A History of Geochronology

The research field of geochronology, in which we use the radioactive decay of unstable, naturally occurring, long-lived isotopes in rocks and minerals as clocks for Earth processes, has been transformative for the geological sciences. In this talk, we will go right back to the origins of thought about geological, or deep time, zoom through key observations and geological principles on deep time developed during the Enlightenment, touch on some heated, but now largely forgotten, scientific controversies, and then walk through the crucial late 19th to mid 20th century discoveries and technological advances that led to the first realistic calculation of the age of the Earth, and our ability today to use diverse isotopic decay systems to date a myriad of geological processes.