



**HAL**  
open science

## A bee in the corridor: centring or wall-following?

Julien Serres, Franck Ruffier, Guillaume P Masson, Nicolas Franceschini

► **To cite this version:**

Julien Serres, Franck Ruffier, Guillaume P Masson, Nicolas Franceschini. A bee in the corridor: centring or wall-following?. 31st Göttingen Neurobiology Conference - 7th Meeting of the German Neuroscience Society, Mar 2007, Goettingen, Germany. T14-8B, 2007. hal-01445551

**HAL Id: hal-01445551**

**<https://amu.hal.science/hal-01445551v1>**

Submitted on 25 Jan 2017

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

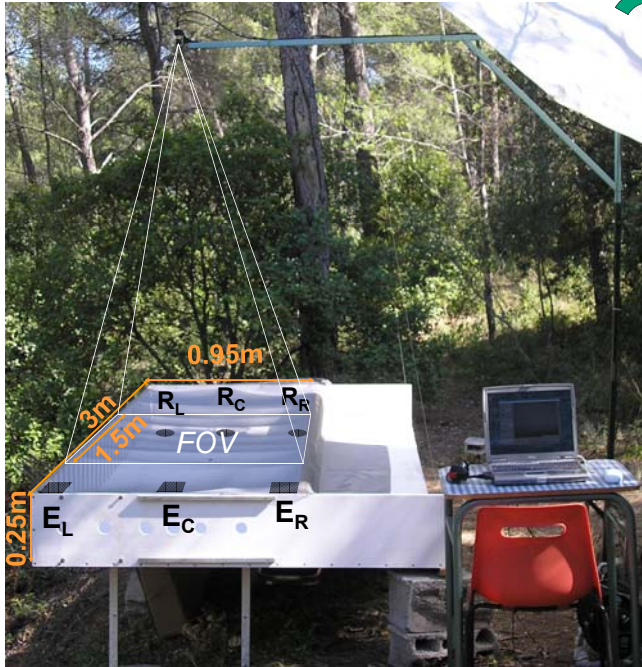
# A bee in a corridor: centring or wall-following ?

J. Serres, F. Ruffier, G.P. Masson and N. Franceschini

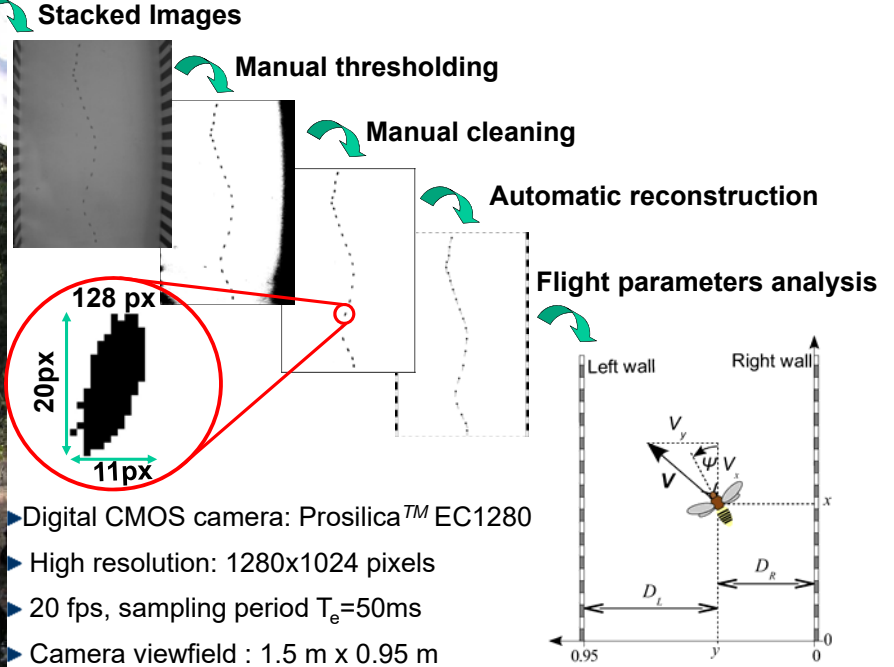
Biorobotics Dpt., Movement and Perception Inst., CNRS/Univ. of the Mediterranean,  
 163, avenue Luminy, 13288 Marseille Cedex 09 FRANCE e-mail: [julien.serres@univmed.fr](mailto:julien.serres@univmed.fr)



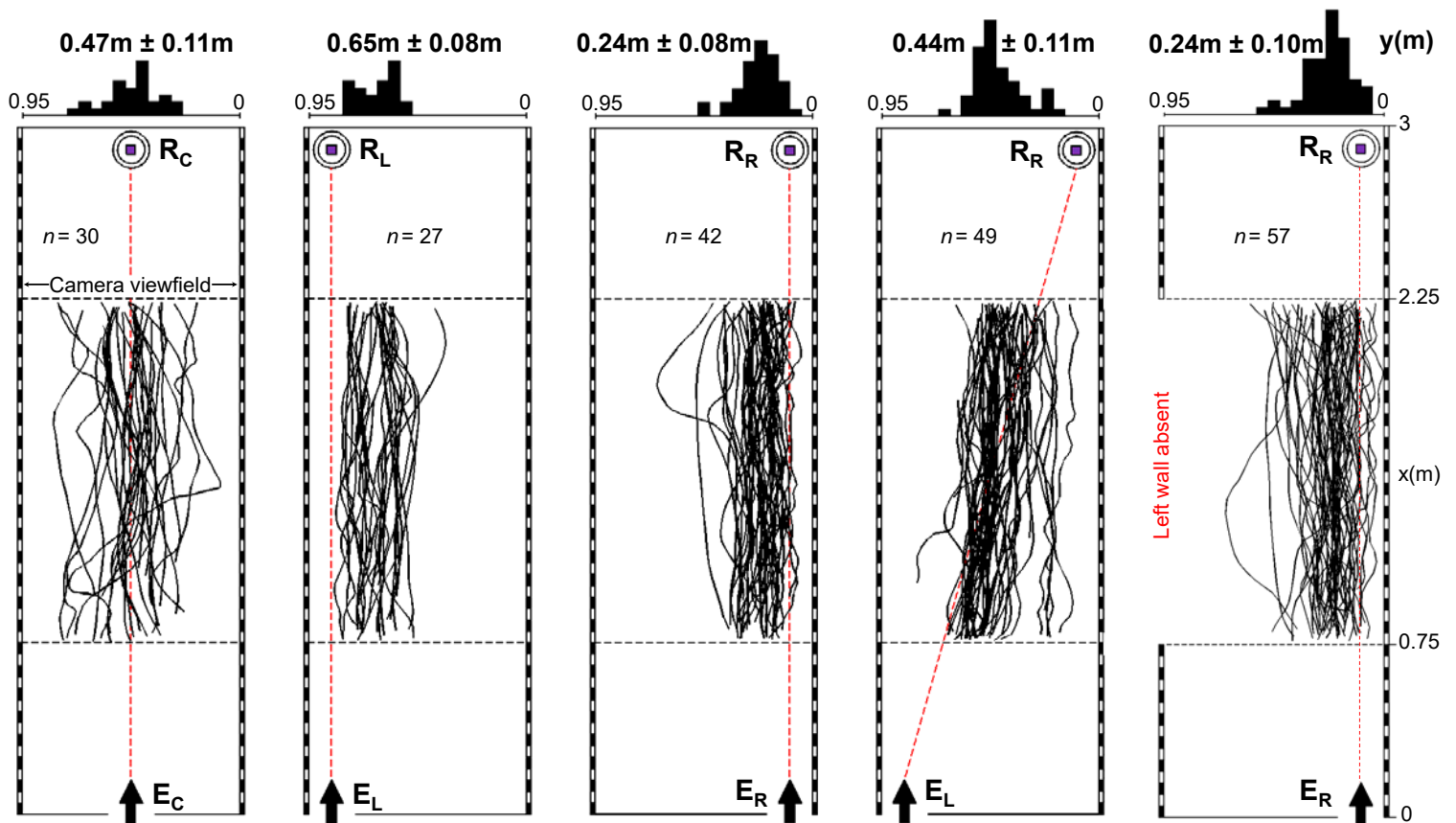
## • Experimental procedure



## • Image processing and time-lapse photography



## • Experimental results: to centre or not to centre ?



## • Conclusion

- ▶ Bees do not systematically adopt a **centring response** in contrast with previous observations (Kirchner and Srinivasan, 1989)
- ▶ The 'optic flow balance' hypothesis (Srinivasan et al., 1991) does not account for the **wall-following behaviour** observed here
- ▶ The bee's sideways motion is well accounted for by a **lateral optic flow regulator** (Serres et al., Proc. IEEE/RAS Biorob 2006) (Ruffier et al., Göttingen, T14-7B, 2007).