

Lauren Waszek

May 2018 – August 19: unpaid leave of absence from NMSU. DECRA Fellow at the Australian National University, supported by the Australian Research Council. Project title: “Constraining the relationship between mantle discontinuities and convection processes beneath the Australian Plate”.

Major research projects

1. Observability of the 410 and 660 km discontinuities: implication for thermochemical properties of the mantle transition zone (collaborators N. Schmerr, M. Ballmer, B. Tauzin, J.C. Afonso)
2. Global observations of reflectors in the mid-mantle, and their relationship to flow, dynamics, and structure (collaborators N. Schmerr, M. Ballmer)
3. Combining global tomographic inversions with geodynamical growth models to constrain the origins of Earth’s inner core features (collaborators H. Tkalcic, S. Burdick, V. Lekic, M. Lasbleis, D. Frost; R. Anandawansha, PhD project; T-P Costa de Lima, PhD project)

Present/pending/recent research, instrumentation, and other grants:

1. Discovery Early Career Research Award fellowship, Australian Research Council, \$358,823. May 2017 – January 2022 (three years full time, over five years part time).
2. Acquisition of a High Performance Computing Cluster for the Geophysics Group at NMSU. National Science Foundation, \$74,990. Aug 2017 – July 2018.
3. Seismic Imaging of Mid-Mantle Reflectors Associated with Geodynamical Processes and Compositional Heterogeneity. National Science Foundation, \$294,160.00, pending.

Research personnel

Graduate students: Thuany Patricia Costa de Lima (PhD, ANU, Seismology and Mathematical Geophysics)
 Andrew Eagon (PhD, NMSU, Geophysics)
 Rashni Anandawansha (PhD, NMSU Geophysics)

Collaborators

Hrvoje Tkalcic (ANU), Benoit Tauzin (ANU, ENS Lyon), Nicholas Schmerr (UMD), Vedran Lekic (UMD), Maxim Ballmer (UCL, ETH Zurich), Marine Lasbleis (Nantes), Daniel Frost (UC Berkeley), Scott Burdick (WSU), Juan Carlos Afonso (Macquarie University).

Recent research accomplishments

Co-authored two published peer-reviewed manuscripts (including first author publication in Nature Communications). Two papers are currently in revision, four in preparation (two as first author). Led team to install new spiral arm array in Northern Territory, Australia. Invited conference talk at American Geophysical Union Fall Meeting, Fall 2018 (December 2018); second abstract also awarded a talk. Invited conference talk at 3rd Brazilian Seismology Symposium, and University of Sao Paulo (April 2019).

Service

ANU: Master’s thesis examination committee. Contribution to Master’s and Honours Seismology courses.

NMSU: Not applicable.