



# School of Earth Sciences Seminar Series

**Andreas Petersson**  
School of Earth Sciences, UWA.

**The Birimian terrane of the West African Craton - new data, different views, possible reasons.**

**The School of Earth Sciences is pleased to invite you to a Lecture in the SES Seminar Series given by Andrea Petersson entitled “The Birimian terrane of the West African Craton - new data, different views, possible reasons”.**

The Birimian terrane is mostly known for its gold and diamonds that extend from Ghana and Burkina Faso in the East, to Guinea in the West.

Since the early 90s new data on the crustal evolution of the Birimian terrane in the West African Craton have continuously been published. Initially, a growth model based on a mantle plume and the formation of an oceanic plateau with subsequent subduction and collision with the Archaean Man Shield formed the basis of our comprehension regarding the growth evolution of this terrane. However, lately, studies using new methods and improved analytical techniques have been presented contradicting this growth model, but in many cases also each other. So... What is the combined take away message from all of these studies? Is the Birimian terrane a prime example of juvenile mantle plume-related continental crust formation as it so often has been stated to be? Why does the African continental crust, as recorded by U–Pb, Lu–Hf and O isotopes in detrital zircons from modern rivers not even pick up the 2.35–2.05 Ga Birimian growth phase in the West African Craton? With a focus on my own (and collaborators) work in Ghana, I will try to synthesise the growth evolution of the Birimian terrane from a zircon isotope perspective, and address the above-raised questions.

Dr Andreas Petersson studied Earth Science at the Dept. of Geology, Lund University Sweden. He finished his PhD in Lund in 2015 with a thesis entitled “Evolution of continental crust in the Proterozoic growth and reworking in orogenic systems”. In 2016 Andreas received a Post-doctoral fellowship grant from the Swedish Research Council (Vetenskapsrådet) to study the Archaean growth evolution of the East Pilbara Craton and the isotopic composition of the early Earth mantle. As of January 2017, he is employed by the Swedish Museum of Natural History and stationed at UWA for two years, with an option for a third year.

**VENUE** Woolnough Lecture Theatre (G.107), Geography and Geology Building  
University of Western Australia, 35 Stirling Hwy, Crawley 6009

**TIME** **4:00 - 4:45pm Thursday 9 November, 2017**

You are invited to join us afterwards for refreshments provided for sale by our local SEG Student Chapter in the Resource Room, Robert Street Building.

