ReadMe file for submission to Science Advances (31.10.2018):

**Numerical cognition in honeybees enables addition and subtraction**

Scarlett R Howard1, Aurore Avarguès-Weber2,Jair E Garcia1, Andrew D Greentree3, and Adrian G Dyer\*1,4

1 Bio-inspired Digital Sensing (BIDS) Lab, School of Media and Communication, RMIT University, Melbourne, VIC, Australia

2 Centre de Recherches sur la Cognition Animale (CRCA), Centre de Biologie Intégrative (CBI), Université de Toulouse, CNRS, UPS, Toulouse, France

3 ARC Centre of Excellence for Nanoscale BioPhotonics, School of Science, RMIT University, Melbourne, VIC, Australia

4 Department of Physiology, Monash University, Clayton, VIC, Australia

\*Author for correspondence: adrian.dyer@rmit.edu.au

**Keywords:** addition; *Apis mellifera*;arithmetic; numerical cognition; quantical cognition;subtraction

This readme file describes the data files accompanying the above publication. For any further queries please contact adrian.dyer@rmit.edu.au

The following files are included:

1) "Learning\_phase.csv”

This file contains all choices for each bee during the 100 conditioned choices of the learning phase. The columns are as follows:

Bee: ID of individual bee

Trial: Choice number ranging from 1 – 100 conditioned choices.

Choice: Individual choices of each bee. A score of ‘1’ is a correct choice and a score of ‘0’ is an incorrect choice.

2) “Testing\_phase.csv”

This file contains the individual choices bees made during each test. The columns are as follows:

Bee: ID of individual bee

Trial: Choice number ranging from 1 – 10 for each test.

Choice: Individual choices of each bee. A score of ‘1’ is a correct choice and a score of ‘0’ is an incorrect choice.

Test: The addition test (1) is marked as ‘1’, addition test (2) is marked as ‘2’, subtraction test (3) is marked as ‘3’, and subtraction test (4) is marked as ‘4’.