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# Peak phosphorus, photosynthesis and highly phosphorus-efficient Proteaceae

Wednesday 20 March 2013 11am-12pm

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**Slatyer Seminar Room** R.N. Robertson Building (Bldg. 46) Linnaeus Way, ANU



South-western Australia was a part of Gondwanaland, and some of the most ancient parts of the Earth's crust can be found here. Other parts of the landscape originated more recently from calcareous marine deposits. Therefore, the soils of Western Australia are amongst the most heavily leached and nutrient-impoverished in the world. Moreover, the soils on lateritic profiles tightly bind phosphate, so that, phosphorus (P) is also poorly available to plants that are not adapted to these conditions. The old, climatically buffered ancient landscape (OCBIL) of south-western Australia is also one of the world's hotspots of higher plant species diversity. Therefore, this environment offers a unique opportunity to study plant adaptations to nutrient-poor conditions.

High P-use efficiency in Proteaceae includes a highly efficient and proficient mobilisation of P from senescing leaves. In addition, many species operate at extremely low leaf P concentrations exhibiting rates of photosynthesis similar to crop plant; expressed

per unit leaf P, their rates of photosynthesis are extraordinarily high. I will explore what traits these species have that allow them to exhibit high rates of photosynthesis at very low leaf P concentrations.

Presented by

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& Environment**

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This lecture is free and open to the public

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