Many of Earth’s biggest problems—toss, waste cleanup, global warming, and cybersecurity—can be solved by exploring some of the planet’s most remote organisms. The key to this is bacteria that live in the hot, wet, acid-rich soil at the surface of the Earth, like those pictured here, that can break down waste even at extreme temperatures and pressures.

Deep Impacts OSU Subsurface Biosphere Initiative

Oregon State University oceanographers discovered bacteria living at volcanic rock 4,000 feet deep in the Earth’s crust, an environment that could be analogous to the Martian landscape.

Deep Impacts OSU Subsurface Biosphere Initiative is already leading to breakthrough discoveries that positively impact nitrogen fixation, wastewater treatment, and clean energy. As OSU researchers learn more about the tiny organisms living inside the Earth, they are poised to improve life for those living on its surface and beyond.

OSU Strategic Initiatives: Advancing Learning, Research, & Outreach