

UC **SANTA BARBARA**
Department of Earth Science

Speakers Club

WEBB 1100 • THURSDAY Feb 14th. • 2:00 PM

Hadean zircon, komatiitic spinel,
and low-temperature rutile:
using heavy minerals to better understand Ar-
chean meteorite impact layers

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The 3.55-3.22 Ga Barberton Greenstone Belt (BGB) provides evidence for at least eight large asteroidal impacts. These high-energy events had profound effects on the surface environment such as evaporation of tens of meters of ocean water, generation of large tsunamis, and widespread disruption of crustal and upper mantle material (crater formation). Furthermore, it is possible that one or more very large impacts could have had long-lasting geodynamic effects that dramatically shaped Earth's tectonic evolution as has been proposed for other terrestrial bodies. Much like studies of the Lunar regolith, studies of large impacts on early Earth may provide evidence of crustal materials representing a broad sampling of planetary lithologies not previously observed.