

Ludovic Ferrière, Vienna's Interplanetary Explorer



By Gregory Manni



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Ludovic Ferrière (c) Chiara Cordesch

International scientist and curator of the acclaimed meteorite collection at Vienna's Natural History Museum, Ludovic Ferrière is bringing the wonder of shooting stars to the public.

Hidden away in the last office of the mineralogy department of Vienna's Natural History Museum, behind a quarry of vibrant crystals and rock samples, lab benches and book cases, Ludovic Ferrière lifts the lid off a small, clear, plastic box.

The object Ferrière plucks out has just made national news. It's a chunk of asteroid called the "[Kindberg meteorite](#)," named after the Styrian town where it was found. Thanks to a network of specialized meteorite cameras, researchers knew more about its prior orbit than that of perhaps any other meteorite in history.

Ferrière saw where the space rock was heading and organized a search campaign, ultimately leading local "citizen scientists" to make the Kindberg discovery. It's only the latest achievement in his remarkable career, which spans the globe and has landed him at the top of his field, right here in Vienna.



A meteorite enters the atmosphere over Central Europe at 4-46 am on Nov. 19, 2020. One fragment of the meteorite was discovered in Kindberg, Austria. (c) Erwin F. Meehl/bsl-imo.net

Ludovic Ferrière is sitting at his desk, gesturing to the blue screen of a radar system on his computer. "Everything is rotating, and more or less crossing at some point," he says. The screen lights up with a white blip, marking the arrival of a shooting star as it passes through the atmosphere over Germany. "The Earth, in its journey around the Sun, is crossing some space debris, mainly dust leftover from comets and asteroids."

Meteors, or "[shooting stars](#)," are an everyday phenomenon—the Earth runs into flocks of extraterrestrial dust like a car on the highway passing through a cloud of mosquitos. They leave trails across the sky as they burn up in our atmosphere.

"The meteorite—it's a continuum from astronomy to geology to geochemistry," Ferrière says. Studying them, he says, "allows us to better understand our place, and how life may have appeared on Earth."

Lab analysis of the Kindberg meteorite determined, for example, that it formed very near the birth of our solar system and is older than any mineral ever collected from Earth's crust. Scientists used unusually precise data recorded during the meteorite's entry to calculate its exact origin in space: a group of near-Earth objects called the Apollo asteroids. Their findings reveal the potential of meteorite tracking technology and give us a snapshot of our celestial past.

Ferrière is endlessly fascinated by what meteorites can teach us. Whether he's sitting at his microscope or tracking down an impact crater in a faraway country, he says, "I'm in another dimension. I'm crazy about this."

The international treasure hunter

Ludovic Ferrière is many things: geologist, space rock scientist, impact crater expert and curator of one of the world's oldest and largest [meteorite collections](#), housed at the Natural History Museum in Vienna. But more than that, he is an explorer, a seeker of knowledge and a [global citizen](#). He's found meteorites in Egypt and Uruguay, helped discover impact craters in Finland, Sweden, Australia and the DR Congo (where he was once imprisoned on an expedition), and visited nearly any other country you can think of.

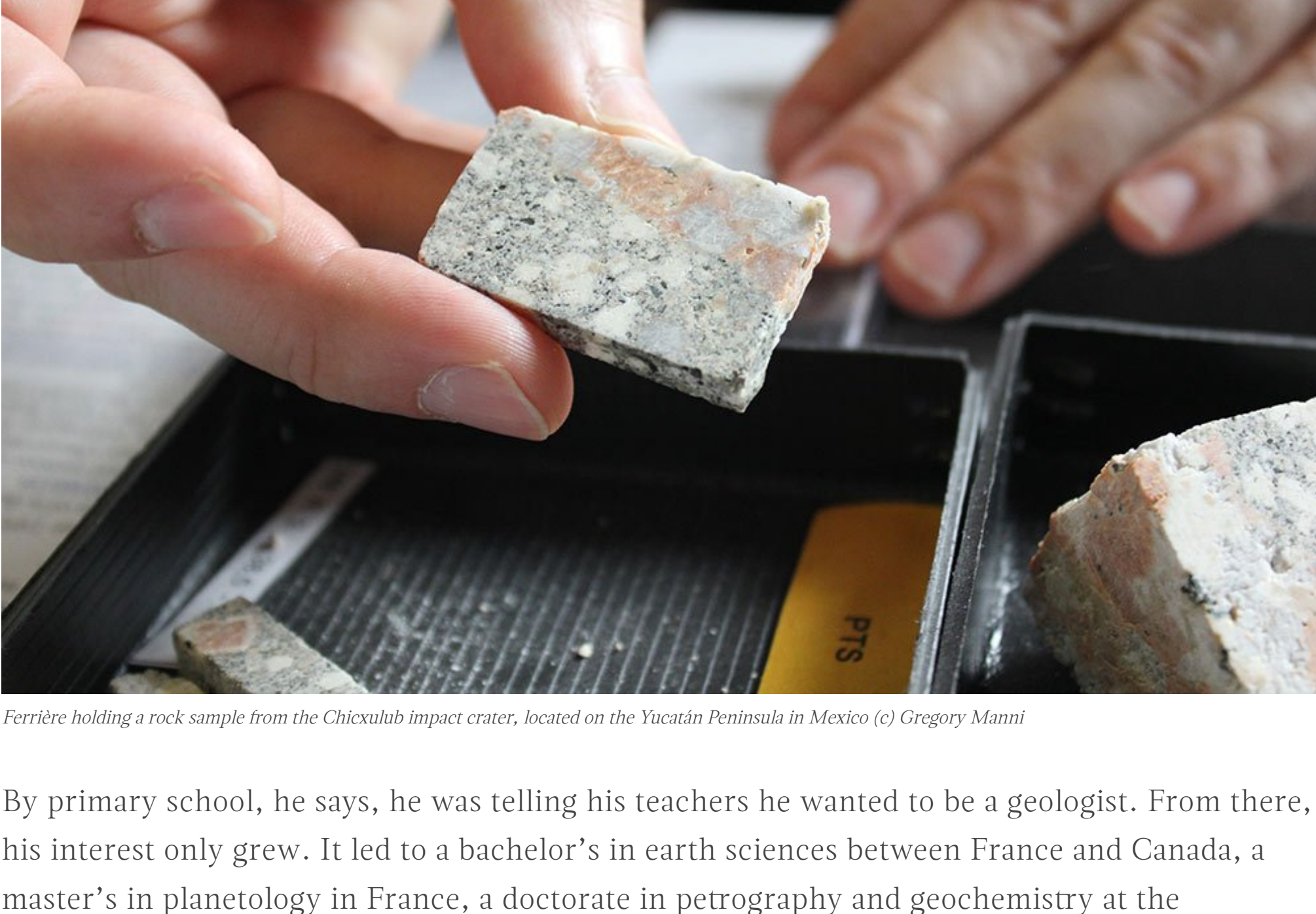


Ludovic Ferrière in his office at the Natural History Museum in Vienna (c) Gregory Manni

He's a lot like Indiana Jones, if you ditch the campy stunts and swap the treasure with artifacts from space. Hunting for geologic treasures is something Ferrière knows well—his first expeditions began when he was still a young boy, living in a small rural village in central France.

"I was outside all the time. Ever since I was a kid, I was collecting minerals and rocks," Ferrière says. "And in the countryside, you see very nice sky—almost every night in summer, I saw shooting stars."

For him, the connection was clear. "One day, I found something in the field that I believed was a meteorite." Imagine a kid running through the grass, metal detector in hand. "I was trying to answer this question for myself—'Did I find a meteorite?'"



Ferrière holding a rock sample from the Chicxulub impact crater, located on the Yucatan Peninsula in Mexico (c) Gregory Manni

By primary school, he says, he was telling his teachers he wanted to be a geologist. From there, his interest only grew. It led to a bachelor's in earth sciences between France and Canada, a master's in planetology in France, a doctorate in petrography and geochemistry at the [University of Vienna](#), and back to Canada for a postdoc, with visits to remote impact craters in his spare time. He joined the Natural History Museum as a curator in the mineralogy and petrography department in 2011, then went on to lead the expansion of the museum's renowned meteorite collection.

Ferrière glances over to the wall from his desk, where a poster shows several [impact craters](#), including the Chicxulub—the scar of the asteroid that killed the dinosaurs. He picks up a rock sample that was drilled at the site on the Yucatan Peninsula in Mexico, then holds a microscope slide up to the light. It contains an incredibly thin slice of rock, which allows Ferrière to look for unique features left by a meteorite impact. His work often goes down to the infinitesimally small.

But he insists there is much to uncover about our world that can simply be accomplished by going somewhere new, and looking with your eyes. "I am fascinated by the exploration and discovery of other continents," says Ferrière. "These days, you can still do that."

His eyes are wide open.

It's about people

Ferrière says his research style is a bit old-fashioned. Digitalization notwithstanding, he'd rather have his hands in the soil and boots on the ground than sit behind a screen, especially when it comes to people. His travel over the years has shown him the importance of engaging with foreign cultures, [learning new languages](#), exchanging ideas and just being with others in the same space—simple camaraderie.

"I like to meet new people with different areas of expertise, who come with a different approach," he says. "I also like to work with artists—really, with people that have a completely different life."

He tries to find ways to bring that diversity into the field. During the recent search for the Kindberg meteorite, he recruited a rag-tag team of friends, researchers, citizen scientists and even a few farmers from the [Austrian countryside](#). It ultimately led to the meteorite's discovery.



"Caution: Falling Rocks"—Ludovic Ferrière during his hunt of the Kindberg meteorite, 3 days after it fell (c) Jean-Guillaume Faignon

"Involving the people—the so-called citizen science—this is what has been done in the past for two centuries, or even longer," he says. "It's not my success—this is a success of the participation of the public."

One of Ferrière's main goals as a curator is to inspire young minds and instill the public with the same excitement he feels when looking up at the sky or examining extraterrestrial rocks. Ferrière hopes that bringing energy to the science and making it accessible will encourage more [young people](#) to get involved.

He notes the contributions of his colleagues at the museum, but in particular, sixteen-year-old Anna Kucera, an intern who helped study the new meteorite. Says Kucera, "The opportunity to be one of the first people to see and study a meteorite that was recovered only a few months after falling on Earth is a dream."



One of hundreds of meteorites on display at Vienna's Natural History Museum (c) Gregory Manni

Most important instruments

"Your two eyes are the most important instruments that you have," Ferrière says. He says it often. The scientist walks past milling museum-goers and along rows of dimly-lit display cases, the halls of mineralogy packed full of carefully labelled minerals and rocks.

"Almost nobody notices," he says, "but the rooms here are specially decorated for these collections." He stops under a tall archway and points toward the sculptures near the ceiling, high up on the wall.

Various allegorical figures hold objects and symbols, and Ferrière points out one sculpture in particular: a man who appears to be leaning out of a robe made of star-studded sky. In his arms, the figure holds a silvery meteorite, and if you follow his line of sight, his eyes guide you directly to the meteorite hall.

It's like a clue right out of *The Last Crusade*. The treasure: vast knowledge of the solar system.

"Every night you can see shooting stars—every day there is a ton of extraterrestrial dust falling," says Ferrière. Use your eyes. "The best way to see or notice is to look at the sky. It's free. You can do it every day."

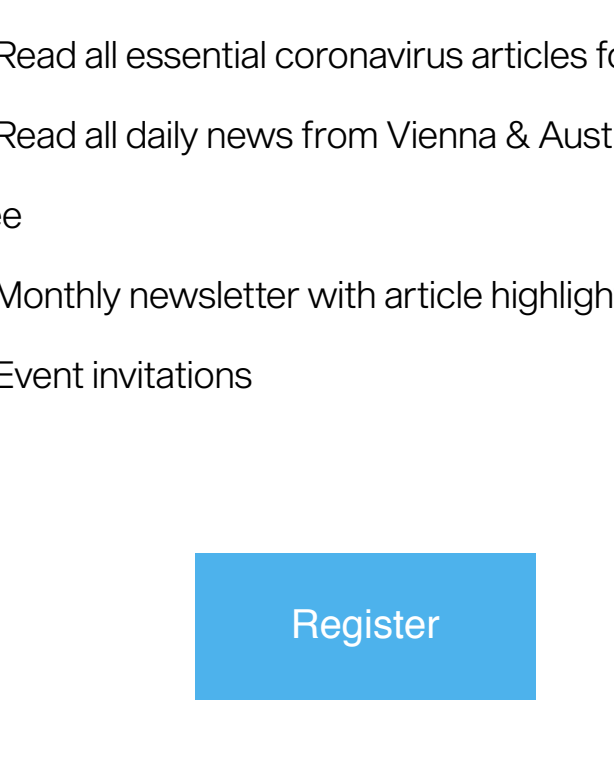
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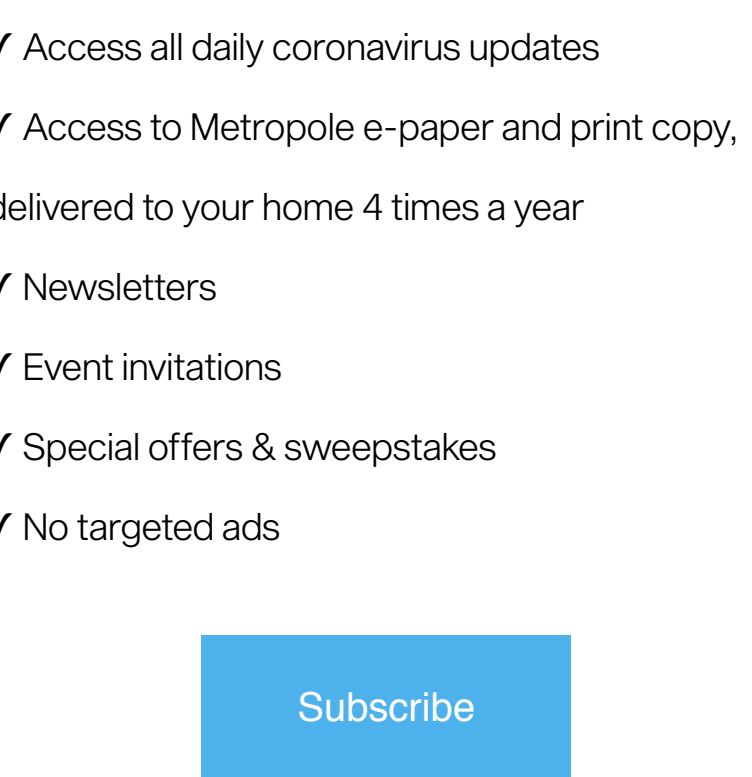
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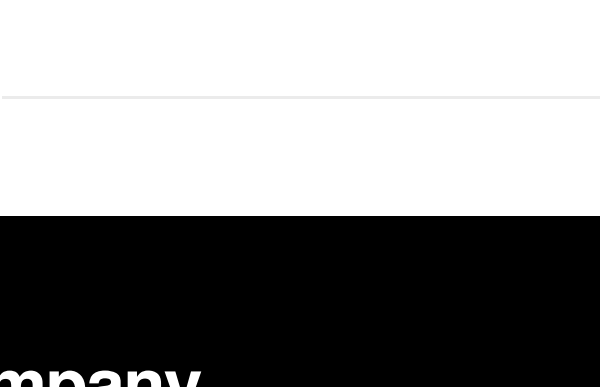
Gregory Manni grew up between Detroit's suburban sprawl and Lake Michigan's shoreline, and has since become a disciple of ecology, poetry, and story. He moved to Austria in 2021 to see about a girl, and his current aim is beating back climate change through the act of writing.

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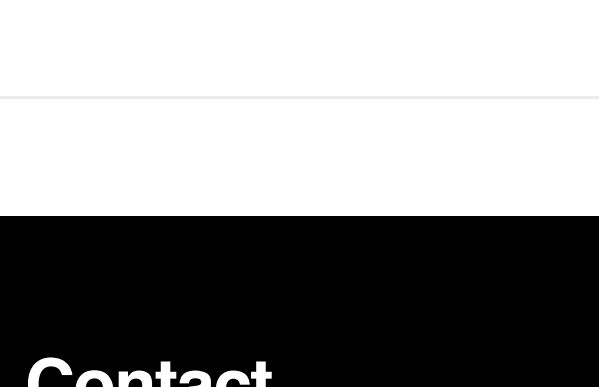
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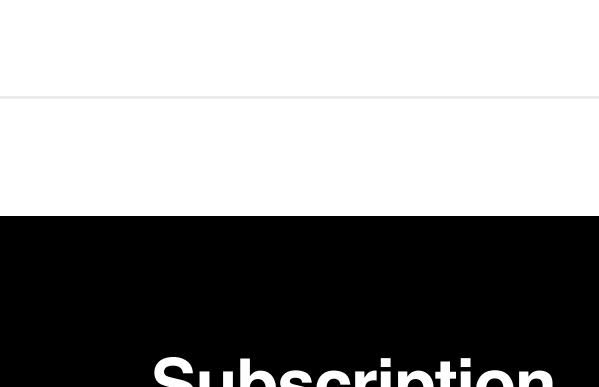
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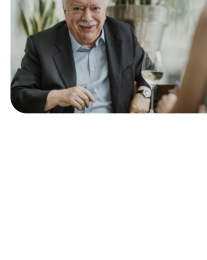
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