



ELISABETTA ZAVOLI FOR NATURE

The ocean mist and reddish-brown rust on the trawler set the tone in this photograph of marine biologist Laura Aiudi.

## HOW TO TAKE A GREAT SCIENCE PHOTOGRAPH

To mark the launch of *Nature's* 2022 #ScientistAtWork photo competition, three experts offer tips on capturing science on camera. **By Agnese Abrusci**

**T**he use of good imagery can be a boon to a researcher's career: a compelling image could end up on a journal cover, illustrate a presentation or liven up a laboratory meeting. But many scientists do not receive training on what makes a 'good' photograph – or the best techniques for taking one.

As *Nature's* 2022 annual photography competition opens, two professional photographers who contribute regularly to the

magazine's weekly workplace photo essay *Where I Work* (see [go.nature.com/21as4r](https://go.nature.com/21as4r)) offer their advice on how to take a stunning photograph (see 'Capture the moment'). *Nature's* managing media editor Lizzy Brown also describes how she and her colleagues choose images to be featured in the magazine.

Already have a great photograph to be considered in the competition? Enter at [go.nature.com/3rfky](https://go.nature.com/3rfky). The winners will be announced in a December issue of *Nature*.

### ELISABETTA ZAVOLI USE THE LIGHT AS YOUR PAINT SET

I have an environmental-science background, but lab research wasn't my calling – so I followed my passion and became a photographer. Since 2009, I've worked on long-term photography projects and assignments for national and international magazines.



## Work / Careers

As a documentary photographer, I'm always on the lookout for timely and interesting subjects, and I research and develop them over months, or even years. I needed to learn how to juggle personal and paid projects, and I must be ready to travel at a moment's notice when an editor asks me.

In April 2022, I took on an assignment for *Nature's* photography-led Where I Work section: I would be photographing Laura Aiudi, a marine biologist at the Cetacea Foundation in Riccione, Italy, who is developing a net to save the lives of endangered turtle species (*Nature* 604, 210; 2022). I knew the shoot would be on a fishing trawler, and I was well aware of the challenges of that environment – lighting, and working around people in narrow spaces.

Once I got on the boat, I spent some time studying the light. I was determined to take advantage of dusk and dawn. I love low light and all the colour shades that come with it. The ethereal misty white of the sky, as well as the heavy rusty metal of the boat, set the chromatic mood of the photo, like paint on a canvas. In this picture, the white background evokes the suspended time of fishing at sea and enhances Laura's candid gaze, in contrast to the coppery brown, which, to me, hints at the harshness of daily life on a fishing trawler. The trawler has great textures and colours, with its mix of metal outside and wood inside.

Finding ways to identify the colour palette and lighting of the space that you're working in is so important for a good photograph. In a way, the trawler set-up was similar to that

of some research labs, with restricted spaces and poor lighting. In a lab, because of the many highlights above fume cupboards and benches, it can be difficult to get a good picture. Moving around, maybe closer to a window, or balancing the colour dominances with extra lights to illuminate the scene, can be a game changer.

Laura had to be central in the portrait, despite the presence of many fishers interacting with her. We spent a limited time together, but I tried to establish a relationship with everyone. I wanted to put them at ease, to listen to their stories and to make them comfortable enough to create a situation of spontaneity that would lead to good shots that didn't feel too staged.

As humans, our trichromatic vision works in a certain way, and is naturally attracted by some colours with certain biological meanings. This system is generally thought to have arisen in primates as an adaptation that allowed them to find coloured food – such as fruit and edible leaves – or to detect coloured targets against a background of foliage.

We're also affected by proportions. A great example is the Fibonacci spiral, a mathematical concept behind a visual feature that recurs in many ecosystems, an element that evokes harmony in the viewer's eye and mind.

My advice to scientists who want to enter *Nature's* ScientistAtWork photo competition is to remember that a photo is, in essence, a rendezvous between two passionate people, both interesting and interested in each other's

journey. So enjoy the moment, establish a connection with your subject and do your best to understand the environment's light. This will certainly help you to craft a winning shot.

**Elisabetta Zavoli** is a documentary photographer based between Rimini and Milan in Italy, who focuses on investigating environmental issues and their relationships with global economic and social factors.

## LIZZY BROWN BRING MAGIC TO EVERYDAY SCENES

I spend many hours a day looking at photos of science and scientists in my role as managing media editor for *Nature*. I and the other photo editors on the team source and commission photography and other visual media for *Nature's* magazine content.

We tend to see the same style used a lot – especially in lab settings, where images can look staged and stocky, without much creative thought. Researchers are often pictured holding up test tubes and pipettes. I like it when photographers do something a bit different, surprising us with interesting compositions, lighting and artistic styles that you wouldn't expect.

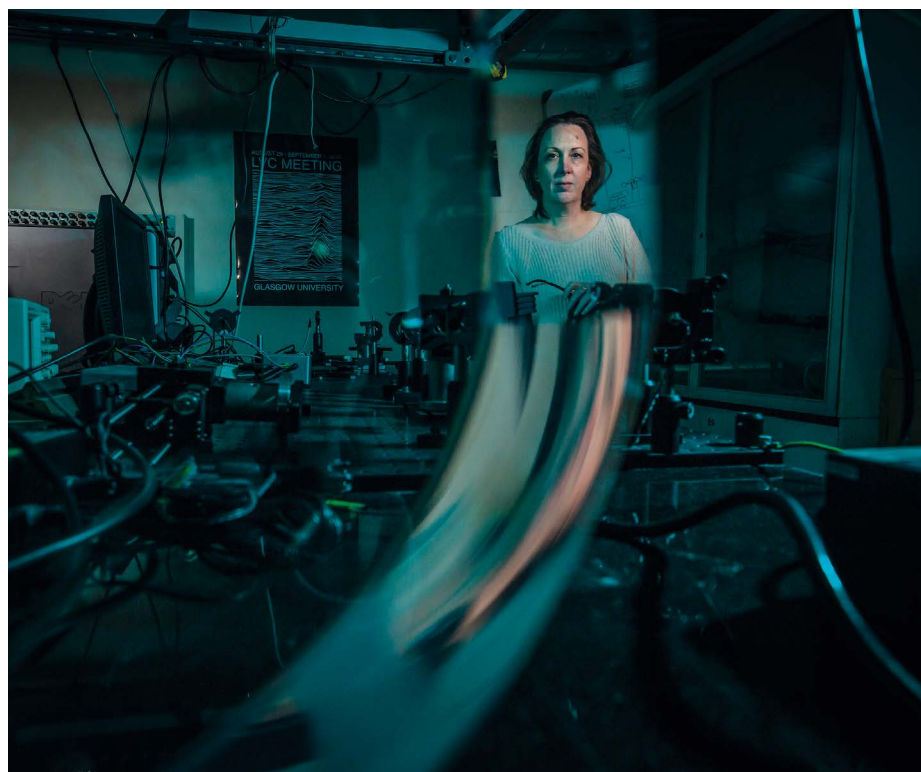
Among all the picture-led projects we've handled, one that has made me very proud is the Where I Work series, which we have been producing for three years. Each week, online and in print, we feature a portrait of a scientist in their place of work. The result is a collection of images that shows the diversity of science through wonderful photography.

When we received Kieran Dodds's photo of Sheila Rowan, who directs the Institute of Gravitational Research at the University of Glasgow, UK (*Nature* 583, 872; 2020), we were blown away by his creativity. He took a very humdrum lab setting and created a beautiful and unique composition by photographing the subject's reflection in an element of the experiment, creating a surreal and other-worldly scene that is reflected in the colour scheme.

Lighting has also been used very cleverly. Darkening the optics in background helps to hide any unsightly mess while giving an impression of what the lab looks like, and it helps the subject to pop out of the frame, drawing your eye to them.

This photo demonstrates how photographers can look at things differently and bring magic to everyday scenes. It proves that you don't have to work in exciting field locations or super-sized physics experiments to create a great photo of a scientist at work.

My advice to photographers is don't forget to look for a unique angle, use composition



Photographer Kieran Dodd captured physicist Sheila Rowan with a unique composition.

KIERAN DODDS FOR NATURE



Environmental elements come together in this photo of biologist Kendrew Colhoun.

and lighting to create a focal point of the shot and surprise your viewers with something new.

**Lizzy Brown** is managing media editor for *Nature*.

## CHRIS MADDALONI FIND THE RIGHT ELEMENTS— AND SEIZE THE MOMENT

For me, still photography is about capturing a specific moment: it's the point at which subject matter, composition and action intersect. In my photography, I apply the theory of the 'decisive moment', a time-tested idea from the godfather of photojournalism, French photographer Henri Cartier-Bresson. He felt that photography was the best way to capture a single moment: the image represents "the essence of the event itself".

Photojournalism is multifaceted, and the hardest thing about it is making yourself welcome as a photographer in others' lives. For you to take a good photo, those around you must be unguarded. This genuine access can lead to a special, unique shot. Capturing a good photo is really about access to people and places. Photography skills come next.

In environmental portraits, I always look for an *in situ* moment — an image of the person doing their job — while trying to reveal their personality in an environment that helps to tell a story. In the case of Kendrew Colhoun, an Irish seabird biologist at the Marine Protected Area Management and Monitoring project — whom I shot for *Nature's* Where I Work

section in November 2021 (*Nature* 599, 340; 2021) — I knew that he works with birds near a lighthouse in the fields. So, to get the best environmental portrait of him, I needed to get all those elements in.

When we met, we spent all day walking around Inishtrahull, an island about 10 kilometres northeast of the mainland. But it was not until the end, when I saw the lighthouse, that the point of the assignment became real. I started shooting more, because when you see the elements line up, you shoot like crazy.

I like to travel light, which was even more important for this assignment because I knew we had a long walk ahead. I took this photo with a 28-millimetre F2 lens mounted on a mirrorless camera model — the lack of a mirror makes it much more compact than a standard digital single-lens reflex (DSLR).

The silent shutter really lets you blast away without disturbing the scene. When used in the right way, the wide-open aperture and blurry background bring magic to what can otherwise be a mundane scene. If you can, always shoot outdoors during the golden hour — the moment just after sunrise or right before sunset — when the daylight is warmer and softer because the Sun is at a low angle and its rays filter through a greater distance.

In terms of taking a good photograph, once you have both a willing subject and a good camera, there are two important steps. First, come up with an idea and bring something fresh to it (in Colhoun's case, this was incorporating all the environmental elements around him).

Second, once you're ready to execute your idea, you have to shoot a lot. It might take several tries to get the perfect shot. Make sure to

## Capture the moment

### Advice for scientist-photographers.

There are no hard and fast rules for taking great photographs, but professional photographers and media editors have some general advice for those who are new to working with a camera.

- Establish a connection with your subject. Make them feel comfortable for a more candid shot.
- Understand the environment's light. Use the light in the scene to bring out detail.
- Capitalize on colours. Look for chromatic contrast, union and metaphor in colours.
- Use a tripod. Tools such as these stabilize your camera and will help to avoid blur or framing mistakes.
- Find a clean background. A busy background can distract from the subject.
- Play with camera angles and perspective. Try to be inventive, and look beyond standard 'stock photography' images.
- Photograph at the golden hour when shooting outdoors. A low Sun angle often creates warm, diffuse light and interesting shading.
- Remember the rule of thirds. Split your frame into thirds, and fill some — but not all — of them with your subject.
- Keep the subject's eyes in focus. They're often the best way to bring a viewer closer to the subject.
- Shoot, check, re-compose, re-shoot. Take many photos using different angles and ideas to catch at the best one.

work the scene: while you're shooting, experiment with angles and compositions. Always look for a clean background, and check the edges of the frame and get rid of everything you don't want.

Don't give up on ideas. It often takes a really long time to execute them, particularly with wildlife and nature photography. Also, revisit favourite places at different times of the day, season or year. Seeing things in a new light can be rewarding. Finally, be prepared to invest time in a great photo: don't show up late or leave too early.

**Chris Maddaloni** is a photojournalist and head of video at *The Irish Times*, Dublin.

### Interviews by Agnese Abrusci.

These interviews have been edited for length and clarity.