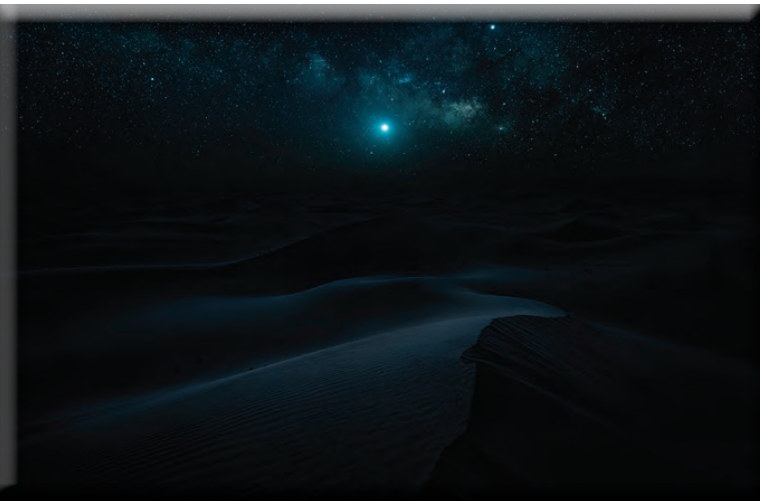


Photo for the foreground taken at 0.7s | 20mm | f/9.5 | ISO 100

Now, this photo does not look like night at all. But it contains a very important feature of a night image; the soft contrast, which makes it the perfect blending material.



Desert Nights

15s + 0.7s | 16mm + 20mm | f/4 + f/9.5 | ISO 6400 + ISO 100

Image Averaging + Time Blending + Focus Stacking

Necessary steps, among others, are darkening, changing the color temperature and applying some toning. You can really be creative here but my goal for this photo was to reflect the atmosphere of night time in the desert. This meant going for a very dark image that contains just enough detail in the landscape to interest the viewer.

Conclusion

When you want to photograph the northern lights or when in addition to the stars clouds are moving across the sky, image averaging is not the right tool.

For photographing the Milky Way, though, it's perfect. Combining image averaging with Time Blending allows you to create high-quality night images.



Learn More

Learn the complete start-to-finish workflow that Michael used to capture and process the image in his comprehensive video tutorial 'Desert Nights'. During the two-hour course, you'll learn everything from taking the photos till preparing the final image for print. This is a great resource if you want to create high-quality night photography.



Sinking to Their Level: Shoot Spring Flowers From a Different Perspective

by Blog Poster

Story & photos by F. M. Kearney

If you've had your gear packed away since the final vestiges of colorful foliage faded from the landscape last fall, now is the time to dust off the cobwebs. Spring is finally here – bringing an abundance of subject matter. Fresh flowers are popping up everywhere and demanding attention. But, you don't want to fall into a habit of taking the same types of pictures year after year. A change in perspective is a good way to view an old subject in a new light.



Looking up through a tulip bed.
New York Botanical Garden, Bronx, NY.
(Digitized from film.)

Many photographers tend to shoot from an eye-level perspective. Let's face it... it's a comfortable position and the path of least resistance. However, it's not always the best angle when shooting flowers. To capture more unique compositions, you will need to get on their level – often necessitating getting on your hands and knees (or even lower). Of course, none of us are getting any younger, and if the thought of this conjures up visions to the chiropractor, there are a few things you can do to make your life easier. I always carry a pair of gardening kneepads in my bag. They come with velcro straps, so they're very easy to put on and take off. They come in very handy when I'm shooting low on rocky surfaces. Not only do they spare my knees, they keep my pants relatively clean and dry in

dirty or muddy environments. Other helpful aids are right-angle finders (periscope-like devices that screw onto your viewfinder) and adjustable flip screens. These objects make it easier to view low-angle scenes without having to get too low yourself.

The opening photo of this article is about as low as you can go. I shot it 25 years ago with a film camera and a 16mm fisheye lens. I placed the camera flat on the ground, with the lens pointed skyward, in the middle of a tulip bed. After setting the self-timer, I quickly stepped away. Although I couldn't see what I was shooting, I wasn't completely flying blind. I was able to get a fairly good idea of my composition by looking at the reflection on the large lens surface. I didn't have an autofocus lens back then, but even if I did, I certainly wouldn't have trusted it in this situation. I used a tape measure to determine the height of the tulips, and then pre-focused the lens.



Daffodils in direct sunlight (left) versus daffodils partially blocking the sun (right).

Low-angle shooting doesn't need to be that extreme in order to make an impact. Simply shooting at the level of the flowers will make your images stand out, because it's an angle most people aren't used to seeing. This angle also makes it easier to include the sun. I shot the two photos above in a field of large-cupped daffodils with a right-angle finder. The inclusion of the sun adds a lot more interest, but it can also raise a few safety concerns. Obviously, this wasn't a factor in the opening shot because I wasn't looking through the camera. In this case, I was looking right at the sun, but I was using a 28mm wide angle lens. This kept the sun relatively small in the frame, so I wasn't too concerned. Nevertheless, I shot the majority of these images with the sun partially hidden behind the flowers (as seen in the shot on the right). That significantly cut down on its intensity and made it much easier to see what was going on in the viewfinder. I did that purely for creative purposes. Had the focal length been longer, I may have done it for safety precautions.

As a former film shooter, I can attest to how difficult it was to shoot high-contrast shots like these years ago. Film just didn't have the dynamic range (the ability to record details in shadows and highlights) that modern digital cameras have today. High-end models have features that can actually boost the



Triumph tulips shot at level.
Brooklyn Botanic Garden.



Triumph tulips shot slightly below level.

dynamic range to varying degrees. Nikon has Active-D Lighting and Canon has Auto Lighting Optimizer. I shoot with Nikon, so I set the Active-D Lighting to “Extra High.” Although I used a flash to remove the shadows from the flowers in the foreground, the added dynamic range helped to prevent the shadows in the background from blocking up.

Cloudy days can offer many opportunities as well. If you don’t want to include a large expanse of featureless, white sky in the shot, all you need is a longer focal length and a change of composition. I shot the group of triumph tulips below at a low-angle at 200mm – making it easy to exclude the sky.

Although the tulips in the foreground stand out, there’s really nothing unique about the shot. Try to look for something different – something a bit out of the ordinary. Tulips are usually planted in tight clusters. Sometimes, a tight shot of their stems can be just as intriguing as the flowers themselves. Below is an example of what you might find when you shoot slightly under the average level of the group. The shorter tulip surrounded by tall stems creates a much more interesting perspective of the scene.

Shooting flowers in the field is fun, but it can also be very physically tasking. You may find yourself in some pretty uncomfortable and/or unusual positions. Years ago, I had my mother accompany me on one of my flower shoots. At one point, I had to lay flat on the ground to get the shot. She thought it was one of the weirdest and craziest things she had ever seen. For decades afterwards, whenever I told her I was going out to shoot something (no matter what it was or what the season), she would always ask, “Are you gonna lay on the ground with the flowers again?” My mother is no longer here, but that image of me left a lasting impression in her mind. If you take the time and effort to get the shots that many others might deem “too difficult,” the images you create will make a lasting impression as well.

F. M. Kearney began his photography career as a photojournalist for New York City newspapers. His focus soon shifted to capturing the beauty of the natural world. As an award-winning nature photographer, Kearney’s images have been widely published. A slight departure from photography, his recently published horror novel, "They Only Come Out at Night," about supernatural happenings in the New York City subway (partially inspired by his travels as a photojournalist), is available on Amazon. To see more of Kearney’s work, visit <http://www.starlitelcollection.com>.



How to get silky smooth water and clouds with long exposure photography by [Greg Benz](#)

There's something absolutely magical about long exposure photography. Rough water and waves turn to smooth patterns, cars vanish, and choppy clouds turn into smooth streams in the sky. I love using these types of shots for architecture – all the distracting details disappear and you can feel a sense of motion. But setting the right exposure can be tricky for several reasons. First, if you need to use a neutral density (ND) filter to get a long shutter, your camera's meter probably isn't up to the task and you get exposures that are far from perfect. Second, trial and error is extremely painful when each exposure takes several minutes. You don't want to be doing that over and over!

I use a very simple trick to find the right exposure: I find the best exposure using a test shot at high ISO, and shoot my final image at the right ISO. It's dead simple. If you need 4 seconds at ISO 6400, then you need 4 minutes at ISO 100. My basic process is:

- Compose the image and focus on a tripod before putting an ND filter on the camera (so you can see what you're doing).
- Once you've added the ND filter, set the ISO to 6400 and use the meter to get a starting shutter speed.
- Take a test shot, evaluate the histogram, and try a new shutter speed as needed.
- Once the histogram looks right, switch from ISO 6400 to 100, and use convert whatever shutter speed you had in seconds to minutes

You can make small variations on this as needed. For example, if I want to go even longer on my D810, I'll click my ISO down to 64 and bump up my exposure by 2/3rds of a stop from there. In the video below, I show the whole process, but first I'll add a few more general tips:

- Get high quality neutral density filters. Even if you can get the exposure at f/22, you're losing image sharpness and bringing out a lot of dust spots with such small apertures. I like to shoot at f/8-f/11 as much as possible. See my [gear page](#) for a list of the filters I recommend.
- I strongly recommend getting a digital bulb timer, such as the [Nikon MC-36 Remote Shutter Release](#). Manual shutter releases are cheaper, but I've had to redo many shots when I didn't stop the exposure in time – plus it's more relaxing to not have to watch the clock so carefully.

Check out Greg's Video by Clicking on the Arrow. It will take you to the YouTube Page.



Choosing A Camera

How to select the right camera for your photography

Text & Photography By [George Lepp](#)

People ask me all the time: “Which digital camera should I buy?”

Whether the question comes from a beginner wanting to go beyond the limiting capabilities of the smartphone, an experienced (we won't say “older”) advanced amateur looking to downsize, or an active, accomplished photographer lusting after the latest, greatest offerings from his or her current (or a competing) manufacturer, my answer is always another question: “What do you want to accomplish with the new camera?” It's kind of the same question your spouse or partner might ask, albeit in a different tone: “Why the heck do you need a new camera?”

Either way, that's where it starts. So here we'll offer some answers to both questions, with a little summary of what we'll call the five tiers of digital cameras and some examples from the various brands. Keep in mind that prices change, and new cameras are introduced all the time; we're not going to cover them all here.



The Canon PowerShot G1 X Mark III is an example of a premium point-and-shoot camera that offers a lot of capability in a compact body.



Affordable “entry-level” DSLRs like the Canon EOS Rebel T7i are a good choice for photographers stepping up to interchangeable-lens cameras.

Tier 1: Point-And-Shoots

More lens versatility than your smartphone

If you're moving beyond the phone, I'd guess that you want to work with additional focal lengths, such as wide-angle for landscapes, medium telephotos for people pictures and telephotos for wildlife or sports. Your objective is to share online or via small prints, and you don't want to bear the investment or weight of a bunch of expensive lenses and accessories.

For you, there are the “point-and-shoots” or “compact” cameras, a series of lightweight, self-contained cameras with built-in zoom lenses that range from reasonable wide-angle to major telephoto (all the way up to a 35mm-equivalent of 3000mm). With many of these cameras, image-stabilized video is possible, and 4K video is available. There's likely a built-in flash, and images can be shared through WiFi.

On the downside, these cameras typically have slower autofocus and frame capture rates, so they're not the best choice for fast action. A smaller sensor compared to a DSLR limits overall quality and low-light ability, so don't expect to make large wall prints. And these bodies are not as well sealed against moisture and dust as most DSLRs.

Still, no big backpack is needed for a remarkable variety of applications. It's just the camera, some extra batteries, memory cards and a ticket to your destination.

Examples: Canon PowerShot series, Nikon Coolpix series, Sony RX series.

Tier 2: Entry-Level DSLRs

A “real” DSLR and lens options

You've decided you want image quality sufficient to make larger prints and the versatility of different lenses. At the same time, you don't want to take out a second mortgage to pay for a pro outfit or carry a lot of weight in the field. A group of cameras we'll call “consumer” or “entry-level” DSLRs will meet these ambitions and get you started down the digital single-lens reflex (DSLR) creative route. These lower-priced but highly capable cameras can also be practical for photographers who work in precarious conditions. I remember that my late colleague, the adventure photographer Galen Rowell, often carried several lightweight, less-expensive consumer-level camera bodies at a time; as he climbed rock faces and trekked

through the high country, cameras sometimes banged against boulders or sank in a stream. It was good to have a spare at hand. Most examples in this tier have smaller imaging sensors than you'll find in the higher-tier cameras. If you are photographing wildlife, you'll appreciate the crop magnification (approximately 1.5x with APS-C, or 2x with the Micro Four Thirds) due to the smaller sensor, but if wide-angle is your primary focal length, this will be a detriment. Most have slower capture rates than "prosumer" cameras offer, and their construction is less resistant to moisture and dust.

It would be wrong to think that this group of cameras is not capable of taking excellent photographs. Because of all the technological advancements, today's consumer cameras are comparable to prosumer cameras from just a few years ago. The sensors are quite good and resolution matches more expensive cameras in the next tier. You have the choice of using less-expensive consumer-grade lenses or moving up to better glass that covers a full-frame sensor in case you anticipate needing sharper, faster optics for low-light situations in the future.

Examples: Canon EOS Rebel series, Nikon D3500 through D7200.



Pro-grade DSLRs like the Canon EOS 5DS R typically offer faster capture rates, more robust construction and advanced technologies than entry-level models, but these advantages come at a price.



Mirrorless interchangeable-lens cameras like the Canon EOS R are often touted as lighter and more compact than DSLRs, but that's not universally true. Every major camera maker now has mirrorless options.

Tier 3: Professional/Prosumer DSLRs

Now we're getting serious

You don't have to be a professional photographer to use professional equipment and photograph at a professional level. The term "prosumer" or "enthusiast" recognizes the large numbers of advanced amateur photographers who demand all the advantages of pro gear. That said, this group of cameras varies widely in terms of both features and price, ranging from around \$1,500 up to \$6,500.

So, what do you want to accomplish? Big landscapes? Those with a full-frame sensor offer higher resolution, up to 50 megapixels with capture rates of 5 frames per second in the Canon EOS 5DS R. Higher-resolution sensors are excellent for well-lit macro photography, but the smaller pixels are less sensitive for low-light situations.

Wildlife action and/or low light? There's the Canon EOS-1D X Mark II (20.2 MP and up to 16 fps), the Nikon D5 (20.8 MP and 12 fps), the Nikon DX-format D7500 (20.9 MP and 8 fps), and Canon's APS-C format EOS 7D Mark II (20.2 MP and 10 fps), to name a few.

Video and frame capture? All of these cameras will capture professional-quality video, with some at 4K, in a smaller package than specialized video cameras. But be aware—these great features, not to mention the pro-level lenses and accessories you're going to want to use with them, come with a higher price, larger size and heavier weight. And, of course, if you're into a variety of photographic endeavors, you'll need at least two.

Tier 4: Pro/Prosumer Mirrorless Cameras

A different approach

Most of the camera manufacturers now offer one or more mirrorless models. For clarification, digital cameras without mirrors have been around for a while; many compact cameras are technically mirrorless. But the newer category of sophisticated mirrorless bodies that accept multiple lenses holds much interest to serious photographers, and the technology continues to evolve.

The current lineup includes cameras for photographers of all levels of experience and in a broad price range. Some photographers have migrated to mirrorless cameras because of a perception that they are smaller and lighter, which is not always the case. Initially, a limiting factor was the lack of resolution in the electronic viewfinder (EVF); that problem has been well resolved in the newer

offerings. You can see your ongoing exposure in real time when working with the EVF, and it will be brighter in low light if the exposure is correctly set—what you see is what you get. Another advantage of the EVF is that you can shoot directly into the sun without damaging your eyes. Both HD and 4K video are available. Look for a model that offers an articulating rear LCD for much greater flexibility in positioning.

Mirrorless cameras are quieter than DSLRs, and some are actually silent, a real advantage in wildlife photography. The autofocus is more accurate because it is reading directly off the sensor. But in some models, the AF is slower than with DSLRs. With mirrorless cameras that have a good lens adapter, all of the compatible lenses from the same manufacturer will work perfectly; but in some cases, the lens adapters lose functions, and the selection of lenses dedicated specifically to mirrorless bodies is more limited than with DSLR systems that have decades of lens development behind them.

Examples: Canon EOS R, Fujifilm X series, Olympus and Panasonic Micro Four Thirds models, Nikon Z series, Sony Alpha series.



Digital “medium format” cameras like the Fujifilm GFX 50S have large sensors with high resolution, but they’re pricey, and lens options are generally more limited compared to DSLR systems.

Tier 5: Pro Specialty Cameras

High res at high cost

In the digital realm, medium format is an expensive proposition. But if you need superior resolution equivalent to the results achieved by medium- and large-format film cameras, plus HD video, this is the answer.

Because of their size, weight and limited lens focal lengths, these cameras are typically used for museum, studio and landscape photography. Pentax’s 645Z and Fujifilm’s GFX 50S each have a large 43.8x32.9mm sensor (51.4 MP) compared to a 35mm full-frame (24x36mm). At a price of approximately \$5,500 for the Pentax and \$6,500 for the Fujifilm, they’re the least-expensive digital medium format cameras.

Hasselblad offers several 50MP and 100MP digital medium format cameras and digital backs. The X1D-50c (\$6,495) is a lightweight mirrorless digital medium format camera with a 50 MP sensor, and at the very top of the pixel pile is the H6D-400C Multi-shot, with a 100 MP sensor that can, with still subjects and a tethered computer, capture and composite six shots into a 400 MP image. That’s only \$48,000.

See Anything You Like?

No doubt about it—the digital realm holds every machine your heart could possibly desire. No matter your skill level, affinity for complexity, physical ability to carry gear or subject interest, you should be able to find a new camera that meets your criteria and feeds your creative impulses. This little discussion of what’s available should get you started; from here, you and the internet can figure this out.



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One of North America’s best-known contemporary outdoor and nature photographers and a leader in the field of digital imaging and photographic education, Lepp is the author of many books and the field editor of *Outdoor Photographer* magazine. One of Canon’s original Explorers of Light, Lepp finds inspiration in advancing technology that fuels creative innovation and expression of his life-long fascination with the natural world.