Ben Knight

PhD Candidate

School of Earth, Atmosphere and Environment, Monash University, Clayton, 3800, Vic, Australia <u>ben.knight@monash.edu</u> / <u>bsknight001@gmail.com</u> Website: bknight1.github.io

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** <u>MESci Dissertation</u>: *A critical depth for self-sustaining subduction: Insights from thermomechanical modelling* Dissertation Advisor: Prof. J. Huw Davies <u>BSc Dissertation</u>: *Geological Mapping of the Estagel Region, Pyrénées-Orientales, France* Dissertation Advisors: Dr. Lesley Cherns <u>BSc Dissertation</u> (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., Dal Zilio, L., Weinberg, R.F., (*in preparation*), "The role of convergence history on the evolution of the Tibetan Plateau and Himalayan Fold-and-Thrust belt".
- Knight, B.S., Capitanio, F.A., Weinberg, R.F., (*in preparation*), "Lateral variations in rheology on the formation of salients and recesses".
- Knight, B.S., Capitanio, F.A., Weinberg, R.F., (*in preparation*), "Time-dependent processes on orogenic wedge structure".
- Knight, B.S., Capitanio, F.A., Weinberg, R.F., (*in review*), "Convergence velocity controls on orogenesis: structural transitions in visco-plastic wedges". *Tectonics*
- Knight, B.S., Davies, J.H., Capitanio, F.A., (2020), "<u>Timescales of successful and failed subduction</u>: insights from energy dissipation". Geophysical Journal International.

Conference participation

- Knight, B.S., Capitanio, F.A., Weinberg, R.F., (2020). "Convergent rate controls on the evolution of Himalaya-Tibet", GeoUtrect 2020, online.
- Knight, B.S., Capitanio, F.A., Weinberg, R.F., (2020). "<u>The influence of viscoplastic rheology on strain</u> <u>localization in the crust</u>". CIG Tectonics Community Science Workshop, online.
- Knight, B.S., Capitanio, F.A., Weinberg, R.F., (2020). "<u>Reconciling plate convergence and orogeny:</u> <u>The influence of convergence rate on the formation of the Himalayas</u>". EGU 2020, online.

- Knight, B.S., Capitanio, F.A., Weinberg, R.F., (2020). "The influence of convergence velocity on orogenic fold-and-thrust belts: Insights from thermomechanical modelling". 36th IGC, New Delhi, India.
- Knight, B.S., Davies, J.H., Capitanio, F.A. (2018). "Incipient subduction dynamics: Insight from energy partitioning.". 31st VUEESC 2018, Melbourne, Australia.

Grants and scholarships

- Monash Postgraduate Association Conference organizer grant 2018 (\$1300 AUD).
- 36th IGC (2020) partial travel grant \$1000 USD (estimated).
- Faculty of Science Dean's Postgraduate Research Scholarship (Monash University, 2017).
- Faculty of Science Dean's International Postgraduate Research Scholarship (Monash University, 2017).

Competencies

- Numerical modelling Fluidity (2D), Underworld2 (2D, 3D).
- Computer programming (R, Python3).
- Large data handling, processing and storage.
- Microsoft office suite.
- Field mapping, with over 80 days spent in the field.
- Previous experience with seismic data collection (side-scan, chirp, multibeam sonar) and analysis.

Conference Organization

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

Teaching experience

- Teaching Assistant, Monash University, 2018 2020
 - Courses: Physics of the Solid Earth taught using python3 (3rd year), Environmental problem solving and visualization taught using R (2nd year), Earth, atmosphere and environment 1 and 2 (1st year). Both online (via zoom) and in person teaching.
 - Field trips New Zealand (Honours), Rawson (1st year), You Yangs & Organ Pipes national parks (1st 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 14 17.

Memberships

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