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# Radioactive Nuclei from Recent Near-Earth Supernovae as Telltale Signatures for our Solar System History

*Friday 9 September 2022 11:00 (30 minutes)*

Within our solar neighbourhood (150-500 light years) tens of star explosions, i.e., supernovae, occurred within the last  $\sim 10$  Myr. Their expanding shock fronts swept across our Solar System leaving traces of newly formed nucleosynthesis products on Earth, particularly long-lived radioactive nuclei such as  $^{60}\text{Fe}$  ( $t_{1/2}=2.6$  Myr). I will present an overview on (1) accelerator mass spectrometry (AMS) measurements of radioactive nuclei in deep-ocean deposits revealing our Earth's exposure to nearby supernovae in the past and (2) theoretical methods to constrain the timing and locations of these past supernovae and their impact on our solar neighbourhood.

## Field of work

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**Session Classification:** Friday - Session 2