

## **Department of Physics and Astronomy Colloquium Series**

**Tuesday, November 29th, 2022, 2:30pm in PSE 317**

**Speaker:** Professor Adam Frank

**Institution:** University of Rochester

**Title:** Biosignatures and Technosignatures. How Can We Find Life ("Dumb" or "Smart") on Distant Worlds

**Abstract:**

JWST, and the generation of telescopes that follow, bring us to the brink of capacities for detecting life on exoplanets. But many of the routes we expect for detection (i.e. atmospheric characterization) will rely on the ability of life to alter the behavior of the coupled systems comprising the planet. In this talk I will provide an overview of both "biosignatures" and "technosignatures" exploring the history of how science has conceived the search for life, how it has changed over the decades and what the current state of the field might promise. In addition I will explore how thinking about life as a planetary scale process - something that happens to a planet, rather than on a planet - can alter research directions for the future.