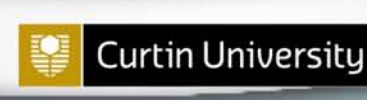




***TerraneChron*[®] - Remote sensing with detrital samples**

Elena Belousova, William L. Griffin, Norman J. Pearson, Suzanne Y. O'Reilly and Yoann Gréau

ARC Centre of Excellence for Core to Crust Fluid Systems (CCFS)



- unique methodology for studying the evolution of Earth's crust
- exploration reconnaissance tool
 - tectonic mapping
 - evaluation of prospective terrains
 - target prioritisation

Geochemical Remote Sensing



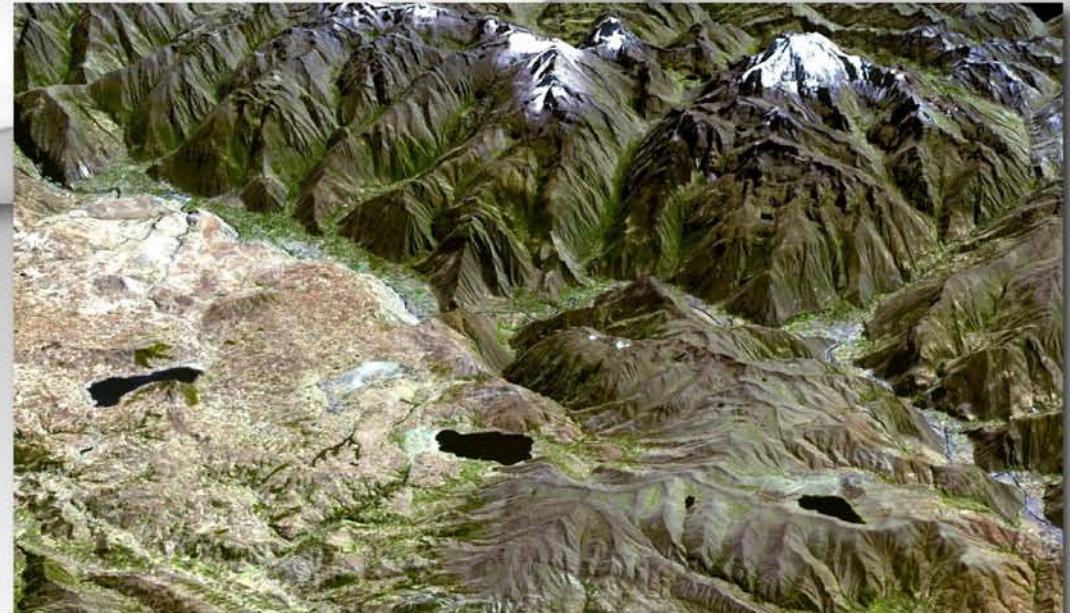
- **TerraneChron[®]**

Probes inaccessible regions remotely:

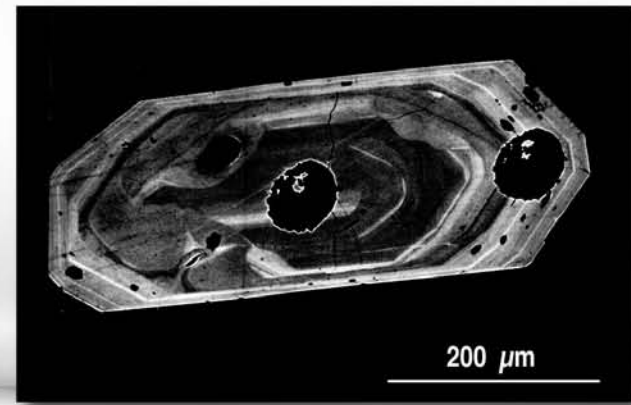
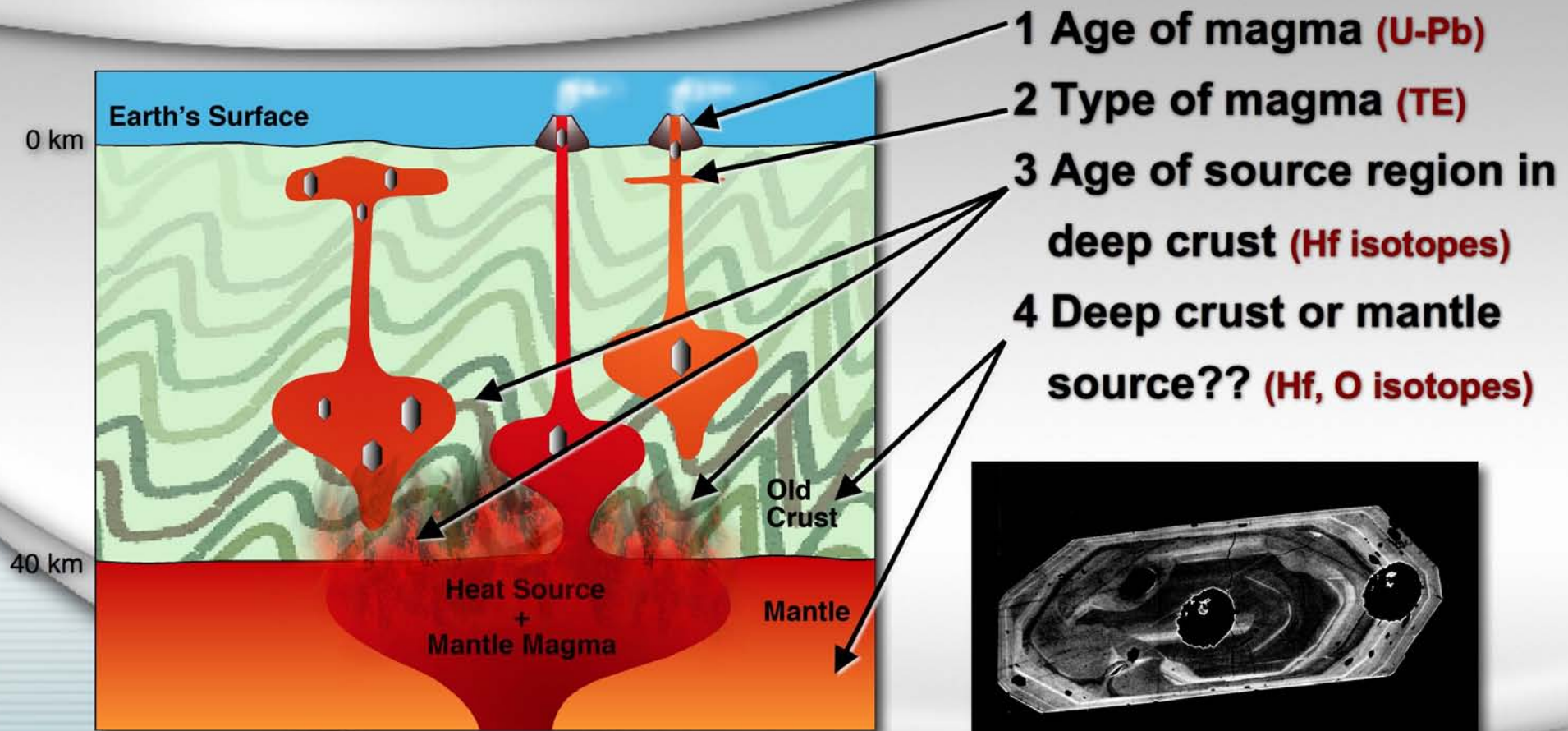
** rapid & cost effective*

Collect stream gravels - nature has sampled the mountains by erosion

Separate zircon...



What Zircon Has to Offer...

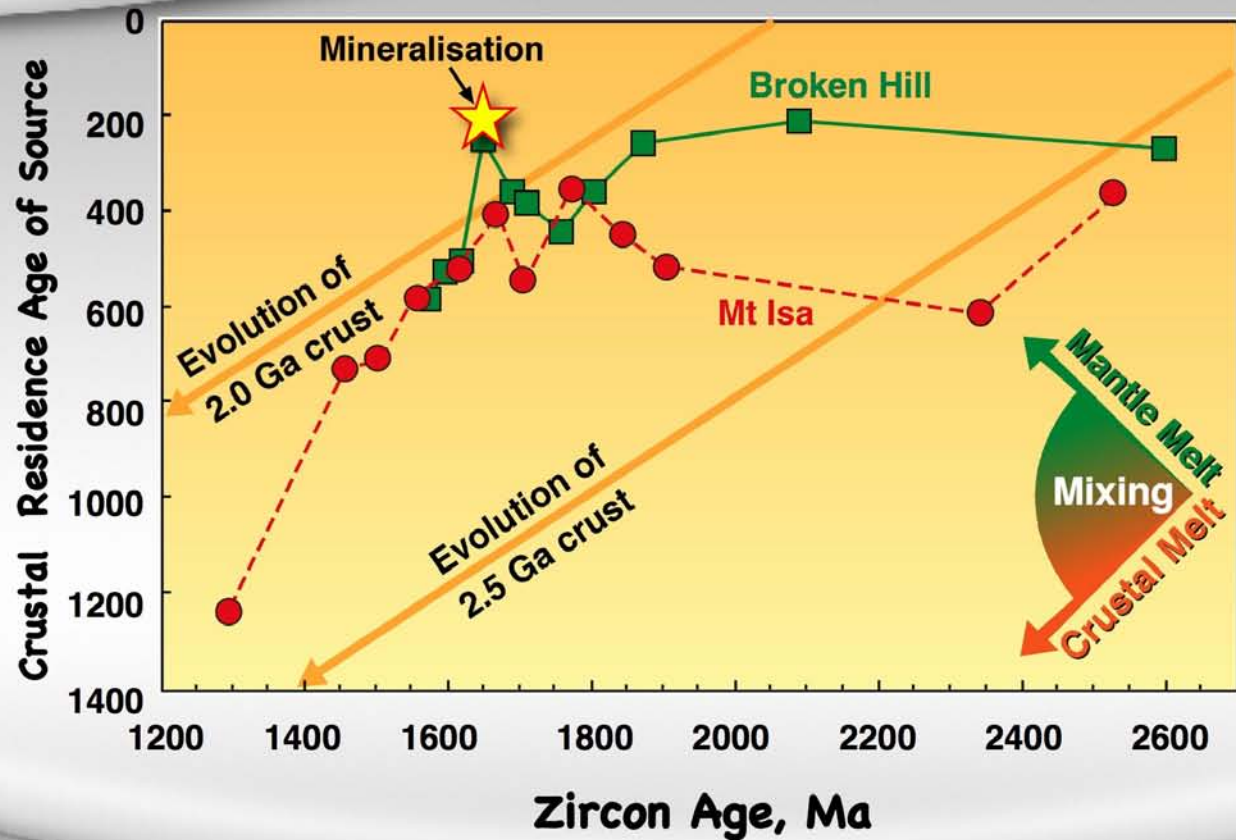


Event Signature



TerraneChron[®]
for Mt Isa and
Broken Hill

Tracking relative
geological histories



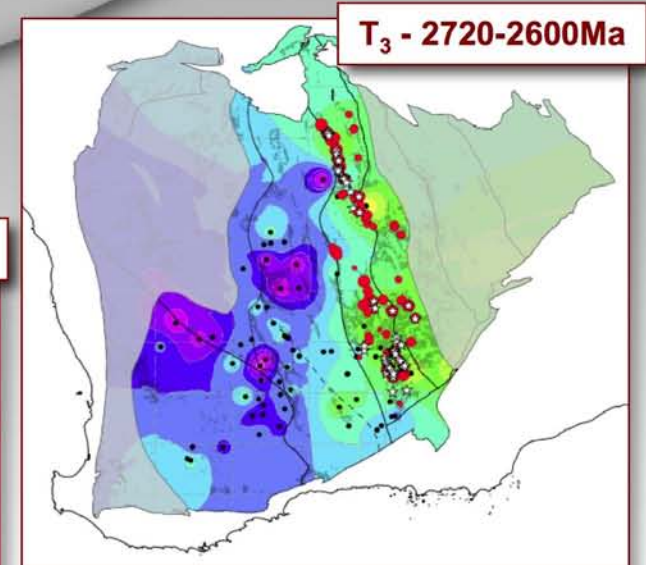
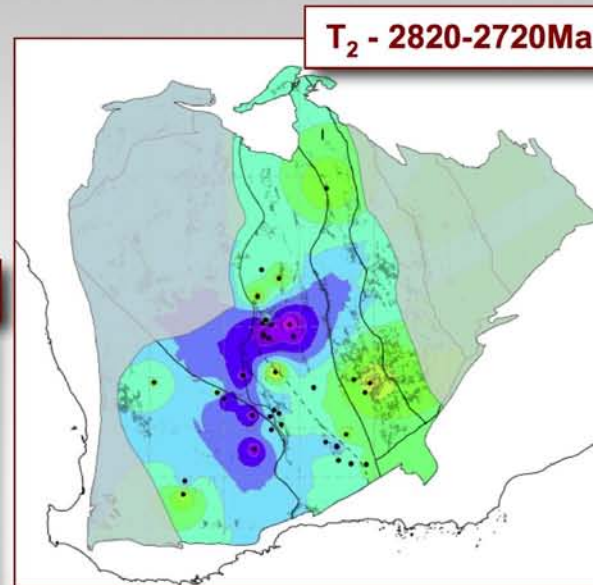
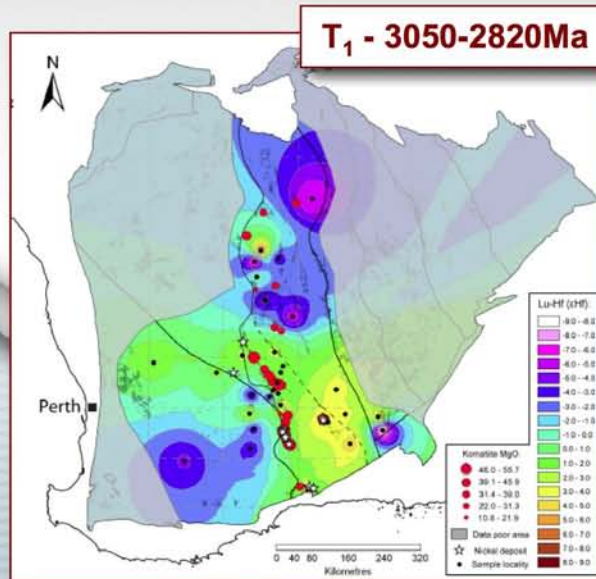
✓ **Pinpointing time of mineralisation**

Hf-isotope mapping

"Paleogeophysics/paleotectonics"

Lithospheric architecture
of Yilgarn Craton by
time-slices

Mole et al., 2014 PNAS (in rew.)



***εHf as a proxy for
lithosphere thickness:***

- ✓ potential to delineate crustal domains
- ✓ first-order control on the location, character, geochemistry and prospectivity of a komatiite system