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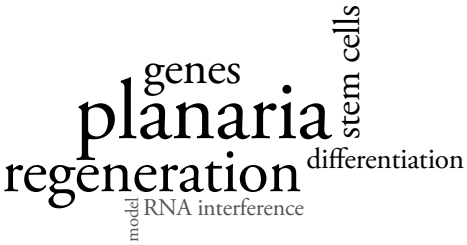
Alejandro Sánchez Alvarado

Biologist at the Stowers Institute for Medical Research

"Imagine that somebody came and told you that there were animals whose heads could be decapitated, and that in the span of a short period of time these heads would begin to grow again from the animal that has just lost his head! I would say yeah that is great science fiction."

Sánchez Alvarado studies regeneration — how an organism replaces lost or damaged body parts — in freshwater flatworms called planaria. Planaria have the amazing ability to regenerate any body part, even a new head. By understanding how regeneration works in planaria, Sánchez Alvarado hopes to find ways to improve repair and regeneration in humans.



https://www.biointeractive.org/classroom-resources/identifying-key-genes-regeneration

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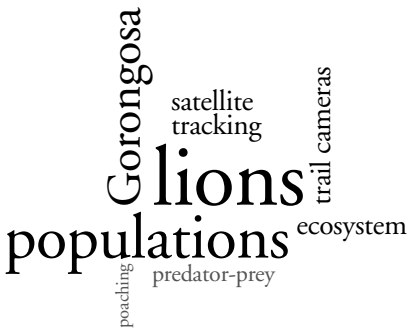
Paola Bouley

Conservation biologist at Gorongosa National Park

"[T]here is no way of knowing exactly how the lions will respond to the park's restoration, or how long it will take for them to come back. … That's the 20-year question, and we'll be able to tell a really cool story in 20 years. But it takes time because it's restoration and it doesn't happen in one or two years, but we're setting our sights now to be able to document that over time."

Bouley studies the lion population in Gorongosa National Park in Mozambique. She documents how lions are responding to the conservation efforts in the park to identify factors affecting their recovery.



https://www.biointeractive.org/tracking-lion-recovery-gorongosa-national-park

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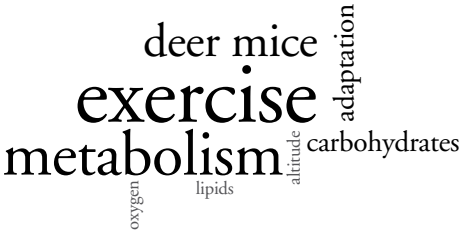
Shane Campbell-Staton

Evolutionary biologist at the UCLA Institute for Society and Genetics

"I became a biologist because I think life is a puzzle. The way that life finds solutions to all sorts of crazy problems that the world presents to it. That to me is just fascinating."

Campbell-Staton combines physiology, genomics, field experiments, and modeling to study how changes in the environment produce changes in species. A major goal of his research is to understand how organisms are evolving in response to climate change so that we can predict and mitigate any negative consequences.



https://www.biointeractive.org/classroom-resources/science-extreme-animal-athlete

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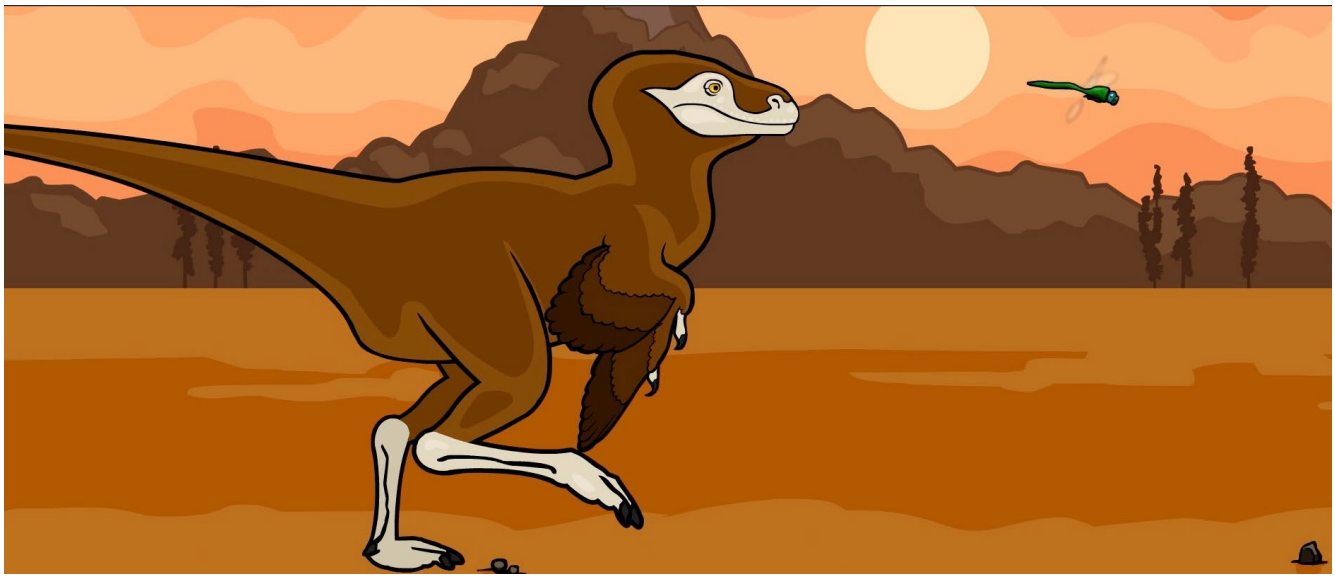
Ken Dial

Evolutionary biologist at the University of Montana

"We now know that there are a lot of dinosaurs, little feathered theropods that have little wings. … I think that a reasonable explanation is to look at what young birds with similar wings can do today. Birds show us the possibility of what these dinosaurs could have done."

Dial studies the mechanics of bird flight. His work with young birds has led him to propose an idea for how flight could have evolved in theropod dinosaurs — the early ancestors of birds — millions of years ago.

https://www.biointeractive.org/classroom-resources/origin-flight-what-use-half-wing



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Manuel Leal

Ecologist at the University of Missouri

"There's a strong desire of this lizard to get back to his territory, but how they do it, I don't, I don't really know. I would like to know. There's a lot about anoles' behavior in nature that we know very little, but I think natural history's the building blocks for further questions."

Leal studies behavioral and evolutionary ecology. He is particularly interested in the ecology of anole lizards. He has used radio tracking to figure out how they navigate in their forest environment.

lizards
navigation
radio tracking
telemetry
Puerto Rico
fieldwork
territorial behavior

https://www.biointeractive.org/classroom-resources/how-lizards-find-their-way-home

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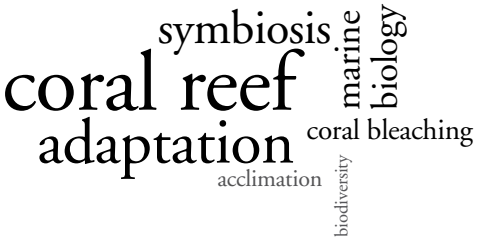
Megan Morikawa

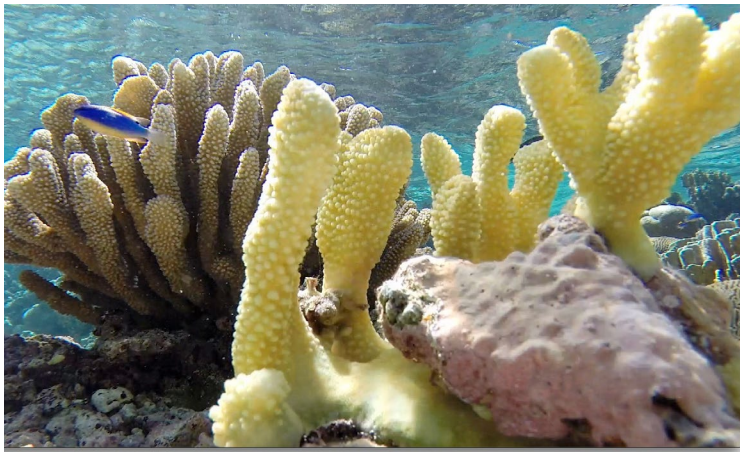
Marine biologist at Stanford University

"I've made it a goal of my career to try and bridge the gap between research sciences and real-world application. And this is a project that is attempting to do just that. We're trying to bring a good project to a place that has special coral."

Morikawa completed her graduate studies on the ecology, genetics, and conservation of coral reefs in American Samoa. She has found that some coral species are better able to adapt to warming waters and may offer solutions for restoring coral reefs damaged by climate change.



https://www.biointeractive.org/steve-palumbi-megan-morikawa-study-coral-reef-damage-american-samoa



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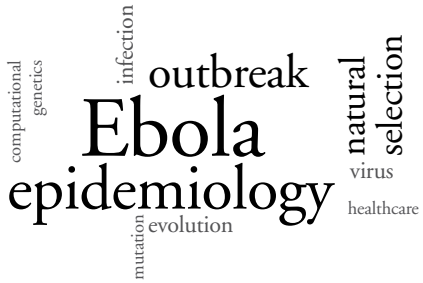
Lina Moses

Disease ecologist and epidemiologist at Tulane University

"One of the tragedies of Ebola is that it spreads through love and through people taking care of people that they care about."

Moses studies epidemiology: the occurrence, spread, and prevention of diseases. Her work helps governments and healthcare systems better respond to outbreaks of contagious diseases, such as Ebola.



https://www.biointeractive.org/think-scientist-natural-selection-outbreak

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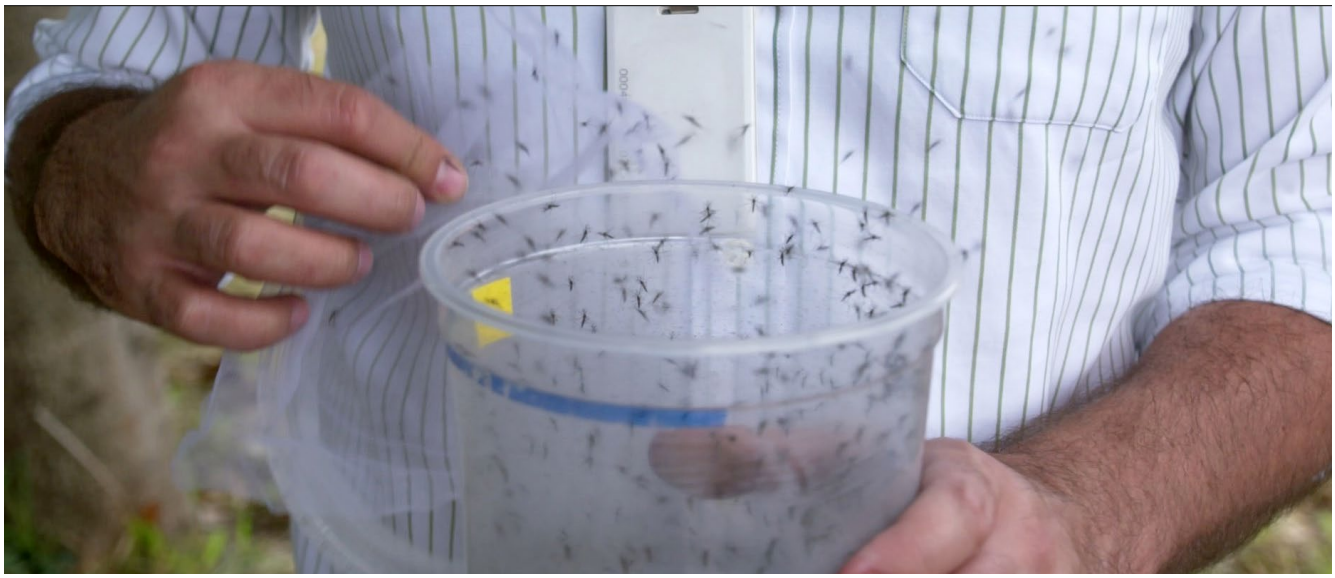
Sofia B. Pinto

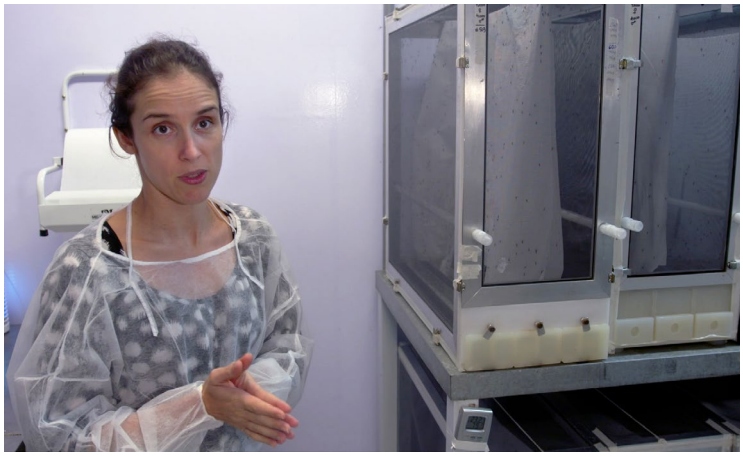
Biotechnology scientist at Oxitec

"Our [mosquito] males will deliver the lethality to their children. In the wild, the babies do not come into contact with the antidote, and there they die."

Pinto worked on a line of mosquitoes that were genetically modified to reduce mosquito populations in the wild. Her work may one day help to control the spread of dangerous diseases, from Zika to dengue fever, that are carried by mosquitoes.

https://www.biointeractive.org/classroom-resources/genetically-modified-mosquitoes





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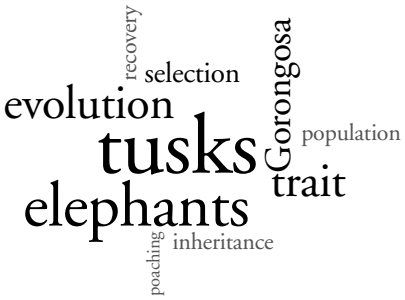
Joyce Poole

Conservation biologist at Gorongosa National Park

"In this day and age, now, with all the poaching that's going on, actually the tuskless elephants are at an advantage."

Poole studies the behavior and physical traits of elephants in Gorongosa National Park in Mozambique. She wants to determine how decades of heavy poaching, followed by the elephants' recovery, have impacted this elephant population.



https://www.biointeractive.org/classroom-resources/selection-tuskless-elephants

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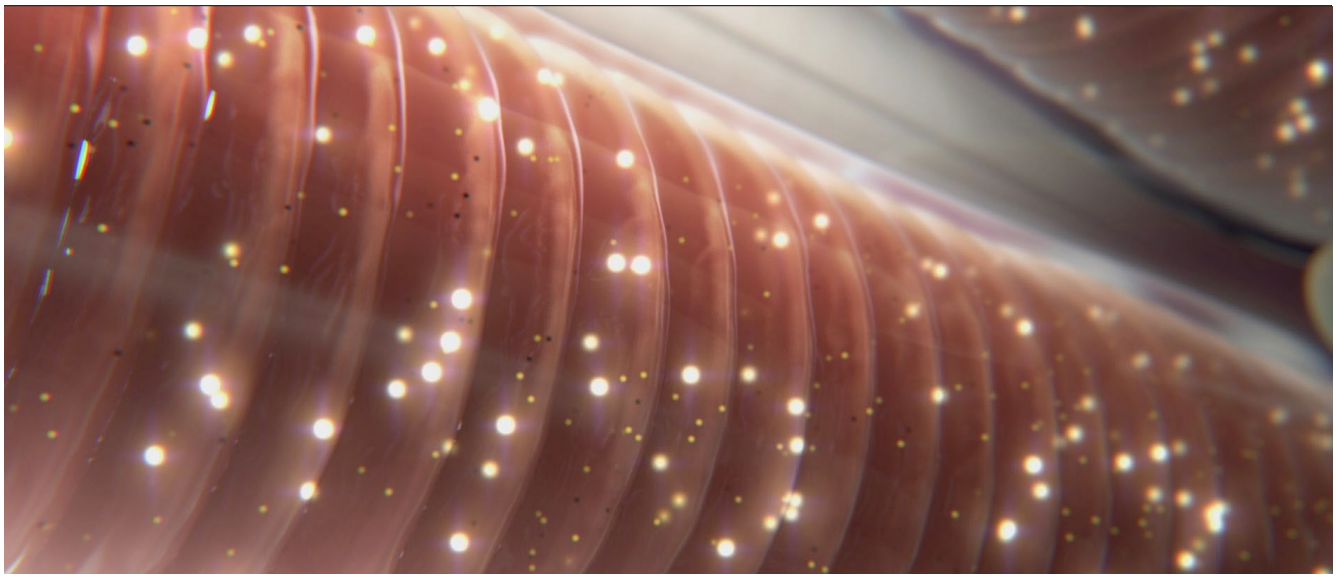
Edwin Stone

Medical doctor and scientist at the University of Iowa

"We can test hundreds of the most common mutations very rapidly and very inexpensively. When we look at just a few hundred spots in the genome in a yes/no fashion, we can find mutations in about 40% or 50% of patients. So we did that in Sam and didn't find anything."

Stone studies the genetics of a disease called retinitis pigmentosa that causes progressive loss of vision and ultimately blindness. By identifying the genetic cause of the disease in some patients, he can devise therapies to help stop the disease from progressing.

https://www.biointeractive.org/classroom-resources/search-mutated-gene



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