

EUREKA! LAB**These women tackle science in the lab, classroom and far, far beyond**

Meet women in science studying dead bodies, finding new fuels and more



Christine Sharp prepares to snap a photo as she works in the field.

STEPHEN GRASBY

By **Bethany Brookshire**

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Every scientist had to start somewhere. Many first determined they loved science in the classroom. Others found out as they experimented at home — building, designing and even stitching up new things. When *Science News for Students* asked women in science, technology, engineering and math (STEM) to [send us their pictures](#), we heard from more than 100 people in 18 countries! Here are a group that spend their lives spreading their love of science.

Randi Baldwin

Think the bacteria grown from a poop sample smell like, well, crap? Baldwin says, no way. “I...love the smell of growing *Pseudomonas aeruginosa* from my poo cultures,” she says. “[It] smells like sweet grapes.” Baldwin used to work in a microbiology lab — a place where scientists study tiny organisms such as bacteria, viruses and fungi. Now, she’s a full-time high school science teacher at T.C. Roberson High School in Asheville, N.C. She teaches physics, earth science and biology.



Randi Baldwin created colorful holiday ornaments — by growing festive bacteria.

R. BALDWIN

Savanna Barry

Many kids might think that marine biology means studying dolphins or whales. To Barry, it means studying grass. Seagrass. Many different things live in the marine environment, after all. That includes seagrass.

Barry is a marine biologist at the University of Florida Institute of Food and Agricultural Sciences Extension – Florida Sea Grant in Cedar Key, Fla. Her work, like much of marine biology, involves a lot of swimming. Sometimes it takes scientists deep enough that they need to use SCUBA gear. So Barry is also a SCUBA divemaster with more than 300 logged dives. Check a video about her work below.



Seagrass Savanna

from **Michael Crandall**

08:48

[Seagrass Savanna](#) from [Michael Crandall](#) on [Vimeo](#).



Maria Christoforaki holds a model of a satellite at the 2016 European CanSat Competition.

DARIO CRUZ

Maria Christoforaki

There's no age limit on a love of science. Christoforaki is a high school student at the Lyceum of Gazi in Greece. In June, she was part of a team from her school that competed in the European CanSat Competition. This is a contest in which teams build models of satellites. The catch? The satellite has to be the size and shape of a soft drink can. A lot of creativity is required — and Christoforaki says that is the best part. "Each moment I create," she says, "I feel like I am

free."

Christina Colgan

Colgan calls herself a “super fun marine and physical science teacher” at Heritage High School in Palm Bay, Fla. But before she was a teacher, she embraced the gross side of science. How gross? She once had an internship cleaning clam poop off clams so the bivalves didn’t suffocate.



Rebecca Hunt-Foster

Hunting dinosaurs that have been dead for millions of years might seem easy — they can’t exactly go far, after all. But it takes a lot of time and a lot of patience. Hunt-Foster knows how much time it takes. She’s a paleontologist — a scientist who studies ancient, fossilized organisms. She works for the Bureau of Land Management in Moab, Utah.

Paleontologists hunting dinosaurs — as Hunt-Foster does — can spend large amounts of time in the field digging up fossils. Then they’ll spend more time in the lab, cleaning and studying their finds. Hunt-Foster is helping to make sure that all that work time doesn’t interfere too much with scientists’ lives. She and other paleontologists are trying to find solutions to improve work/life balance, especially for scientists who are early in their careers. Hunt-Foster does bring her work home with her, though. But that’s so that she can share her love of the outdoors with her own family. “I have two kids that I love to take out into nature,” she says. “We love to go for family road trips to collect fossils, or for hikes and walks in the mountains or along desert creeks.”

Kelly Knight

People who fight crimes don’t always wear capes or badges. Sometimes they wear lab coats. Knight is a forensic scientist — someone who uses scientific techniques to help solve crimes. She’s a professor at George Mason University in Fairfax, Va. But that’s not all she does. “I’m also a Zumba instructor and I have my motorcycle license,” she says. She’s still working on getting a motorcycle, though.

Science gets gross sometimes. Christina Colgan poses during her clam poop-cleaning internship.

C. COLGAN



My, what big feet you have! ReBecca Hunt-Foster poses with a dinosaur track.

R. HUNT-FOSTER

Vanessa Lucieer

Have you ever seen a map of the ocean showing that some parts are deeper than others? How do we know how deep the ocean is? In some cases, the ocean is far too deep to measure with a long line. Another method is needed to figure out depth. Lucieer instead makes maps of the seafloor using sound waves. She works at the Institute for Marine and Antarctic Studies at the University of Tasmania in Australia.

Now Lucieer is also using those sound waves and maps to make art. She presented her first exhibition in August 2016. She's been working with other scientists around the world to share images made with sound data, she explains, "so that we can share the wonder of shapes, patterns and textures of how unique our oceans are."



Kelly Knight is suited up and ready to work.

K. KNIGHT

Oceans of the Unknown Exhibition - mapping the oceans



Lucieer made the little clay boats in this video, to show just what it would take to map the oceans around Australia.

MARINE BIODIVERSITY HUB

Sara MacSorley

Not everyone who loves science wants to end up in a lab. “No one ever told me you could be more than a research scientist with a science degree, so when I discovered research wasn’t the

career for me, I freaked out,” says MacSorley. Luckily, there’s a lot you can do with a degree in science outside of the laboratory! MacSorley is now the director of the Green Street Teaching and Learning Center at Wesleyan University in Middletown, Conn. She spends her time promoting outreach and education.



Sara MacSorley decided she didn’t want to spend life in a lab. Instead, she spends her time spreading a love of science.

S. MACSORLEY

extreme environments such as highly alkaline lakes. No animals can live there. But bacteria can. Sharp wants to know if any of these bacteria might be used to make biofuels — liquids that could replace gasoline.

Kelly Sutherland

Jellyfish in aquariums seem like they float, rather than swim. Somehow, they manage to get around the ocean anyway. Sutherland studies just how these organisms interact with their watery environment. She’s a marine scientist at the Oregon Institute of Marine Biology at the University of Oregon in Eugene. For someone who spends so much time on the water, though, she’s got an

She still loves science. MacSorley is now working on a coloring book about women in science, technology, engineering and math. She’s already raised more than \$8,000 for her project. So keep an eye out for the coloring book *Super Cool Scientists*, coming out soon!

Christine Sharp (picture at top)

Sharp is one of the scientists trying to find new ways to put gasoline in our cars or heat our homes — using microbes. She’s a scientist at the University of Calgary in Alberta, Canada. She’s looking for bacteria in



Kelly Sutherland prepares a sample for her work.

AYELET PILOSOFF

unfortunate weakness: Sutherland gets seasick.



Erin Winick shows off one of her galaxy-inspired dresses.

E. WINICK

Erin Winick

If you love science and fashion, you're not alone. Winick is a student in mechanical engineering at the University of Florida in Gainesville. In her career as an engineer, she says, she's had to do everything "from crawling under houses to look at structural damage to learning to drive a tractor!"

But she also runs her own company, [Sci Chic](#), making science- and engineering-inspired jewelry. Her science creativity also goes beyond jewelry. "I love sewing and have made everything from a Ms. Frizzle costume to a galaxy-patterned dress," she says. "I love making and wearing any all space- and science-inspired clothing.

We hope you enjoyed our series highlighting inspiring women in science, technology, engineering and math! If you liked this one, make sure to check out our other lists including [astronomy](#), [biology](#), [ocean science](#), [biomedicine](#), [math](#), [earth science](#), [ecology](#), [chemistry](#) and [neuroscience](#).

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Power Words

[More About Power Words](#)

alkaline An adjective that describes a chemical that produces hydroxide ions (OH⁻) in a solution. These solutions are also referred to as basic — as in the opposite of acidic — and have a pH above 7.

astronomy The area of science that deals with celestial objects, space and the physical universe. People who work in this field are called astronomers.

biofuels Energy sources derived from carbon stored in living organisms. Although wood is a biofuel, most people who support “green” sources of energy consider biofuels to be liquids that can substitute for gasoline. Examples include bioethanol, an alcohol derived from crops such as corn or sugarcane. Engineers are also developing ways to make biofuels from nonfood crops, such as trees and shrubs. Renewable biofuels are an alternative to nonrenewable fossil fuels.

biology The study of living things. The scientists who study them are known as biologists.

biomedicine The field of research that explores the biological basis of injuries or disease and their treatments.

bivalve An invertebrate that lives in a two-part, hinged shell. Most bivalves filter their food from the waters that slosh past them. Bivalves include clams, oysters, scallops and mussels.

Bureau of Land Management An agency of the U.S. government that is part of the Department of the Interior. Among its many functions, this agency manages more than 887 different regions and approximately 27 million acres of National Monuments, National Conservation Areas, Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, National Scenic and Historic Trails and Conservation Lands of the California Desert. It issues rules on how these lands may be used and what minerals or other resources may be taken from them.

chemistry The field of science that deals with the composition, structure and properties of substances and how they interact with one another. Chemists use this knowledge to study unfamiliar substances, to reproduce large quantities of useful substances or to design and create new and useful substances. (about compounds) The term is used to refer to the recipe of a compound, the way it's produced or some of its properties. People who work in this field are known as chemists.

culture (in biology) The community of cells or tissue that is intentionally grown outside the body (or the wilds) for research purposes, usually in a laboratory. (in social science) The sum total of typical behaviors and social practices of a related group of people (such as a tribe or nation). Their culture includes their beliefs, values, and the symbols that they accept and or use. It's passed on from generation to generation through learning. Once thought to be exclusive to humans, scientists have recognized signs of culture in several other animal species, such as dolphins and primates.

data Facts and/or statistics collected together for analysis but not necessarily organized in a way that gives them meaning. For digital information (the type stored by computers), those data typically are numbers stored in a binary code, portrayed as strings of zeros and ones.

dinosaur A term that means terrible lizard. These ancient reptiles lived from about 250 million years ago to roughly 65 million years ago. All descended from egg-laying reptiles known as archosaurs. Their descendants eventually split into two lines. They are distinguished by their hips. The lizard-hipped line became saurichians, such as two-footed theropods like *T. rex* and the lumbering four-footed *Apatosaurus* (once known as brontosaurus). A second line of so-called bird-hipped, or ornithischian dinosaurs, led to a widely differing group of animals that included the stegosaurs and duckbilled dinosaurs.

dolphins A highly intelligent group of marine mammals that belong to the toothed-whale family. Members of this group include orcas (killer whales), pilot whales and bottlenose dolphins.

ecology A branch of biology that deals with the relations of organisms to one another and to their physical surroundings. A scientist who works in this field is called an ecologist.

engineer A person who uses science to solve problems. As a verb, to engineer means to design a device, material or process that will solve some problem or unmet need.

engineering The field of research that uses math and science to solve practical problems.

environment The sum of all of the things that exist around some organism or the process and the condition those things create for that organism or process. Environment may refer to the weather and ecosystem in which some animal lives, or, perhaps, the temperature, humidity and placement of components in some electronics system or product.

family A taxonomic group consisting of at least one genus of organisms.

field An area of study, as in: Her field of research was biology. Also a term to describe a real-world environment in which some research is conducted, such as at sea, in a forest, on a mountaintop or on a city street. It is the opposite of an artificial setting, such as a research laboratory. (in physics) A region in space where certain physical effects operate, such as magnetism (created by a magnetic field), gravity (by a gravitational field) or mass (by a Higgs field).

fossil Any preserved remains or traces of ancient life. There are many different types of fossils: The bones and other body parts of dinosaurs are called "body fossils." Things like footprints are called "trace fossils." Even specimens of dinosaur poop are fossils. The process of forming fossils is called fossilization.

galaxy A massive group of stars bound together by gravity. Galaxies, which each typically include between 10 million and 100 trillion stars, also include clouds of gas, dust and the remnants of exploded stars.

high school A designation for grades nine through twelve in the U.S. system of compulsory public education. High-school graduates may apply to colleges for further, advanced education.

internship A training program where students learn advanced professional skills by working alongside experts. People who participate in these training programs are called interns. Some intern in medicine, others in the sciences, journalism or business.

liquid A material that flows freely but keeps a constant volume, like water or oil.

marine Having to do with the ocean world or environment.

marine biologist A scientist who studies creatures that live in ocean water, from bacteria and shellfish to kelp and whales.

mechanical Having to do with the devices that move, including tools, engines and other machines (even, potentially, living machines); or something caused by the physical movement of another thing.

microbe Short for microorganism. A living thing that is too small to see with the unaided eye, including bacteria, some fungi and many other organisms such as amoebas. Most consist of a single cell.

microbiology The study of microorganisms, principally bacteria, fungi and viruses. Scientists who study microbes and the infections they can cause or ways that they can interact with their environment are known as microbiologists.

model A simulation of a real-world event (usually using a computer) that has been developed to predict one or more likely outcomes.

neuroscience The field of science that deals with the structure or function of the brain and other parts of the nervous system. Researchers in this field are known as neuroscientists.

organism Any living thing, from elephants and plants to bacteria and other types of single-celled life.

paleontologist A scientist who specializes in studying fossils, the remains of ancient organisms.

physical (adj.) A term for things that exist in the real world, as opposed to in memories or the imagination. It can also refer to properties of materials that are due to their size and non-chemical interactions (such as when one block slams with force into another).

physical science Fields of science (such as chemistry, physics and materials science) that deal with laws of nature and the physical attributes of systems, such as color, temperatures, winds, electricity, magnetism, speeds, energy, mass, chemical reactions, changes of state (such as solids turning into liquids or gases), and forces (such as gravity).

physics The scientific study of the nature and properties of matter and energy. Classical physics is an explanation of the nature and properties of matter and energy that relies on descriptions such as Newton's laws of motion. Quantum physics, a field of study which emerged later, is a more accurate way of explaining the motions and behavior of matter. A scientist who works in that field is known as a physicist.

Pseudomonas aeruginosa This common bacterium, whose name is sometimes shortened to P. aeruginosa, can cause disease in animals, including people. It lives in soil and water, and it is also can live on human skin. Under normal conditions it is harmless, but in certain cases its infections may turn deadly.

satellite A moon orbiting a planet or a vehicle or other manufactured object that orbits some celestial body in space.

savanna A grassland sometimes also populated with trees. Most are fairly dry for part or much of the year.

sea An ocean (or region that is part of an ocean). Unlike lakes and streams, seawater — or ocean water — is salty.

sound wave A wave that transmits sound. Sound waves have alternating swaths of high and low pressure.

STEM An acronym (abbreviation made using the first letters of a term) for science, technology, engineering and math.

suffocate To be unable to breathe, or to cause a person or other animal to be unable to breathe.

technology The application of scientific knowledge for practical purposes, especially in industry — or the devices, processes and systems that result from those efforts.

unique Something that is unlike anything else; the only one of its kind.

wave A disturbance or variation that travels through space and matter in a regular, oscillating fashion.

whale A common, but fairly imprecise, term for a class of large mammals that lives in the ocean. This group includes dolphins.