

Monday, October 5, 2026

' 2026 Morning Update • Morning Science Briefing • Mon, 05 Oct 2026 12:00:34 GMT • 7:16

Maya: Good morning, and welcome to the Morning Science Briefing. I'm Maya, he's Devon, and it is Monday, October fifth, twenty twenty-six. Today we've got this year's Nobel Prize in Medicine, a tiny electrical sensor that could sniff out the chemistry of life on other worlds, and the surprising finding that who you eat with changes how your body handles food. Plus the space weather check. Let's get into it.

Devon: The biggest science story of the morning broke just hours ago in Stockholm. The twenty twenty six Nobel Prize in Physiology or Medicine has been awarded to three scientists, for a discovery that lets researchers control nerve cells with light.

Maya: The winners are Karl Deisseroth of Stanford University, Peter Hegemann of Humboldt University in Berlin, and Georg Nagel of the University of Würzburg. The official citation is for discoveries concerning light gated ion channels and optogenetics, a technique that makes it possible to switch individual nerve cells in a living brain on or off with light.

Devon: The story starts in the early nineteen nineties with a humble single celled alga called Chlamydomonas, which swims toward light in half a millisecond. Hegemann wanted to know how, and he found a light sensitive protein that acts like a switch, opening an ion channel when light hits it. Working with Nagel, who tested the algal genes in frog eggs, they nailed down the protein, which they called channelrhodopsin.

Maya: And then Deisseroth did the thing neuroscientists had only dreamed of. In a paper published in two thousand five, he showed you could engineer rat nerve cells to make channelrhodopsin, and then fire those neurons simply by shining blue light on them. Suddenly researchers could activate or silence specific neural circuits in a living mouse brain, and watch what happened to memory, sensation, and behavior.

Devon: The Nobel Assembly said the method is now used in labs around the world to reveal the brain's mysteries, and it's already crossing into medicine. Clinical trials are restoring vision in people blinded by retinitis pigmentosa, by putting a light sensitive protein into the retina. Researchers also hope optogenetics could improve cochlear implants, stimulating the auditory nerve with far more precision than today's electrical devices.

Maya: There's a lovely coda to all this. The idea of controlling neurons with light was first floated as a wild speculation by Francis Crick, yes, the DNA double helix Francis Crick, back in nineteen ninety nine. He thought it sounded far fetched, but maybe not impossible. Twenty seven years later, the people who made it real just won the Nobel.

Devon: And a human one. Deisseroth told the Associated Press he's a self described night owl who was up late working when the call came from Stockholm. He said, quote, no

gadget that could one day sniff out the chemistry of life on another world.

Maya: This comes from the University of Osaka, published today in Nature Communications. The trick is chirality. Amino acids, the building blocks of proteins, come in two mirror image forms, left and right handed. Life on Earth uses almost exclusively the left handed kind, while non living chemistry makes both in equal amounts. So the ratio of left to right handed molecules is a fingerprint of biology.

Devon: The hard part has always been measuring it. Traditional methods need big groups of molecules and chemical reagents. Lead author Takahito Oshiro and senior author Masateru Taniguchi built a gap between two gold nanowires, and let single molecules pass through it. Each molecule bends the electrical tunneling current in its own characteristic way, and with the help of artificial intelligence, the team can tell the left handed form from the right handed one with more than eighty percent accuracy. That is the first time anyone has done this at the single molecule level.

Maya: And they tested it on the real thing. The team ran extracts from the Murchison meteorite in Australia, plus soil from the Atacama Desert in Chile, a Mars like environment, and the method matched traditional techniques at capturing the amino acid composition.

Devon: The point is the instrument could be small, electrically based, vibration resistant, and reagent free, exactly what you'd want on a lander or a probe. A pocket sized lie detector for life, tuned to the handedness of molecules.

Maya: Now something for your lunch table. It turns out your blood sugar is not just about what you eat. It's about who you eat with.

Devon: This is a new study in Science Advances from the Hebrew University of Jerusalem, led by Professor Shir Atzil, with colleagues Monia Masalha and Shai Fuchs of Sheba Medical Center. One hundred eight participants ate the same standardized meal, a little over one hundred grams of white wheat bread, once alone and once in the company of someone they felt close to.

Maya: And the same food told a different metabolic story. When people ate with a companion, their blood sugar spiked less and came back to baseline faster. NPR's science desk put the number at about twenty four percent more efficient glucose clearance. And the effect went beyond food. Simply being near a loved one also improved temperature regulation during cold exposure and lowered stress responses in adults and infants. Even without physical touch.

Devon: The team calls the idea social physiology, the principle that the human body regulates itself more efficiently in close social proximity. Atzil puts it beautifully. We used to think of the body as an isolated system that regulates itself. Our findings show that human physiology is inherently social. Being close to someone you love lowers the physical energy your body spends on regulating itself. Our bodies run better together.

Maya: So science's message for today, breakfast with someone you love is now officially

Maya: Today, expect active to G one minor storm conditions early in the day, easing to unsettled to active levels by mid to late day as the coronal hole's fast wind slowly fades. Tuesday looks unsettled to active as well, calming toward quiet by Wednesday.

Devon: Flaring is expected to stay low through Thursday, with only a small chance of stronger flares. And no Earth directed coronal mass ejections were detected, so this is wind driven, not eruption driven.

Maya: The aurora outlook, worth it if you're far north. Auroras may be visible at northernmost latitudes tonight, but they're unlikely to dip down to the latitudes of northern Scotland or comparable spots, let alone the northern United States this time.

Devon: And for us in the Bay Area, no auroras tonight. You'd need a much stronger storm for that. That's your science morning. I'm Maya.

Devon: And I'm Devon. Enjoy your Monday, and we'll see you tomorrow.