

Saturday, October 3, 2026

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Maya: Good morning, and welcome to the Morning Science Briefing. I'm Maya, he's Devon, and it is Saturday, October third, twenty twenty-six. We've got planets, dinosaurs, clean energy, and a record-breaking trip to the space station, so let's get into it.

Devon: Lead us off, Maya, because the first story is a genuine first. Astronomers have picked up a radio signal and traced it directly to a planet outside our solar system.

Maya: The planet is called Beta Pictoris b, a gas giant about sixty three light years away. It's roughly nine to thirteen times the mass of Jupiter, and it orbits its star at about eight times the distance between the Earth and the Sun.

Devon: And the way they found it is wild. Using the Meerkat radio telescope array in South Africa, a team led by Kevin Ortiz Ceballos at the Center for Astrophysics at Harvard and the Smithsonian caught repeating bursts of radio emission, and they proved it was coming from the planet, not its star, by checking the positions against distant quasars.

Maya: Quasars as a fixed frame of reference. That's clever. And this is not aliens calling, right?

Devon: Not aliens. The team says the bursts come from auroras, driven by the same electron cyclotron maser instability that powers the northern lights here, and Jupiter's auroras too. The emission was so strong it let them estimate the planet's magnetic field at around twelve hundred fifty gauss, hundreds of times stronger than Jupiter's.

Maya: And this paper is still a preprint, posted to the arXiv preprint server in mid September, so it hasn't been peer reviewed yet. But if it holds up, it's the first direct radio detection of an exoplanet ever, and the first direct measurement of an exoplanet's magnetic field.

Devon: And a reminder of how young that system is, just twenty three million years old. Basically a baby solar system shouting in the radio band.

Maya: From the radio band to the power grid. Big milestone this week in clean energy. Fervo Energy says its Cape Station plant in Utah is now in commercial operation.

Devon: This is the world's first enhanced geothermal plant to reach full commercial operation. They hooked it up to the grid on September twenty fourth and declared commercial operation on September thirtieth, one day ahead of schedule. From breaking ground to selling power took just twenty three months.

Maya: And for a first of its kind build, that is fast. The first block, what they call a GeoBlock, is producing thirty three megawatts net, and the full first phase will be one hundred megawatts across three blocks. Google and Southern California Edison are already buying the power.

Devon: Meet *Norellraptor barsboldi*, named for two paleontologists, Mark Norell and Rinchen Barsbold. It was a microraptorine, a small, feathered, meat eating dinosaur about fifty seven centimeters long, roughly twenty two inches, and it was at least three years old when it died.

Maya: Four wings, as in feathers on both the arms and the legs, plus a long feathered tail. The study was published September twenty ninth in *Nature Communications*, and the big claim is about flight.

Devon: Right. About thirty percent of the flight related anatomical changes seen in this dinosaur's lineage also show up in the bird lineage, but they appeared in a different order. The researchers argue that means flight anatomy didn't come from one shared ancestor. It evolved more than once, on separate paths.

Maya: That's a lovely result. Convergent evolution at the scale of whole body plans. And the study is open access, so anyone can read the details.

Devon: Last stop, low Earth orbit. SpaceX's Crew thirteen launched Thursday and docked with the space station in seven hours and fifty five minutes, the fastest American trip to the station ever.

Maya: Commander Jessica Watkins made history too, becoming the first Black woman to command a crew into orbit. She's a geologist who worked on the Curiosity Mars rover, and this is her second trip to the station after a long stay in twenty twenty two.

Devon: Her crew is NASA pilot Luke Delaney, Canadian astronaut Joshua Kutryk, and Russian cosmonaut Sergey Teteryatnikov, all three on their first spaceflight. They'll spend about six months aboard doing research and maintenance. The mission had been delayed three weeks while teams fixed a fuel leak in the Dragon capsule.

Maya: Now the space weather check, from Noah's Space Weather Prediction Center. The three day forecast issued this morning shows calm conditions right now. The strongest geomagnetic activity over the past twenty four hours was K P three, below storm levels.

Devon: But heads up for tomorrow. A coronal hole high speed stream is expected to nudge conditions up to a G one minor storm on October fourth. No solar radiation storms and no radio blackouts are expected.

Maya: And the aurora outlook. At G one levels, auroras may be visible at high latitudes, the northern tier of the United States, places like northern Michigan and Maine. For us in the Bay Area, Devon, it's a no.

Devon: Total no. You'd need a much bigger storm to see the northern lights from Marin. That's your science morning. I'm Devon.

Maya: And I'm Maya. Enjoy your Saturday, and we'll see you tomorrow.