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Abstract for: The Evolution Underground: A Geological History of Burrows and Burrowing Animals

Every day we walk on an earth filled with an under-ground wilderness teeming with life. Most of this life stays hidden, yet these animals and their subterranean homes are ubiquitous, ranging from the deep sea to mountains, from the equator to the poles. Humans have “gone underground” for survival for thousands of years, from underground cities in Turkey to Cold War-era bunkers. But our burrowing roots go back to the very beginnings of animal life on earth. Without burrowing, the planet would be very different today. Many animal lineages alive now, including our own, only survived a cataclysmic meteorite strike 65 million years ago because they went underground. On a grander scale, the chemistry of the planet itself had already been transformed many millions of years earlier by the first animal burrows, which altered whole ecosystems. Burrows are a refuge from predators, a safe home for raising young, or a tool to ambush prey. Burrows also protect animals against all types of natural disasters: fires, droughts, storms, meteorites, and global climate change. In this talk, Anthony Martin will reveal glimpses of the fascinating subterranean world that will continue to influence and transform life on this planet.