



The genetic basis of innovation: venom, pregnancy, and the evolution of complex traits

THE CENTER FOR SUSTAINABLE ECOSYSTEM SOLUTIONS PRESENTS:

Dr Camilla Whittington, Sydney University, Australia

Date: Monday 4th June

Time: 16:00 - 17:00

Venue: Building 20 Theatre 5 (20.5)

Refreshments will be provided

ABSTRACT

Evolutionary innovations such as eyes, eusociality, venom, and live birth (viviparity) are dramatic, adaptive novelties that have shaped the evolutionary trajectories of animals. However, their origins are poorly understood because they are produced by the collective action and evolution of thousands of genes. By applying new molecular technologies to a targeted range of animals, my work aims to elucidate the genetic underpinnings of evolutionary innovations and to discover fundamental evolutionary mechanisms. I will discuss my research into mammalian venom evolution, using the platypus as a model, as well as my studies of the transition from oviparity (egg laying) to viviparity in reptiles, mammals, and the pot-bellied seahorse. My work suggests that there are common evolutionary mechanisms that underpin the development of novel traits across divergent species.

BIOGRAPHY

Camilla completed her PhD at the University of Sydney, followed by postdoctoral positions at the University of Zurich and the University of Sydney. She also spent time as a Fulbright Fellow at Washington University working on platypus venom. Camilla is now focusing on the evolution of pregnancy, funded by a University of Sydney Research Fellowship, L'Oreal-UNESCO for Women in Science Fellowship, and the Australian Research Council.



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