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## **Keynote Speech #2: Shining a light on indigenous Australian cultural pigments using synchrotron approaches**

*Tuesday, November 21, 2023 2:40 PM (35 minutes)*

Ochre and related mineral pigments offer a fascinating insight into our deep past to examine cultural exchange, production methods and technical approaches. Analysis of Indigenous Australian ochre pigments on a variety of cultural materials such as boomerangs, bark paintings and rock art, reveals its composition, structure, and provenance. Recent archaeological science research at the University of Melbourne Archaeological Science Laboratory in collaboration with partners includes novel analysis of natural mineral pigments that utilize synchrotron methods to non-destructively examine provenance and composition (X-ray fluorescence microscopy), characterize chemical properties of unique organic binders (X-ray Raman and complementary laboratory-based techniques), and probe the changes to ochre due to cultural heating (synchrotron powder X-ray diffraction).

**Presenter:** POPELKA-FILCOFF, Rachel

**Session Classification:** Provenance Research