

OCGC Seminar, 1130am March 30th 2023

Subducted Slabs, Mantle Plumes, and the Plate Tectonic Cycle

Dr Juliane Dannberg, University of Florida, Gainesville (USA)

*Computational Infrastructure for Geodynamics (CIG)
Distinguished Speaker Series*

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Dr Juliane Dannberg is a geodynamicist who develops mathematical and computational models of the Earth's interior to help understand how our planet's surface has evolved. She received her BSc and MSc in Geophysics from the Friedrich-Schiller-University Jena (Germany) and her PhD in Geophysics from GFZ German Research Centre for Geosciences/University of Potsdam (Germany) in 2016. She subsequently took up a series of postdoctoral appointments and research scientist positions at different institutions including Texas A&M University (College Station, USA), Colorado State University (USA), UC Davis (USA) and the University of Cambridge (UK). She was appointed to her current position as Assistant Professor at the University of Florida, Gainesville (USA) in 2019. She was awarded the 2021 Jason Morgan Early Career Award of AGU's Tectonophysics Section and honoured with being nominated for the CIG Distinguished Speaker Series (2022-23).

Abstract on following page. For further information, please contact Brian O'Driscoll (brian.odriscoll@uottawa.ca).

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Abstract

Earth's surface shows many features we can only understand through their connection with processes in the Earth's interior. Examples are the motion of tectonic plates, the break-up of continents, and volcanic eruptions. Because Earth's interior is largely inaccessible to direct observations, it remains a fundamental challenge to infer its complex dynamics and to explain how it shapes our planet. I will talk about how we can use computational models of the coupled system of plate motions at the Earth's surface and convective flow in the Earth's interior to better understand what drives plate tectonics, how material from the Earth's surface is recycled through its interior, reaching the surface again as part of massive volcanic eruptions, and what processes control the formation of ocean islands.

<https://geology.ufl.edu/people/faculty/dr-juliane-dannberg/>