

it the first time C. elegans has been thanked for aiding awardwinning work. Dr. Ruvkun's award was actually the fourth Nobel Prize resulting from C. elegans research, cementing the lowly soil worm's outsize role in scientific discovery.

Goldman

The one-millimeter nematode has helped scientists understand

how healthy cells are instructed to kill themselves and how the

process goes awry in AIDS, strokes and degenerative diseases.

Self-proclaimed "worm people" were recognized by the Nobel

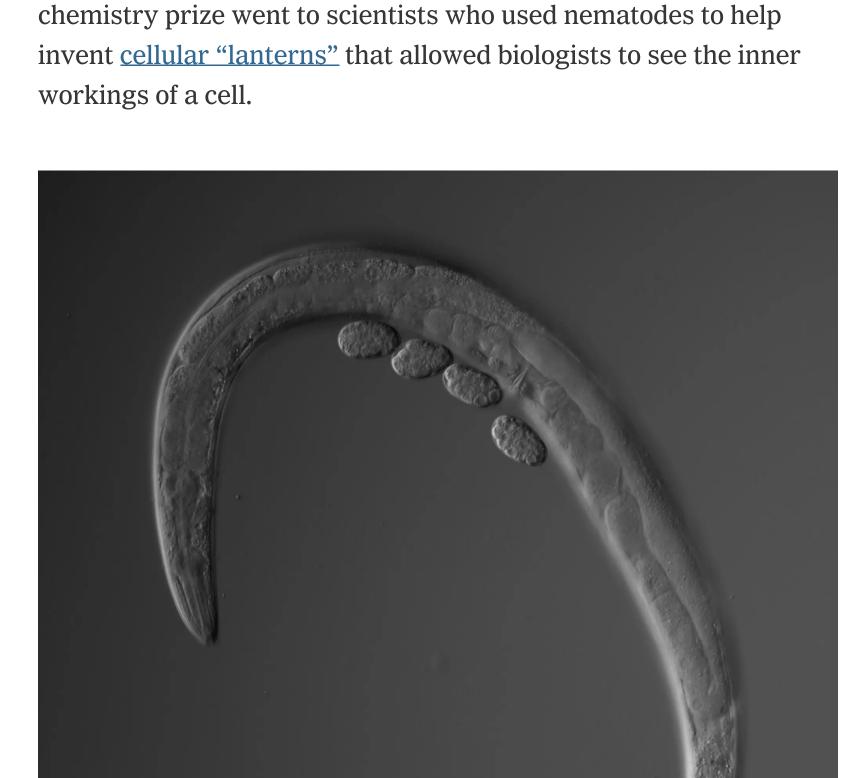
committee in 2006 for discovering gene silencing, which became

the basis for an entirely new class of drugs. Two years later, the

or Medicine.)

(That work was the subject of the <u>2002 Nobel Prize in Physiology</u>

D X



share the monetary award."

with scientists who worked with him.

understand.

C. elegans with embryos attached to its body. Eric Cormack

Sydney Brenner, who won the first "worm Nobel."

For each prize, a laureate made sure to thank the worm for its

contributions, though perhaps the most famous nod came from

"Without doubt, the fourth winner of the Nobel Prize this year is

Caenorhabditis elegans," he said in his <u>lecture</u> in Stockholm.

"It deserves all of the honor, but of course it will not be able to

Dr. Brenner, often thought of as the father of C. elegans research, is

the closest thing there is to a worm celebrity. He is credited with

popularizing C. elegans in laboratories worldwide, after spending

Worm scientists sometimes define themselves by how removed

they are from Dr. Brenner's lab — "first generation" researchers

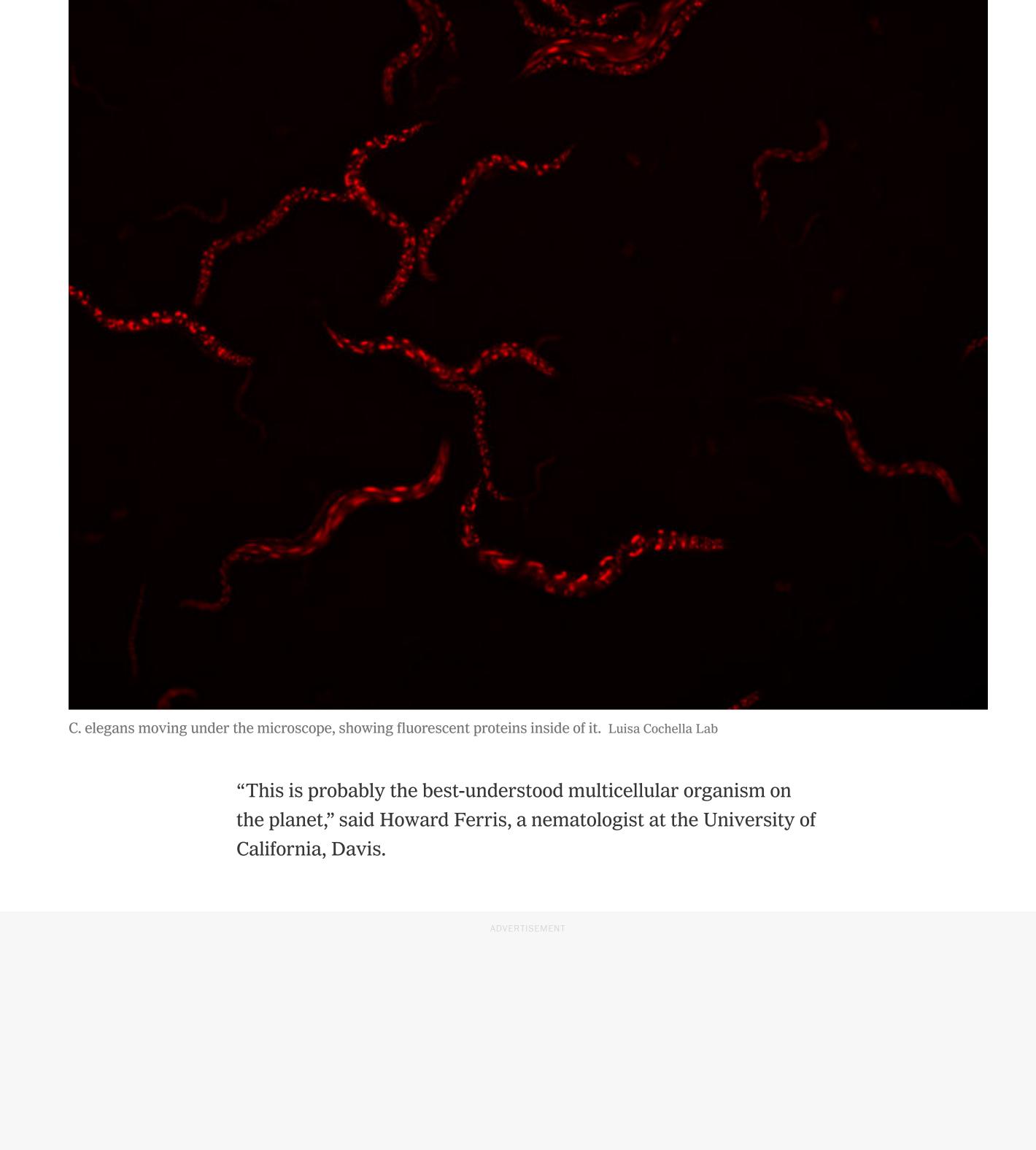
worked with him directly, while the "second generation" worked

The nematodes have just 959 cells — a remarkably manageable

almost a decade hunting for the perfect research model.

C. elegans is named after the Latin word for "elegant" because of the way it moves in graceful, sinusoidal waves. One of the animal's virtues is its simplicity, which allows scientists to test hypotheses about fundamental biological concepts in a model that is easy to

number, compared with our trillions of cells — each of which scientists have named and charted from fertilization to death.



The destiny of each cell is easy to map, since the worms become translucent under the light of a microscope and cycle through all developmental stages in about three days.

The nematode was the <u>first animal</u> to have its <u>genome entirely</u>

same for flies and mice. The worm is also inexpensive, easy to

store and entirely self-sufficient when it comes to reproduction;

female C. elegans have functional sperm that allow them to

"It's an experimental dream," said Judith Kimble, a nematode

Even when scientists come to nematology for the worms, they

do with it, the more of a wonderful dream it becomes."

often stay for the tightly knit, offbeat community.

researcher at the University of Wisconsin, Madison. "The more we

inseminate themselves.

they were published.

<u>deciphered</u> — in 1998, years before scientists were able to do the

Since its inception, the field has had a tradition of collaboration.

Breeder's Gazette to share the results of their experiments before

Researchers created a newsletter in 1975 called the Worm

decades. The C. elegans research community comes together every other year at the International Worm Convention, where the scientists traipse about in their signature garb: sweatshirts, shorts and

The Worm Breeder's Gazette, a newsletter from Robert

worm-bonded scientists tend to share their resources and

Dr. Kimble attributes much of the research success to the fact that

cooperate, a value she wishes the rest of the country would adopt.

Victor Ambros, a professor of molecular medicine at UMass Chan

them to piece together the mechanics of microRNA. Had they not,

Dr. Ruvkun, of the Harvard Medical School, and his co-winner,

Medical School, shared their findings with each other, allowing

their prizewinning work might have been delayed years, even

Edgar of U.C. Santa Cruz.

Birkenstocks.

do the worm.

New York.

There are nematode-friendly comedy performances and art

competitions, where scientists have entered <u>ceramic</u>, <u>wool</u>, <u>wooden</u>

and 3-D-printed tributes to their favorite organism. At night, there

are dance parties where, yes, some scientists have been known to

This collective spirit stands in stark contrast to some other corners

of biology, like fly research, where scientists tend to guard their

who studies cell signaling in C. elegans at the City University of

worm scientists. The latter are fond of saying that flies are too

research and compete with one another, said Cathy Savage-Dunn,

Indeed, there is something of a rivalry between fly researchers and

complex and fly science conferences too stuffy. But the two groups agree that their research is dismissed by mammal scientists, who reside on top of the unspoken lab animal hierarchy and often believe that experiments on invertebrates are irrelevant to humans.

In fact, the discovery of microRNA was first met with silence

thought the original findings were just a quirk of worms.

outside the C. elegans community, in part because other scientists

It wasn't until years later, when Dr. Ruvkun proved that microRNA

was present in a wide array of animals, including humans, that the

Even though worms are leagues simpler than the human body, we

Waterston, a geneticist at the University of Washington in Seattle.

have more in common than we might believe, said Robert

wider research community finally acquiesced.

"If we understand the worm, we understand life," he said. **Teddy Rosenbluth** is a health reporter and a member of the 2024-25 **Times Fellowship** class, a program for journalists early in their careers. More about Teddy Rosenbluth

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