ENVIRONMENTAL & RURAL SCIENCE

The School of Environmental and Rural Science is a research-intensive School, with approximately 100 continuing and fixed-term academic staff, as well as many adjunct academic staff supervising about 200 higher degree research students. Profiles of our academic staff are provided in our Science, Environment and Agriculture Research Prospectus for intending higher degree research students.

Animal Science and Systems

Fields and strengths **–** Environmental and Rural Science has research strengths in Animal Science and Systems, including animal genetics and breeding, animal health and welfare, animal nutrition, animal physiology, animal production, companion animals, international agricultural development, meat science, beef production, sheep & wool science, poultry science, and modelling animal systems.

- Optimising performance health flock consistency and egg quality characteristics; Barriers to adoption: Improving compliance in the egg industry; Big data and machine learning to improve poultry production; Dietary minerals – improving pullet bone development and egg quality (contact: Isabelle Ruhnke iruhnke@une.edu.au)
- Precision feeding of Poultry (contact: Amy Moss amoss22@une.edu.au)

Life Earth and Environment

Fields and strengths **–** Environmental and Rural Science has research strengths in Life Earth and Environment, including aquatic ecology, botany, conservation biology, ecology and evolution, entomology, parasite ecology and evolution, plant systematics and genetics, plant–pollinator systems, vegetation ecology and management, fire ecology, vertebrate and invertebrate comparative ecology and physiology, wildlife ecology and management, zoology, earth sciences, geology, palaeontology, spatial information science, ecological restoration, ecosystem services, social–ecological systems, cultural burning, and natural resources management and governance.

- Community ecology and restoration of upland lagoons; Response of turtle to environmental flows; threatened rainforest frogs and impacts of fire; Response of frogs to environmental flows (contact: Deborah Bower Deborah.Bower@une.edu.au)
- Distribution of native dung beetles in elevational gradients; Dung beetles ecosystem functioning and services in forests; Assessing the vulnerability of forest decomposers to a warmer and drier climate (contact: Alfonsina Arriaga-Jimenez aarriaga@une.edu.au, Nigel Andrew nandrew@une.edu.au)
- Structure and function of plant-insect community networks; Land use impacts on insect biodiversity; Quantifying contribution of insect community interactions to ecosystem services; Science communication and insect conservation (contact: Manu Saunders Manu.Saunders@une.edu.au)
- Animal behaviour; Behavioural ecology; Bioacoustics; Cooperation; Ornithology (contact: Paul McDonald: Paul.McDonald@une.edu.au)
- Direct effects of global heating on Australian mammals and birds: modelling micro and macro scale distributions shifts using mechanistic biophysical and physiological models (contact: Fritz Geiser fgeiser@une.edu.au)
- Conservation genetics, speciation genomics and plant evolution (contact: Rose Andrew randre20@une.edu.au)

Plant Soil and Environment Systems

Field & strengths **–** Environmental and Rural Science has research strengths in Plant Soil and Environment Systems, including, agronomy, agricultural extension, crop nutrition, crop protection and weed science, cotton production, horticulture, organic food and fibre production, plant production and breeding, pollution science, root zone processes, soil science, sustainable farming, environmental sensing and modelling, and terrestrial carbon processes and assessment.