

ACTER 2017 Field Symposium on
Tectonics of the Lachlan fold belt and granite petrogenesis
23–29 October, 2017

Leader: Professor WJ Collins (Curtin University)

The major themes for the field symposium include:

- (a) Tectonic evolution of the Lachlan Fold Belt (Cambrian- Permian)
- (b) Back-arc tectonic switching
- (c) Petrogenesis of I-, S- and A-type granites: how the concept started and evolved, relation to tectonic evolution of the Lachlan Orogen and significance to continental growth.

DAY 1 SYDNEY – KATOOMBA

Morning: Travel to Katoomba. Lunch.

Afternoon: Introductory session on Tectonic evolution of the Lachlan Fold Belt and other themes.

Late Afternoon: Echo Point Lookout.

O/Night Katoomba

DAY 2 KATOOMBA – ORANGE

Tectonic elements: Ordovician Macquarie Arc, Late Silurian rift basin, Carboniferous rear arc, Miocene intraplate volcanism

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| 2.1 Bathurst Granite: Late Paleozoic rear arc chain | Carboniferous |
| 2.2 Sofala Volcanics: eastern Macquarie Arc | Ordovician |
| 2.3 Turondale Formation: Hill End Trough | Early Devonian |
| 2.4 Wallaby rocks: Chesleigh Group, Hill End Trough | Late Silurian |
| 2.5 Canobolas volcano: Intraplate magmatism | Miocene |

O/Night Orange

Day 3 ORANGE – YASS

Tectonic elements: Macquarie arc, Early-Late Silurian rift basins/S-type granites and volcanics, Tabarabberan mylonites, Miocene volcano

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| 3.1. Cargo Volcanics: central Macquarie Arc | Middle-Late Ordovician |
| 3.2 Bowen Park Limestone and Malichis Hill Formation | Late Ordovician |

- 3.3 Canowindra Fossil Museum (lunch).
- 3.4 Cowra Granite: rift magmatism in Cowra Trough Middle Silurian
- 3.5 Wyangala Batholith: S-type granite Middle Silurian
- 3.6 Wyangala Granite: protomylonite Late Devonian
- 3.7 Douro Group (Laidlaw volcanics) Middle Silurian
- 3.8 Hatton Corner Group (optional) Late Silurian-Early Devonian
- O/Night Yass.

DAY 4 YASS-COOMA

Tectonic elements: Tectonic switching at 435-430 Ma. High-T, low-P metamorphism at the base of the S-type Murrumbidgee Batholith. S- and I-type granites and volcanics

- 4.1 Murrumbidgee Group: shallow marine carbonates Early Devonian
- 4.2 Mt Ainslie, Canberra: S-type volcanics Middle Silurian
- 4.3 Benambran unconformity, State Circle Canberra Early Silurian
- 4.4 Kosciuszko Batholith (I- and S-type granites) Middle Silurian-Early Devonian
- 4.5 Cooma Complex: Spring Creek metatexite Early Silurian
- 4.6 Cooma Complex: Soho Street diatexite Early Silurian
- 4.7 Cooma Granite (magma segregation from diatexite) Middle Silurian

O/Night Cooma

DAY 5 COOMA-EDEN

Tectonic elements: Supersuites of the I-type Bega Batholith. Migmatites and emplacement mechanisms at the base of an I-type batholith. A-type granites and rhyolites

- 5.1 Glenbog Supersuite (I-type) Early Devonian
- 5.2 Kameruka Supersuite and related rocks (Wog Wog River traverse) Early Devonian
- 5.3 Watergums pluton (A-type) Late Devonian
- 5.4 Eden Rhyolite Late Devonian

O/Night Eden

DAY 6 EDEN-TUROSS

Tectonic elements: Cambrian cherts, Ordovician turbidites, Benambran deformation, Middle Devonian rifting, A-type granites, Late Devonian fluvial sedimentation

- 6.1 Merimbula Group: fluvial (Redbed) sequence Late Devonian
- 6.2 Adaminaby Group, Bermagui: multiply folded turbidites Middle-Late Ordovician
- 6.3 Tuross pluton, Bingie Point: magma chamber processes Middle Devonian
- 6.4 Grey Rocks Headland: magma chamber processes Middle Devonian

O/night Tuross Beach caravan park

DAY 7 TUROSS-SYDNEY

Tectonic elements: Ordovician subduction accretion (?) complex, magma chamber dynamics in a mafic-silicic layered intrusion (Bega Batholith), base of Sydney Basin

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| 7.1 Melville Point: chert-turbidite transition | Cambro-Ordovician |
| 7.2 Guerilla Point: accretionary prism melange? | Cambro-Ordovician? |
| 7.3 Myrtle Beach unconformity: base of Sydney Basin | Permian |
| 7.4 Gerringong Volcanics (optional) | Triassic |

Return Sydney (evening)