A new study mounts evidence that Enceladus, one of Saturn's 62 moons, has hydrothermal vents at the bottom of its ice-covered ocean—the first sign of such activity found outside Earth. Some leading theories posit that life emerged around such vents, so the presence of hydrothermal activity on another world is tantalizing. Although the vents cannot be observed directly, Sean Hsu of the University of Colorado, Boulder, and his team showed that silicon-rich dust ejected in plumes from Enceladus's south pole could have formed only under specific thermal and chemical conditions. The researchers say that the silica must be leached from the moon's core through hot seawater and then expelled toward the surface. A separate study also finds a surprising abundance of methane in the plumes, a possible (though far from certain) signature of biological activity.


Burke, Katie


Source Citation

Gale Document Number: GALE|A412409061