

## Institute of Agriculture and Environment

Te Kura Mātauranga mō Ahuwhenua me Te Taiao

### MASSEY UNIVERSITY DOCTORAL SCHOLARSHIP PROJECT

Name of proposed Supervisor/s: **Maria Minor** (IAE Ecology), **Marta Camps-Arbestain** (IAE Soils, NZ Biochar Research Centre), **Alec Mackay** (AgResearch Grasslands), **Estelle Dominati** (AgResearch Grasslands)

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#### Linking soil functional biodiversity and processes to soil ecosystem services

**Proposal:** A PhD project which will integrate soil ecology and biochemistry-based processes within an ecosystem services modelling framework, in order to quantify the role of biological functional groups in the provision of soil ecosystem services – in this case, mixing into the soil profile and decomposition of organic amendments, including biochar.

**Objective:** To explore the dynamic link between functional diversity of soil biota, soil biochemical processes, and provision of ecosystem services in soils treated with organic amendments (plant residue, manure, biochar). **Aims:** (1) to characterize soil biochemistry and decomposition rates associated with different amendments, including different types of biochar; 2) to assess the rate at which earthworms incorporate amendments into the soil profile; 3) to explore synergistic interactions between soil, plants, functional groups of soil fauna, and the rates of soil processes measured in (1) and (2); 4) to quantify and value the contribution of these processes to the provision of soil ecosystem services using the existing framework. A combination of field studies, mesocosm experiments, and meta-analysis of published data will be used as a part of the study.

**English requirement:** If English is not your first language then you will need an IELTS of 6.5 with no band less than 6.0, or equivalent (see below).

Programme Level	IELTS	TOEFL iBT	PTE Academic	Cambridge English
Postgraduate Level	6.5 (no band less than 6.0)	90 overall (min 20 in Writing)	65 Overall (min 58 in communicative skills)	58

**Scholarship:** The value of the scholarship will be NZ\$28,000 per annum for a maximum period of three years. This includes payment of tuition fee approximately NZ\$ 7,000 per year.

**For further information contacts:**

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Applicants should include a detailed CV, a letter stating their suitability for the position, including details of their academic record, and the names and contact details of three academic referees.