UNIVERSITY of TASMANIA

FACULTY OF SCIENCE, ENGINEERING AND TECHNOLOGY

Dr. Andrew McNeill
Chair GSA Tasmania
Mineral Resources Tasmania
Private Bag 79

10 April 2019

Nomination of Professor Jocelyn McPhie for GSA Tasmania Twelvetrees Medal

We nominate Professor Jocelyn McPhie for the GSA Tasmania Division's Twelvetrees Medal. Since Jocelyn arrived in Tasmania in 1990, she has made significant and important contributions to the Earth Sciences within the state and globally. She has been instrumental in understanding the Cambrian-Cenozoic volcanic history of Tasmania. She has unpicked the complex volcanic and alteration history of the important ore-hosting Mt Read Volcanics in western Tasmania, and also made key contributions to understanding the geology of the more recent Tasmanian Cenozoic volcanic rocks. Novel understanding of the Tasmanian volcanic terrains has been achieved through her own research, collaborations with local, national and international researchers and industry partners through CODES, and by the supervision of Honours, Masters and PhD students at the University of Tasmania.

The CODES research on the volcanology, alteration and mineralisation of western Tasmania led by Jocelyn in collaboration with Rod Allen in the early 1990's led to a significant reappraisal of the models for the depositional environment of the Mt Read Volcanics. The research indicated the subaqueous nature of the volcano-sedimentary units around the Hellyer, Henty, Que River and Rosebery deposits and Mt Lyell leases. Detailed mapping and stratigraphic sections by her and many of her honours and PhD students, Matthew White, Cathryn Gifkins and Pedro Fornesco, led to an understanding of the volcanic facies architecture across the Mt Read Volcanics and the overprinting large sub-seafloor circulation and mineralizing systems.

Her collaborations with Japanese scientist Yoshi Goto has led to publications on understanding the development of key volcanic textures in the Cape Grim and Stanley areas of northwestern Tasmania. These mafic volcanic units became the focus of a broader study of the development and relationships of the units by one of Jocelyn's recent PhD student, Jodi Fox. This research identified the sub-aqueous facies architecture, including megapillows, pillow deltas and the intrusive nature of basalt units previously understood as lava flows.

On a broader stage, Jocelyn has been one of the key global researchers tying volcanic textures to volcanic facies architecture and processes for over 40 years. Her contributions have encompassed volcanic deposits of all ages ranging from Archean to Recent. She has researched and published widely on volcanic successions, specialising in ancient subaqueous volcanic deposits from around the world, including Australia, New Zealand, Japan, Europe and North and South America.

Jocelyn has provided meritorious services to Earth Sciences both within Tasmania and more widely through her teaching, She is a highly skilled and talented educator and has been in demand to run Masters and industry-related short courses on modern and altered volcanic

successions. Her extensive knowledge was largely gained through her meticulous investigation of the Mt Read Volcanics. She has enabled her students through these courses to use facies analyses techniques to systematically unravel the complexities of volcanic and alteration processes in ore-hosting regimes. She is senior author of the widely-reference book 'Volcanic Textures' which showcases many classic examples of volcanic and alteration textures from the Tasmanian Mt Read Volcanics and the products of Miocene volcanism.

Jocelyn has been an inspirational mentor and colleague throughout her career. Her students have learnt to emulate her techniques to illuminate the formation and alteration of volcanic rocks and taken these skills to all corners of the world to understand altered volcanic rocks associated with ore deposits.

As former students and professional colleagues of Jocelyn, we are privileged to nominate her for the Twelvetrees Medal

Proposers:

Karin Orth

Sincerely,

Dr. Rebecca Carey