Ben Knight

PhD Candidate
School of Earth, Atmosphere and Environment,
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Education

PhD (Geodynamics), Monash University, 2017 - Present
Thesis Title: *How to form a mountain range: Insights from numerical modelling*
MESci Exploration and Resource Geology, Cardiff University, 2012 - 2016
MESci Dissertation: *A critical depth for self-sustaining subduction: Insights from thermomechnical modelling*
Dissertation Advisor: Prof. J. Huw Davies, Cardiff University
BSc Dissertation: *Geological Mapping of the Estagel Region, Pyrénées-Orientales, France*
Dissertation Advisors: Dr Lesley Cherns, Cardiff University
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", GeoUtrect 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". 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

- 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).
- 36th 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 - 31st 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 (3rd year), Environmental problem solving and visualization (2nd year), Earth, atmosphere and environment 1 and 2 (1st year). Including 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 15 - 18.

Memberships

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