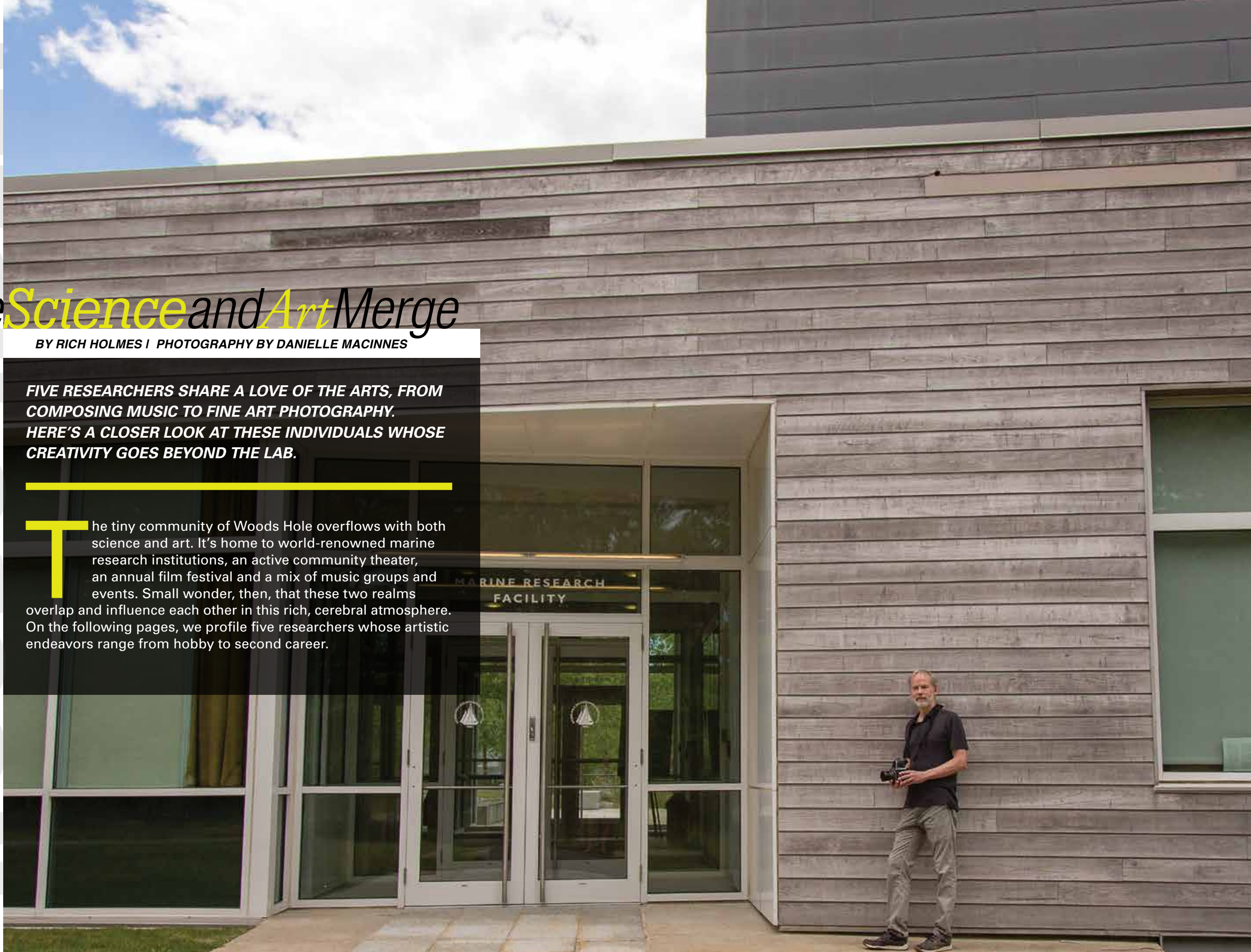


Where *Science* and *Art* Merge

BY RICH HOLMES | PHOTOGRAPHY BY DANIELLE MACINNES

FIVE RESEARCHERS SHARE A LOVE OF THE ARTS, FROM COMPOSING MUSIC TO FINE ART PHOTOGRAPHY. HERE'S A CLOSER LOOK AT THESE INDIVIDUALS WHOSE CREATIVITY GOES BEYOND THE LAB.

The tiny community of Woods Hole overflows with both science and art. It's home to world-renowned marine research institutions, an active community theater, an annual film festival and a mix of music groups and events. Small wonder, then, that these two realms overlap and influence each other in this rich, cerebral atmosphere. On the following pages, we profile five researchers whose artistic endeavors range from hobby to second career.



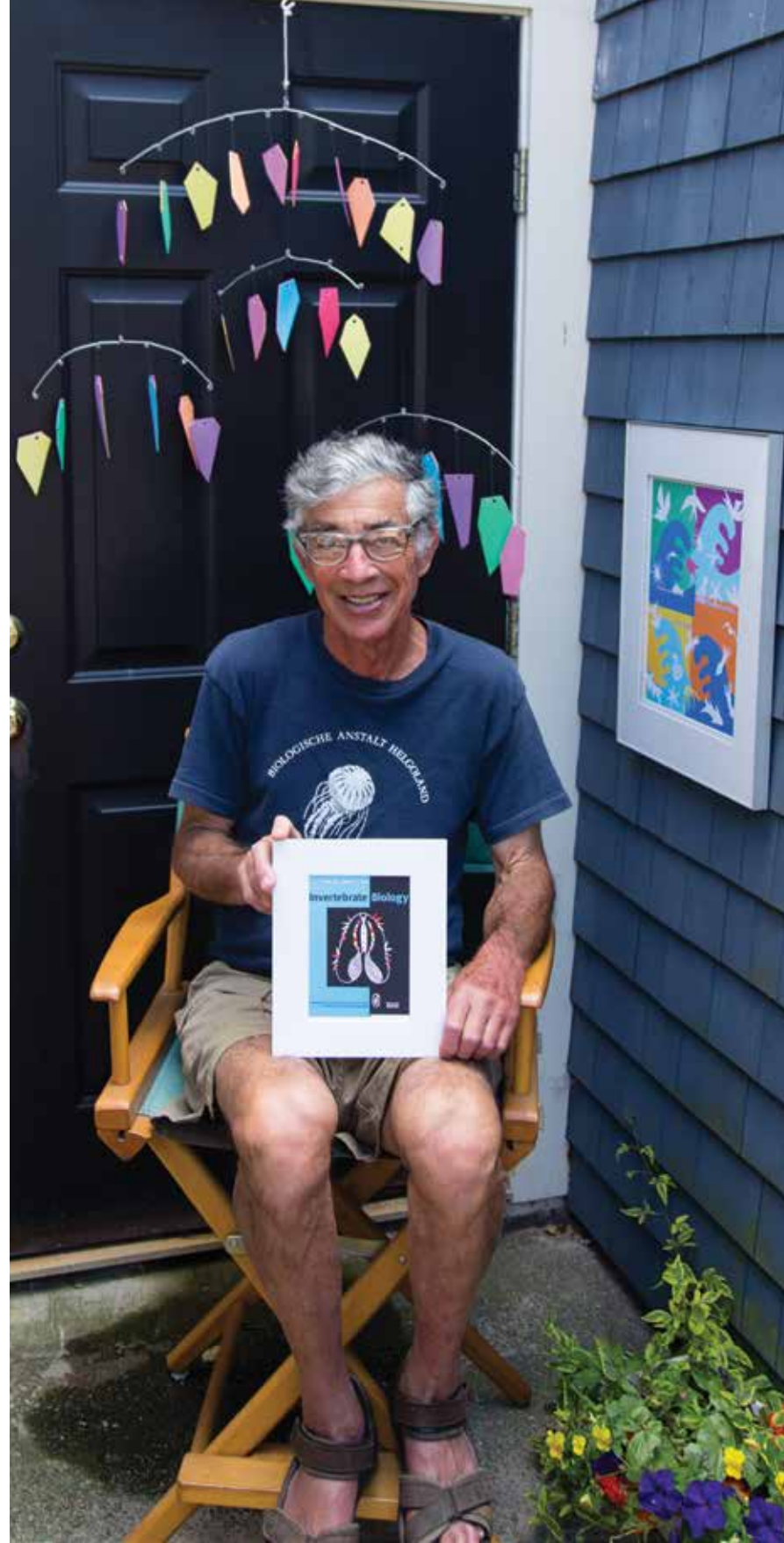
Sidney Tamm

Senior adjunct scientist and artist
Marine Biological Laboratory

Sidney Tamm's cartoons have been published in scientific newsletters and have appeared in ads for Zeiss microscopes. He also sells artwork at Local Colors Gallery in Woods Hole. Colorful organic shapes of waves and marine animals comprise one piece at the gallery. Other pieces blend pen and brightly hued bits of paper to portray ctenophora, also known as comb jellies or sea gooseberries.

"Most laypeople put scientists and artists into separate boxes," says Tamm. The senior adjunct scientist at the Marine Biological Laboratory instead divides scientists by Friederich Nietzsche's belief: Some people are Apollonians who prize order, logic and rationality, while others are Dionysians who think intuitively and creatively. Artists are Dionysians, says Tamm, and scientists who are Dionysians make the big discoveries that challenge the status quo.

Tamm says he got into trouble years ago with the Woods Hole Oceanographic Institution administrators who didn't like his cartoons that sometimes mocked them. Now, he says, things have changed. Administrators—whom he identified as typically Apollonian—are trying to foster creativity, as they see the value in it. "It's different than it used to be—it's better," he says. "Now, there's a lot more tolerance. Administrators want big breakthroughs. The people who make big breakthroughs aren't necessarily the people who follow rules and sit on committees."



Sidney Tamm exhibits his creative approach to microscopic cell research through colorful cartoons and comprehensive pieces.



Elaine Bearer

Neuroscientist and composer
Marine Biological Laboratory

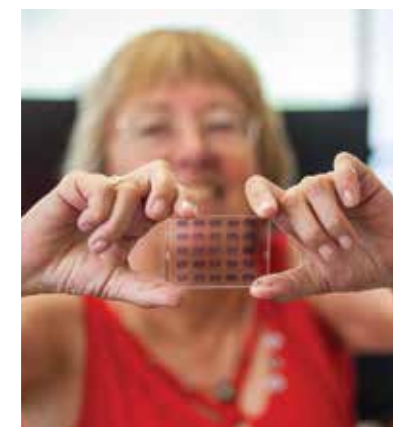
Music and the brain fascinate Elaine Bearer. She studied musical composition in Paris under Nadia Boulanger and received her master's degree from New York University. She subsequently completed a combined Ph.D.-M.D. at University of California, San Francisco, and has taught both science and music courses: First at Brown University and now at the

University of New Mexico. She has spent many summers working at the Marine Biological Laboratory, where her research has explored the influence of early childhood stress on mental development, music and the mind, the transport of information along nerve cell axons and the biochemistry and pathology of the brain.

A classically trained musician, Bearer composes what she calls "serious music." Some pieces incorporate influences of her research work. Her Nicholls Trio, named after one of her teachers at Stanford, uses violin, cello and piano and combines classical themes, Peruvian folk music and patterns of electrical firings of leech neurons (Nicholls studied these).

Bearer plays the French horn, keyboards and electric viola. Her compositions have been performed in the United States and abroad, and are available on CD. She says the

seeds of this music often come to her while doing research. "Music is just one clue on how the brain works," says Bearer. "Music is language—what's beneath that? I'm interested in fundamentals."



Whether studying the brain or playing a string of notes from her latest composition, Elaine Bearer dedicates serious attention to detail in all facets of her work. "Music is just one clue on how the brain works," says Bearer.



Bill Simmons

Retired Woods Hole Oceanographic Institution scientist and Cellist, founder of the Woods Hole Library's chamber music series and the Geostrophic String Quartet

The Geostrophic String Quartet draws its name from the balance between the Coriolis force caused by the Earth's rotation and pressure gradient force, an equation all oceanographers know, says Bill Simmons.

Simmons, a retired WHOI physical oceanographer, founded the quartet in honor of Fritz Fuglister, a self-taught musician and artist who painted murals for the Works Progress Administration in 1930s.

"He wanted to be an artist. He lived in a shack in Provincetown," says Simmons.

Fuglister ended up marrying a Falmouth librarian and taking a job as an assistant aboard the institution's research vessel Atlantis, says Simmons. He rose to become a head of WHOI's physical oceanography department.

The Fuglister family held gatherings at their Woods Hole home for local or visiting scientists who played chamber music. Simmons attended these parties and has continued the tradition with his wife, Evelyn. What they call "house music" is not meant for an audience to hear. Rather, it is a challenging experience to play an unrehearsed piece of chamber music with other musicians.



Bill and Evelyn Simmons make up half of the Geostrophic String Quartet, a group created in honor of Fritz Fuglister, former head of WHOI's physical oceanography department and a self-taught musician and artist.

"When you're playing, everything goes—it's total concentration," says Simmons.

The exercise exposes a musician's strengths and weaknesses, and when mistakes happen, it's best to keep going, he says. The Geostrophic String Quartet is the public performance face of Simmons' "house music" group. It was created in 2011 in response to the Woods Hole Historical Museum staging a retrospective on Fuglister's life and art. The group plays benefits for the Woods Hole Public Library; both Simmons and his wife are members—he on cello and she on violin and viola.

In addition to the quartet, Simmons founded the Woods Hole Public Library's chamber music series, and created a summer camp for musicians to play "house music."

Though the couple now lives in Brighton and summers in Wareham, they still remain connected to Woods Hole with the quartet. "It's an amazing community," says Simmons. "There's always something going on."



Julianne Gurnee

Junior acoustician and amateur artist
**National Oceanic and Atmospheric Administration's
 Northeast Fisheries Science Center**

Julianne Gurnee first came to Woods Hole last year as an intern at the National Oceanic and Atmospheric Administration's Northeast Fisheries Science Center. She graduated last year from Oregon State University. She's now back at the center as a junior acoustician, helping to track migrating right whales and working with Woods Hole Oceanographic Institution on "near real-time" tracking of whales.

"I think it was in high school when I discovered charcoal, my main medium," says Gurnee, while seated in the narrow confines of her office, which she shares with two other colleagues. On the computer before her were horizontal jagged lines—recorded whale sounds.

"I'm listening to sound files," she says. "I can look at the whale files and know what they sound like."

Gurnee mainly draws to create gifts for friends and family. She often works from photographs.

"I love realistic art. I love the challenge of that," she says.

Why charcoal? "It's pretty messy," says Gurnee. "But I like it because you can do very detailed things. I really like the contrast of it."

Gurnee displayed a framed drawing of a whale. It was one of four she did at the end of her internship for researchers she had worked with. "I tried to focus on the species they were working on," she says. While her art remains a hobby, Gurnee would like to show her art in a public space and "find a way to focus on science from an artistic perspective," she says, perhaps through educating children.



Julianne Gurnee expresses herself through charcoal sketches of whales. Gurnee discovered charcoal, her main medium, in high school. "I like it because you can do very detailed things," she says. "I like the contrast of it."



Larry Pratt

Oceanographer and fine art photographer
Woods Hole Oceanographic Institution

Physical oceanographer Larry Pratt uses dance to help teach physics to students at MIT. He also shoots fine art photography that explores the human body in natural settings and traces the motion of modern dance.

Equations for fluid dynamics may spell out a concept in mathematical terms, but seeing the underlying principles at work can help students better grasp concepts, says Pratt. “I’ve been experimenting with taking students into a dance studio,” he says. “You don’t retain things a long time if you learn them symbolically.”

“I got into photography through my work,” he says. “I travel a lot and would bring my fly rod along. I started writing for fly-fishing magazines and they wanted photos.”

Pratt began taking fine art photos and started using models, then dancers. “I do a lot of research with waves, currents. A lot of the sinuous curves that you see ... you see in the curves of the human body. As a scientist, you’re always interested in mystery. In black-and-white photography, there’s a lot of mystery.”

Pratt’s interest in dance has led him to help one choreographer, who was interested in climate change, hitch a ride on an icebreaker to Beaufort Sea, where she danced on the Arctic ice and then returned to New York where she created a piece on the theme. 🌊

Crests and troughs aren’t limited to physics, as oceanographer Larry Pratt examines wave-like movements in dance through the lens of his camera.

