

Department of Psychology

Special Guest Speaker

Hosted by:

Robert Hampton



Ken Cheng, Ph.D.

Professor

Department of Biological Sciences
Macquarie University, Sydney, Australia

“Lessons from ant navigation on integration and learning”

Ants as a group feature especially small brains even for their small size, and yet many species are expert navigators forging learned routes about their habitat. Working to bring food to their nest, they make excellent research animals for navigational research because they do not satiate when given food repeatedly. I review briefly ants' navigational tool kit, with path integration, view-based navigation (and to some extent cues of other modalities), and systematic search being chief components. Then I describe some evidence on two major themes. First, ants integrate cues from multiple navigational systems that are processed in parallel. In some cases, they even integrate in an optimal (Bayesian) fashion. Second, how ants learn to use views for navigation and how they modify view-based navigation on the basis of experience (learning) has recently been investigated. I highlight some recent work on this experimental ethology of learning to navigate.

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**Department of
Psychology**

April 15, 2019

4:00 p.m.

Psychology Building
Room 290

Reception to follow in 280 PAIS