



Juan C. Afonso

AUSTRALIA

Prof. Juan C. Afonso is a theoretical geophysicist and geodynamicist. After graduating with a PhD in theoretical geophysics at Carleton University at the end of 2006, he undertook postdoctoral research at the Institute of Earth Sciences Jaume Almera (CSIC, Barcelona) on the development of new methods to study the thermal and compositional structures of the lithospheric/sublithospheric upper mantle. He subsequently joined Macquarie University in 2009 as part of the recruitment program CoRE (Concentration of Research Excellence). He is currently a Professor of geophysics at the Department of Earth and Planetary Sciences at Macquarie University where he leads the Macquarie's Geophysics and Geodynamics Group (MG3); has recently stepped down as Head of Department. He is also an Adjunct Professor at the Centre for Earth Evolution and Dynamics (CEED), University of Oslo and a member of the editorial board of Geophysical Journal International and Solid Earth.

His research focuses on the thermochemical structure and evolution of the lithosphere, the mechanical and geochemical interactions between tectonic plates and the sublithospheric upper mantle, and their effects on small- and large-scale tectonic processes. His most recent research combines multiscale probabilistic inversion and numerical modelling techniques to address some of the most fundamental questions about the nature and evolution of the lithosphere and upper mantle using a formal combination of multiple satellite- (e.g. gravity, magnetic field) and land-based (e.g. geochemistry, seismic) data sets. He also works on the development of numerical algorithms to model the complex couplings between geochemical and geodynamic processes inside planets at multiple scales. The methodologies and computational tools developed by Prof. Afonso and coworkers have been adopted by academia, geological surveys and the industry sector.

He has published extensively in different fields of geosciences (e.g. geochemistry, geophysics, basin analysis, geodynamics, etc.), computational engineering and material sciences, with a strong focus on multi-observable (joint) geophysical modelling and inversion for lithospheric structure and evolution. For this (and related) work he has received the 2013 Outstanding Young Scientist Award (European Geoscience Union), the 2017 Anton Hales Medal of the Australian Academy of Sciences, the 2018 Excellence in Research Leadership by the Faculty of Science and Engineering, and the 2019 IUGG Early Career Scientist Award, among others (note: a full list of awards and honors can be found here: <https://www.juanafonso.com/cv>).

He currently enjoys very much spending quality time with his family and playing drums whenever possible...