

# Ben Knight

## PhD Candidate

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## Education

### PhD (Geodynamics), Monash University, 2017 - Present

Thesis Title: *How to form a mountain belt: Insights from numerical modelling*

Dissertation Advisors: Fabio A. Capitanio, Roberto F. Weinberg

### MESci Exploration and Resource Geology, Cardiff University, 2012 - 2016

MESci Dissertation: *A critical depth for self-sustaining subduction: Insights from thermomechanical modelling*

Dissertation Advisor: Prof. J. Huw Davies

BSc Dissertation: *Geological Mapping of the Estagel Region, Pyrénées-Orientales, France*

Dissertation Advisors: Dr. Lesley Cherns

BSc Dissertation (Stockholm University): *The origin of Soft Sediment Deformation in Lake Vättern, Sweden*

Dissertation Advisors: Prof. Martin Jakobsson, Dr. Richard Gyllencreutz

## Publications

- Knight, B.S., Capitanio, F.A., Weingberg, R.F., (*in preparation*), "Convergence history controls on the evolution of the Tibetan Plateau and Himalayan Fold-and-Thrust belt".
- Knight, B.S., Capitanio, F.A., Weingberg, R.F., (*in preparation*), "The evolution of orogenic wedges: From Coulomb plastic to viscous".
- Knight, B.S., Davies, J.H., Capitanio, F.A. (*in review*), "Timescales of successful and failed subduction; insights from energy dissipation." *Geophysical Journal International*.

## Conference presentations

- Knight, B.S., Capitanio, F.A., Weingberg, R.F., (2020). "Convergent rate controls on the evolution of Himalaya-Tibet", GeoUtrecht 2020, online.
- Knight, B.S., Capitanio, F.A., Weingberg, R.F., (2020). "[The influence of viscoplastic rheology on strain localization in the crust](#)". CIG Tectonics Community Science Workshop, online.
- Knight, B.S., Capitanio, F.A., Weingberg, R.F., (2020). "[Reconciling plate convergence and orogeny: The influence of convergence rate on the formation of the Himalayas](#)". EGU 2020, online.
- Knight, B.S., Capitanio, F.A., Weingberg, R.F., (2020). "The influence of convergence velocity on orogenic fold-and-thrust belts: Insights from thermomechanical modelling". 36<sup>th</sup> IGC, New Delhi, India.
- Knight, B.S., Davies, J.H., Capitanio, F.A. (2018). "Incipient subduction dynamics: Insight from energy partitioning.". 31<sup>st</sup> VUEESC 2018, Melbourne, Australia.

## Grants and scholarships

- Faculty of Science Dean's Postgraduate Research Scholarship (Monash University, 2017).
- Faculty of Science Dean's International Postgraduate Research Scholarship (Monash University, 2017).
- Monash Postgraduate Association – Conference organizer grant (AUD 1300).
- 36<sup>th</sup> IGC (2020) partial travel grant - \$1000 USD (estimated).

## Competencies

- Large data handling, processing and storage.
- Programming ability (R, Python3 - GIS, data processing & manipulation, figures, automation, modelling).
- Numerical modelling - Fluidity (2D), Underworld2 (2D, 3D).
- Microsoft office suite.
- Field mapping, with over 80 days spent in the field.

## Conference Organization

- Convener - 31<sup>st</sup> Victorian universities Earth and environmental sciences conference (VUEESC), 2018. Attendees ~90. ~\$AUD 5000 raised for funding.

## Teaching experience

- **Teaching Assistant, Monash University, 2018 - 2020**
  - Courses: Physics of the Solid Earth (3<sup>rd</sup> year), Environmental problem solving and visualization (2<sup>nd</sup> year), Earth, atmosphere and environment 1 and 2 (1<sup>st</sup> year). Including both online (via zoom) and in person teaching.
  - Field trips – New Zealand (Honours), Rawson (1<sup>st</sup> year), You Yangs/Organ Pipes national parks (1<sup>st</sup> year)
- **Outreach, Monash University, 2018 - 2020**
  - Various outreach events on a range of topics (climate change, rock/mineral ID, plate tectonics, resources) to school children aged between 15 - 18.

## Memberships

- Geological Society of Australia (GSA)
- American Geophysical Union (AGU)
- European Geoscience Union (EGU)