



E I N L A D U N G

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V E R A - S E M I N A R

von

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**Landscape evolution and dating Aboriginal rock  
art in the Kimberley region, Australia**

The Kimberley region, northwest Australia, is characterized by a tropical, semiarid climate, a monsoonal rainfall distribution and a flat landscape interrupted by massive sandstone mesas and deeply incised bedrock river gorges. It is also well known for its expansive and diverse collection of aboriginal rock art that potentially dates back to 40,000 years ago. However, dating of such art using conventional techniques remains problematic.

We address the 'dating game' by first using cosmogenic  $^{10}\text{Be}$  and  $^{26}\text{Al}$  to quantify regional spatial and temporal scales of landscape evolution and second, using the same radionuclides, to determine the timing of rock shelter construction. For the former, we calculate  $^{10}\text{Be}$  based catchment-wide denudation rates ranging between 2 to 10 m/Myr which are among the slowest recorded in the world, despite the strong climatic seasonality of the region. For the latter, we have developed a new approach which makes use of the difference in production rates of in-situ  $^{10}\text{Be}$  and  $^{26}\text{Al}$  between intact rock walls and exposed surfaces of detached slabs from rock art shelters to constrain the age of Aboriginal rock-art. We have successfully applied the model to 7 rock shelter sites with slab release ages ranging from 10 to 180 ka. The dating of these freshly exposed slabs can help reconstruct rock-shelter formation and provide either maximum or minimum ages for the rock art within the shelter.

**Donnerstag, 12. April 2018, 16:30 Uhr**

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",  
1. Stock, Victor-Franz-Hess Hörsaal**