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# Multimodal navigation in insects: Use of olfactory, visual and idiothetic cues in ants

## Fact Sheet

### Project Information

#### ANT NAVIGATION

Grant agreement ID: 624765

Project closed

#### Start date

1 February 2015

#### End date

31 January 2017

#### Funded under

Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

#### Total cost

€ 221 606,40

#### EU contribution

€ 221 606,40

#### Coordinated by

THE UNIVERSITY OF SUSSEX

 United Kingdom

## Objective

Being able to navigate efficiently through the environment is a requirement for most animal species, including humans. Solitary ant foragers, that don't rely on social cues such as chemical trails, are specialized for individual navigation and little else, thus their movements are a window onto the spatial computations underpinning navigation. Allied to the practicality of studying ants in the lab or field, ant navigation

is a rare opportunity to understand in detail how behaviour emerges from the interaction between brain, body and environment. The classic view of solitary ant navigation is that they rely on path integration when in unfamiliar terrain and as they become experienced they rely more on learnt, mainly visual, information. However, recent behavioural observations show that the ants' navigational toolkit is more diverse, for instance using olfaction for orientation. Also we are beginning to see interesting multimodal interactions. We know little about the integration of multimodal cues at the behavioural-output level, and even less about the mechanistic details of cue integration. Yet such knowledge is necessary in order to understand the computational strategies that ants need for navigation in their environment. In this project, we approach the question of cue integration by studying the fine details of ants' movements during navigation. Such fine details of the ants' movements can identify the computational strategies being used for navigation and are key for the understanding of navigational mechanisms. It is our goal to understand if insects need complex cognitive mechanisms to implement multimodal interactions or if simple movement strategies (sensori-motor behaviours) are sufficient for multimodal cue integration. This project will give first and important insights into the mechanisms underpinning the integration of multiple cues in insects.

## Fields of science (EuroSciVoc)

[natural sciences](#) > [biological sciences](#) > [zoology](#) > [entomology](#).



## Programme(s)

[FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities \(2007 to 2013\)](#).

## Topic(s)

[FP7-PEOPLE-2013-IEF - Marie-Curie Action: "Intra-European fellowships for career development"](#)

## Call for proposal

FP7-PEOPLE-2013-IEF

[See other projects for this call](#)

# Funding Scheme

[MC-IEF - Intra-European Fellowships \(IEF\)](#)

## Coordinator



**THE UNIVERSITY OF SUSSEX**

EU contribution

**€ 221 606,40**

Total cost

**No data**

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Activity type

**Higher or Secondary Education Establishments**

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

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**Permalink:** <https://cordis.europa.eu/project/id/624765>

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