

## Bees and the travelling salesman problem: how tiny brains solve complex cognitive tasks

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### Abstract

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### Summary

Traffic clogged roads, congested mobile phone networks & supercomputers running day and night to find the best route for cars and information. But we know that they don't always get it right, despite being very powerful. Bees have to find routes between flowers every day when finding food, and without computer help. How do they choose which flowers to visit, and in what order? Bees don't just have to visit flowers, they have to remember which have the most nectar, and visit them without wasting energy flying the long way round. Their route may not be perfect, but we hope it will help us find good routes through complex networks more easily. We will look at how bees remember which flowers are good to visit from day-to-day, and how it learns the location of flowers and best order to visit them. We will also look at whether they always visit flowers in the same order they discovered them, and how landmarks help them to retrace their steps. Finally, we will look at how bees cope when the amount of nectar in flowers changes, or there are other bees feeding from the same flowers.

<b>Committee</b>	Closed Committee - Animal Sciences (AS)
<b>Research Topics</b>	Neuroscience and Behaviour (including human psychology)
<b>Research Priority</b>	X – not assigned to a current Research Priority
<b>Research Initiative</b>	X - not in an Initiative
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