

## Picture of the Year James Phillips



### Speakers for Oct George Bradfield and Gail Stewart

George lives in Marietta, GA. He ran a successful photography business for many years doing weddings and team sports. He has won many awards both locally and nationally. He has sold work at fine art galleries and has a print on permanent display in the new wing of the Shepherd Spinal Center in Atlanta. His current area of interest is in Abstract and Macro Photography. He has published works including "Images From the Heart - A Photographic Journey".



George Bradfield

Together, George and Gail are Thru Nature's Eyes Photography. They have been photographing and teaching together for 3 years. The conduct workshops on Macro and Creative Abstracts, as well as other areas of crea-

tive photography. Gail lives in Canton, GA. She has been involved in photography for over 15 years and is a graduate of the New York Institute of Photography. She has won awards and sold work in fine art galleries. She has been pub-



Gail Stewart

lished in Popular Photography and other magazines and was featured in the Georgia Outdoors Magazine Nature Photography Contest. She has photographed weddings, family, group and individual portraits. Her main interest is in Macro and Nature Photography.

### Tips for new photographers

- The first time you use the camera, or if the batteries have been removed or dead for an extended period, you should enter the date and time. The date and time will help you organ-

- Always check camera settings on the control panel and in the viewfinder. Notice how many pictures you can take at the current settings and

the status of the battery charge. Also, learn what the icons mean because it's not at all unusual to change a setting, then forget you have done so.

Continued on next page

News Letter  
October 2010

### Club meeting Tuesday Oct 19th 7PM

Looking for a special Paper?  
Check these guys out.

- <http://www.redrivercatalog.com/>
- Did you know you can advertise your services and products on our website for free?
- <http://www.nashvillephotographyclub.com/club-member-ads.html>
- Did you know we have links to several self help video on photography on our website?
- <http://www.nashvillephotographyclub.com/links-to-videos.html>

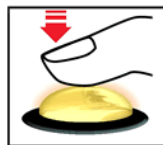
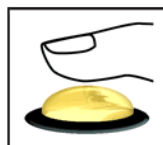
#### Inside this issue:

<a href="#">Continuation of Tips for new photoq-</a>	2
<a href="#">Picture of the Month</a>	3
<a href="#">Robin Hood Photo Exhibit</a>	4
<a href="#">Schedule of Future Speakers</a>	5
<a href="#">Photo Extravaganza</a>	6
<a href="#">Club Picnic</a>	7
<a href="#">Understanding Digital Raw</a>	8/11

## Tips for new photographers (from page 1)

- **If an image is being stored when you turn the camera off**, the image will be completely stored before the camera powers down.

- **Most shutter buttons have two stages.** When you press it halfway down, the camera sets focus and exposure. When you press it all the way down, you take the picture. To capture action shots, hold the button halfway down while focused on the scene. When you then press the button the rest of the way, the camera shoots immediately because focus and exposure have already been calculated.



Most shutter buttons have two stages.

- **If the viewfinder appears blurry**, see if the camera has an diopter adjustment that makes it sharper.
- **To take pictures**, hold the camera in your right hand and support the camera or lens with your left. Don't block the flash, autofocus port, or lens.
- **As you take photos**, they are first stored in the camera's internal memory called a "buffer". When the buffer is full you'll have to wait until one or more of the images has been transferred to the memory card before taking any more pictures.
- **Don't open the battery or memory card access covers** while an image is

being saved. Doing so can not only damage the image being saved, it can also damage the card.

- **Some cameras will briefly display the image** you just took as it is being saved. Usually you can turn this feature on or off.
- **You can usually adjust the brightness of the monitor.** Make it brighter in bright light and dimmer in dim light.
- **Many cameras have a tripod socket** so you can attach it to a tripod when you want sharper pictures.
- **Take as many shots of a given scene as you can think of**; changing positions, distances, and angles. You may be surprised later at what works and what doesn't.

**When done shooting**, turn the camera off.

### Halloween Photo Tips

#### Fill Your Frame

Halloween is a time of drama and you can add to this in your images by getting in nice and close and [filling the frame](#) with your subjects. Whether it's people or objects – getting in nice and tight will usually add punch to your shots.

#### Photograph the Details

It's easy to be distracted by the flashy parts of a time like Halloween but it's often when you step back, take a look around and [notice the smaller details](#) that you find the 'money shots'. Times like Halloween are filled with all kinds of smaller details and photo worthy moments including decorations, carv-

ing the pumpkin, people getting dressed in costumes, sleeping kids at the end of parties, bags full of treats at the end of the night, the 'fangs' in Aunt Marie's mouth, before and after shots of parties, close ups of food etc

#### Shooting in Low Light

The type of images that come to mind when I think of Halloween are fairly dark and spooky ones – candles in pumpkins etc. After all, the real action of Halloween seems to happen after dark. As a result you'll want to think carefully about the light sources for your shots.

To really capture the mood of these situations you'll want to avoid the stark and bright light of flash photography (or will want to at least pull it back a few stops and diffuse it) and so you'll need to switch off your flash and do one (or all) of

three things to some extent.

increase your ISO – the larger your number the more sensitive your image sensor is to light and the darker conditions you can shoot in without having to slow down shutter speed. On the downside you'll get more grainy/noisy shots.

- slow down shutter speed – choosing a longer shutter speed lets more light into your camera. On the downside you'll see any movement in your shots blur (which might add to the spookiness of the image but could also ruin it). Consider using a tripod if you lengthen your shutter speed.
- use a larger Aperture – this widens the hole in your lens and lets more available light in. It will also lessen the depth of field in your shots.

(From Digital Photo School)



Picture of the Month Sept 2010



"Planes, Trains & Automobiles"

CONGRATULATIONS! Steve Choatie

Nikon D90 w/Nikon 18-200mm @ 48mm iso 800 f/4.5 1/20 Sec Manual w/Monopod

Upcoming Photo of the Month Themes

October - Weathered

November - Foliage

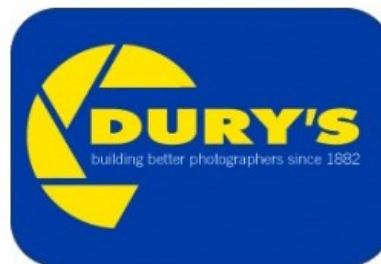
December - No Photo Contest (Christmas Party)

January - Holiday Decorations

February - Sweethearts

-Rules for Photo of the Month Contest -

1. You **MUST** be a member and dues paid up to date.
2. Photograph must pertain to the Monthly Theme (i.e. November is FOLIAGE).
3. Image size limits: Minimum 4 x 6 to Maximum 12" (long side).
4. Place ONE photo in the Marked Folder on the center table.
5. Photograph needs to be taken within the past 3 months.



Sponsored by Dury's

*Note: Be sure an put your name on the back of your image.*



## Pulitzer Prize-winning Photographer Robin Hood Opens

### Historic Tennessee Exhibit at State Museum on October 8

An exhibit of photographs by Pulitzer Prize-winning photographer Robin Hood opens at the State Museum on Friday, October 8, 2010, in the Changing Gallery at the Tennessee State Museum. The exhibit, *Historic Tennessee: Photographs by Robin Hood*, is presented in association with the Tennessee Preservation Trust and features images from the book of the same title.

The book, *Historic Tennessee*, showcases Tennessee's rich historical and architectural heritage through Hood's memorable images and the moving words of history writer James A. Crutchfield. Forty photographs featured in the book will be on public view at the State Museum.

This photographic exhibit "captures the story of our state's settlement and expansion, as well as its periods of conflict and human drama. This is best remembered today in the surviving structures and sites which were, in many instances, integral elements of the events that shaped Tennessee's and the nation's history," according to Museum Executive Director Lois Riggins-Ezell.

*Historic Tennessee: Photographs by Robin Hood* presents the historic architecture and treasured sites in Tennessee. The collection is in no way a comprehensive presentation of all Tennessee's historic buildings, but is an effort to expand traditional perspectives of historic sites engaging a broader segment of the public. The treasures that have been photographed include a diverse collection of archeological, Native American, African American, early industrial, and residential sites, in addition to the traditional architectural canon.

Images include sites thousands-of-years-old as well as places which represent the three centuries of growth in Tennessee. From Rocky Mount in Piney Flats to the Steamboat Wharf on the banks of the Mississippi River in Memphis, these locations are presented east to west, in reflection of our state's history, and exemplify broadened perspective on those historic landmarks.

Hood studied painting at the University of Tennessee at Chattanooga, and was presented with the Distinguished Alumnus Award during its Centennial Celebration. He served as an Army lieutenant in Vietnam prior to beginning his career with the Chattanooga Free Press, where he was awarded the Pulitzer Prize for Photography. Hood is an award-winning photographer and author of several books

about America, including *The Tennesseans* with then Governor Lamar Alexander, *Neyland: Life of a Stadium*, and was a contributor to the popular *Day in the Life* series of books. *The Tennesseans: A People Revisited*, Hood's book with writer Barry Parker, was awarded the Benjamin Franklin Gold Medal as "Best Coffee Table Book in America" the year of its release. A resident of Franklin, Tennessee, Hood serves on the boards of several preservation organizations there.

*Historic Tennessee: Photographs by Robin Hood*, will be exhibited in the museum's Changing Galleries, located at Fifth and Deaderick streets in downtown Nashville. The exhibition will be on view October 8 through November 7, 2010.

For more information contact Mary Skinner, *Community & Media Relations Officer* at [mary.skinner@tn.gov](mailto:mary.skinner@tn.gov)

Image Caption: Robin Hood, *Rocky Mount*, 2010, UltraChrome print, original structure built 1772, present structure built 1820's, Sullivan County



**NASHVILLE PHOTOGRAPHY CLUB Schedule of Speakers**

AUGUST 17th	Member's Round Table	Hot
SEPTEMBER 21st	Jim Zuckerman	Planes, Trains & Automobiles
OCTOBER 19th ***	George Bradfield & Gail Stewart	Weathered
NOVEMBER 16th	John Schweikert	Foliage
DECEMBER TBA	Christmas Party	N/A
JANUARY 18 <sup>th</sup>	Bob Schatz	Holiday Decorations
FEBRUARY 15 <sup>th</sup> ***	Stacey Irwin	Sweethearts
MARCH 15 <sup>th</sup> ***	Don Wright, Jr.	Motion
APRIL 19 <sup>th</sup>	Jim Zuckerman	Newborn
MAY 17st	OPEN	Curves
JUNE 21st	OPEN	Sports

\*\*\* Predator's Game CONFLICTS: No Overflow Parking Lot (Double Parking allowed in Gated Lot)



The Lawrenceburg  
Photographic Society

in cooperation with  
host the first

Lawrenceburg Parks  
and Recreation

**Photo Extravaganza and Clubfest**  
**November 6, 2010**  
**Rotary Park**  
**Lawrenceburg, Tennessee**  
**9:00 am till 9:00pm**

See the best photography from three states

**Club Displays**

Each Club will be exhibiting some of the best of their club members work and will be available to answer questions or just to talk photography

**Club Presentations**

There will be five programs during the day dealing with different areas and interests in photography.

**Self-guided  
photo tours.**

**Best of the Best  
Contest**

Each club will pick the best from their club in five categories

Nature

People

Creatures other than People

Architecture

Abstract or Extreme  
Photo Editing

**Print Swap**

Club members can swap one of their favorite pictures with someone else's favorite picture.

Matches will be made by Randomly by drawing names.

**Commercial Vendors**

more to come.....

**Dury's**

Professional photographic supply store.  
Cameras, lenses, and lots more

**Robert Schuffert**

Author of two books on scenic places to photograph in Alabama and Tennessee.

For information e-mail [jbarryj@bellsouth.net](mailto:jbarryj@bellsouth.net)  
or call Parks and Recreation at (931) 762-4231





nashville  
photography club

The club had our yearly picnic at Montgomery Bell park on October 9th. Most people seemed to have a great time. Good photos, food and friends. See photographs below:



Photographs by Bob Ellis

---

## Understanding Digital Raw Capture

By now, you've probably heard some talk about digital raw capture, but finding a coherent explanation of just what a digital raw capture actually is can be a bit more challenging. Part of the challenge is that raw isn't one single thing. Rather, it's a general term for a variety of proprietary file formats—such as Canon's .CRW and .CR2, Minolta's .MRW, Olympus' .ORF, and the various flavors of Nikon's .NEF, for example—that share important common features. To understand the nature of digital raw captures, you first need to know a bit about how those cameras that shoot raw actually capture images.

A raw file is a record of the data captured by the sensor. While there are many different ways of encoding this raw sensor data into a raw image file, in each case the file records the unprocessed sensor data. So let's consider what the sensor in a digital camera actually captures. A number of different technologies are included in the category of "digital camera," but nearly all of those that shoot raw are of the type known as "mosaic sensor" or "color filter array" (CFA) cameras.

Color filter array cameras use a two-dimensional area array to collect the photons that are recorded in the image. The array is made up of rows and columns of photosensitive detectors—typically using either CCD (charge-coupled device) or CMOS (complementary metal oxide semiconductor) technology—to form the image. In a typical setup, each element of the array contributes one pixel to the final image (see below).



An area array—each photosensor contributes one pixel to the image.

But the sensors simply count photons—they produce a charge that's directly proportional to the amount of light that strikes them. A key point is that raw files from color filter array cameras are grayscale.

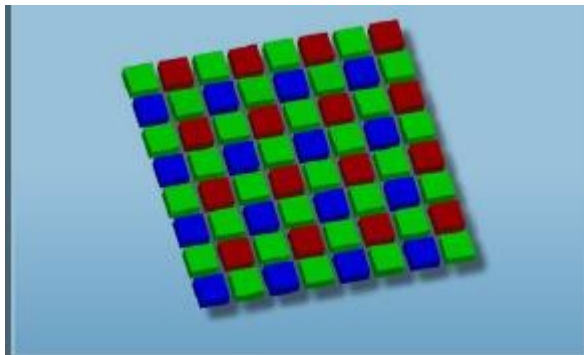
Continued on next page

---



## Grayscale to color

The role of the color filter array is to create color images from the raw grayscale capture. Each element in the array is covered by a color filter, so that each element captures only red, green, or blue light. Many cameras apply the filters in a Bayer pattern like the one shown below.

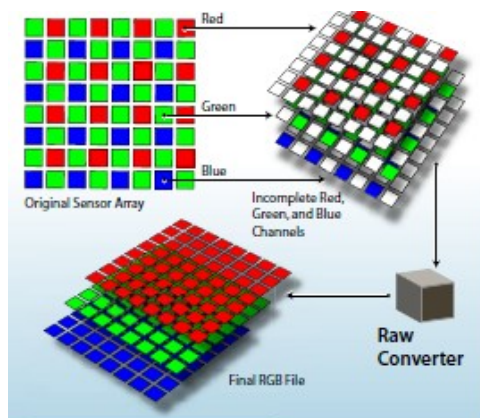


In a Bayer pattern color filter array, each photosensor is filtered so that it captures only a single color of light: red, green, or blue. Twice as many green filters are used as red or blue because our eyes are most sensitive to green light.

Other filter patterns are possible. Some cameras use CMY rather than RGB filters because they transmit more light, while still others may add a fourth color to the mix. The common factor in all color filter array cameras is that, no matter what color filter arrangement is used, each element in the sensor captures only one color. The red-filtered elements produce a grayscale value proportional to the amount of red light reaching the sensor, the green-filtered elements produce a grayscale value proportional to the amount of green light reaching the sensor, and the blue-filtered elements produce a grayscale value proportional to the amount of blue light reaching the sensor.

Raw files contain two different types of information: the image pixels themselves, and the image metadata. Metadata, which literally means “data about data,” is generated in the camera for each capture. Both raw and JPEG captures, for example, contain EXIF (Exchangeable Image Format) metadata that records shooting data such as the camera model and serial number, the shutter speed and aperture, the focal length, and whether or not the flash fired. Raw files also include some additional metadata that raw converters need in order to process the raw capture into an RGB image.

In addition to the grayscale values for each pixel, most raw formats include a “decoder ring” in metadata that conveys the arrangement of the color filters on the sensor, so it tells raw converters which color each pixel represents. The raw converter then uses this metadata to convert the grayscale raw capture into a color image by interpolating the “missing” color information for each pixel from its neighbors.



The raw capture is demosaiced and interpreted by a raw converter, using portions of the metadata embedded into the file at the time of capture, as well as algorithms in the conversion software.

Continued on next page

.....

This process, known as demosaicing, is one of the key roles a raw converter plays, but it's not the only one. Raw conversion involves the following steps in addition to demosaicing.

- **White balance.** The white balance setting on the camera has no effect whatsoever on the captured pixels when you shoot raw—it's simply recorded as a metadata tag in the raw file. Some raw converters can read this tag and apply it as the default white balance (which the user can then override if desired), while others may ignore it completely and analyze the image to determine white balance.
- **Colorimetric interpretation.** Each pixel in the raw file records a luminance value for either red, green, or blue. But red, green, and blue are pretty vague terms—if you take a hundred people and ask them to visualize “red,” you'd almost certainly see a hundred different shades of red if you could read their minds.

Many different filter sets are in use with digital cameras. So the raw converter has to assign the correct, specific color meanings to the “red,” “green,” and “blue” pixels, usually in a colorimetrically defined color space such as CIE XYZ, which is based directly on human color perception.

- **Gamma correction.** Digital raw captures have linear gamma (gamma 1.0), a very different tonal response from that of either film or the human eye. So the raw converter applies gamma correction to redistribute the tonal information so that it corresponds more closely to the way our eyes see light and shade. (This property of digital capture has important implications for exposure settings when shooting, which I discuss in a paper called “Raw Capture, Linear Gamma and Exposure”.)
- **Noise reduction, antialiasing, and sharpening.** Problems can arise with very small details in an image. If the detail is only captured on a red-sensing pixel or a blue-sensing pixel, the raw converter may have a hard time figuring out what color that pixel should really be. Simple demosaicing methods also don't do a great job of maintaining edge detail, so most raw converters also perform some combination of edge-detection and antialiasing to avoid color artifacts, noise reduction, and sharpening.

All raw converters perform all of these tasks, but they may use very different algorithms to do so, which is why the same image may look quite different when processed through different raw converters. Some converters will map the tones flatter to provide editing headroom while others will try to achieve a more film-like look by increasing the contrast of the curve.

Generally, there is no one single “correct” interpretation of a given raw format. Vendors make a relatively subjective determination of what the best “look” is, and then adjust their converter to produce that result.

### How JPEG differs from raw

When you shoot JPEG, a raw converter built into the camera carries out all the tasks listed earlier to turn the raw capture into a color image, then compresses it using JPEG compression. Some cameras let you set parameters for this conversion—typically, a choice of sRGB or Adobe RGB as color space, a sharpness value, and perhaps a tone curve or contrast setting. Unless your shooting schedule is atypically leisurely, it's difficult to adjust these parameters on an image-by-image basis, so you're locked into the camera's interpretation of the scene.

JPEGs offer fairly limited editing headroom—large moves to tone and color tend to exaggerate the 8-by-8-pixel blocks that form the foundation of JPEG compression—and while JPEG does a decent job of preserving luminance data, it applies heavy compression to the color data, which can lead to issues with skin tones and gentle gradations when you try to edit the JPEG.

When you shoot raw, however, you get unparalleled control over the interpretation of the image through all the aforementioned aspects of the conversion. When you shoot raw, the only on-camera settings that have an effect on the captured pixels are the ISO speed, the shutter speed, and the aperture setting. Everything else is under your control when you convert the raw file—you can reinterpret the white balance, the colorimetric rendering, the tonal response, and the detail rendition (sharpening and noise reduction) with a great deal of freedom. Within limits (which vary from one raw converter to another), you can even reinterpret the exposure compensation

Continued on next page

.....

---

Almost all cameras that shoot raw capture at least 12 bits, or 4096 shades, of tonal information per pixel. The JPEG format, however, is limited to 8 bits per channel per pixel, so when you shoot JPEG, you're trusting the camera's built-in raw converter to throw away a large amount of the captured data in a way that will hopefully do the image justice. This is exacerbated by the tendency of most camera vendors to impose a fairly steep contrast curve in the raw-to-JPEG conversion in an effort to produce a JPEG that resembles a transparency. In the process, they throw away about a stop of usable dynamic range, and you have essentially no control over what gets discarded.

In some ways, it's tempting to draw the analogy that shooting JPEG is like shooting transparency film while shooting raw is more like shooting negative film. With JPEG, as with transparency film, you need to get everything right in the camera, because there's very little you can do to change it later. Shooting raw provides considerable latitude in determining the tonal rendition, like negatives, and also offers great freedom in interpreting the color balance and saturation. The fact that raw also lets you control detail rendition—noise reduction and sharpening—breaks the analogy but offers a further advantage.

Raw offers one more potential advantage that may be hard to demonstrate but is, I believe, real nevertheless. If you shoot raw, you'll be able to take advantage of future improvements in raw converters. Digital photography may no longer be in its infancy, but it hasn't yet reached adolescence, let alone maturity, and anyone who has spent more than a couple of years working with digital imaging knows that digital imaging software improves with each iteration. JPEGs are relatively inflexible files—we may see improvements in their handling, but any such improvements are likely to be modest. Raw converters, however, have undergone radical improvements in the 10 years or so that color filter array cameras have been around, and there's little reason to think that the next 10 years won't see similar improvements. Shooting raw will allow you to exploit these improvements as and when they happen.



**Bruce Fraser**

Bruce emigrated from Edinburgh, Scotland where he escaped the dreary Scottish climes only to discover San Francisco's equally challenging weather. Rumor has it this was the inspiration of Bruce's lifelong fascination with all things relating to color. Bruce has made a study of human vision and how it relates to reproducible color in photography and photomechanical reproduction.

If you have idea's, articles, or complaints about the Newsletter contact Rod Shean at [rodshean@bellsouth.net](mailto:rodshean@bellsouth.net)

---