



A Collaborating Technical Society
of The Institution of Professional
Engineers New Zealand



Bay of Plenty Branch Presentation

Tuesday 25th August 2020
Waikato University Tauranga Campus
Durham Street, Tauranga
Light Refreshments from 10.30am
Presentation 11am-12pm

RSVP: james.griffiths@beca.com

Followed by Supporting Lecture: The Southern Alps of NZ: An Integrated Picture of an Evolving Plate Boundary at 5.30pm-7pm at the same venue. Light refreshments will be supplied

2020 Hochstetter Lecture: How Tectonic & Surface Processes Interact to Shape the Landscape

Presented by *Presented by Phaedra Upton, Senior Scientist, Geodynamics Team Leader, GNS Science*



Hochstetter Lecture Abstract

The landscape serves as a link between the solid Earth and the atmosphere. At many spatial and temporal scales, landscape morphology and topography provide a constraint on the tectonics of the Earth and processes active within it. To unravel these, we need to understand the complex relationships between surface processes, their drivers and the rocks upon which they act. I will explore recent developments in modelling tectonics and surface processes within a single deformational framework. I will focus on collisional settings such as New Zealand's Southern Alps, SE Alaska and the Himalaya where rapid uplift combines with vigorous climate regimes to create dynamic landscapes.

Supporting Lecture: The Southern Alps of New Zealand: An Integrated Picture of an Evolving Plate Boundary (This will be from 5.30pm at the same venue)

The Southern Alps of New Zealand – An integrated picture of an evolving plate boundary
The central South Island has long been a favourite site to study and model oblique continental collision, because the orogen is young, narrow, and a single structure, the Alpine Fault, takes up >70% of relative plate motion. The orogen is highly asymmetric and varies along strike as the nature of the two colliding plates change along the boundary. I will explore the 3D structure and kinematics of the orogen, and discuss how regional deep-seated tectonic processes of mountain building are geodynamically interconnected with climate, landscape, and near-surface geological processes that create local fluid flow, effective stress, and temperature anomalies.