

### Peer-reviewed articles

1. Taylor G, Tichit P, Schmidt M, Bodey A, Rau C, **Baird E\*** 2019 Bumblebee visual allometry results in locally improved resolution and globally improved sensitivity *eLife* 8:e40613  
\* senior author
2. Wilby D, Aarts T, Tichit P, Bodey A, Rau C, Taylor G\*, **Baird E\*** 2019 Using micro-CT techniques to explore the role of sex and hair in the functional morphology of bumblebee (*Bombus terrestris*) ocelli *Vis Res* 158:100-108  
\* co-senior author
3. el Jundi B, **Baird E**, Byrne M, Dacke M 2019 The brain behind straight-line orientation in dung beetles *J Exp Biol* 222;jeb192450
4. Foster J, Kirwan J, el Jundi B, Smolka J, Khaldy L, **Baird E**, Byrne M, Nilsson D-E, Johnsen S, Dacke M. 2019 Orienting to polarized light at night—matching lunar skylight to performance in a nocturnal beetle *J Exp Biol* 222;jeb188532
5. J Ignasov, A Kapilavai, K Filonenko, JC Larsen, **E Baird**, J Hallam, Büsse S, Kovalev A, Gorb S, Duggen L, Manoonpong P. 2019 Bio-inspired design and movement generation of dung beetle-like legs *Artificial Life and Robotics* 23:555-563
6. Chakravarthi A, Rajus S, Kelber A, Dacke M, **Baird E\***. 2018 Differences in spatial resolution and contrast sensitivity of flight control in the honeybees *Apis cerana* and *Apis mellifera* *J Exp Biol* 221: 184267 2018 doi: 10.1242/jeb.184267  
\*senior author and author for correspondence
7. Thor M, Strøm-Hansen, Larsen L, Kovalev A, Gorb S, **Baird E**, Manoonpong P. 2018 A dung beetle-inspired robotic model and its distributed sensor-driven control for walking and ball-rolling *Artificial Life and Robotics* doi: 10.1007/s10015-018-0456-8
8. Linander N, Dacke M, **Baird E**, Hempel de Ibarra N. 2018 The role of spatial texture in visual control of bumblebee learning flights *J Comp Physiol A* 204:737 doi: 10.1007/s00359-018-1274-0
9. Lecoer J, **Baird E\***, Floreano D. 2018 Spatial encoding of translational optic flow in planar scenes by elementary motion detector arrays *Sci Rep* 5821 doi:10.1038/s41598-018-24162-z
10. Chakravarthi A, Kelber A, **Baird E**, Dacke M. 2017 High contrast sensitivity for visually guided flight control in bumblebees *J Comp Physiol A* 203:999 doi:10.1007/s00359-017-1212-6
11. Linander N, **Baird E\***, Dacke M\* 2017 How bumblebees use lateral and ventral optic flow cues for position control in environments of different proximity *J Comp Physiol A* 203:343 doi: 10.1007/s00359-017-1173-9  
\* co-senior author
12. Reber T, Dacke M, **Baird E\*** 2016 Bumblebees perform well-controlled landings in dim light *Front Behav Neurosci* 10:174 doi: 10.3389/fnbeh.2016.00174

\*senior author

13. Taylor G, Ribi W, Bech M, Rau C, Bodey A, Steuwer A, Warrant E, **Baird E\*** 2016 The dual function of orchid bee ocelli as revealed by x-ray microtomography *Curr Biol* **26**:1319-24 doi: 10.1016/j.cub.2016.03.038  
\*senior author
14. **Baird E\*** & Dacke M 2016 Finding the gap: A brightness-based strategy for guidance in cluttered environments *Proc Roy Soc B* **283**:20152988 doi: 10.1098/rspb.2015.2988  
\*senior author and author for correspondence
15. el Jundi B, Foster J, Khaldy L, Byrne M, Dacke M, **Baird E\*** 2016 A snapshot-based mechanism for celestial orientation *Curr Biol* **26**:1456-62 doi: 10.1016/j.cub.2016.03.030  
\*senior author
16. Linander N, **Baird E\***, Dacke M 2016 Bumblebee flight performance in environments of different proximity *J Comp Physiol A* **202**:97-103 doi: 10.1007/s00359-015-1055-y  
\*co-senior author and author for correspondence
17. Smolka J, **Baird E**, el Jundi B, Reber T, Byrne M, Dacke M. 2016 Night-sky orientation with diurnal and nocturnal eyes: dim-light adaptations are critical when the moon is out of sight *Anim Behav* **111**:127-46 doi: 10.1016/j.anbehav.2015.10.005
18. Chakravarthi A, **Baird E**, Dacke M, Kelber A. 2016 Spatial vision in *Bombus terrestris* *Front Behav Neurosci* **10**:17 doi: 103389/fnbeh.2016.00017
19. Reber T, **Baird E**, Dacke M. 2016 The final moments of landing in bumblebees, *Bombus terrestris* *J Comp Physiol A* **202**:277-85 doi 10.1007/s00359-016-1073-4
20. el Jundi, B, Warrant, EJ, Byrne M, Khaldy L, **Baird E**, Smolka J, Dacke M. 2015 Neural coding underlying the cue preference for celestial orientation. *PNAS* **112**:11395-11400 doi: 10.1073/pnas.1501272112
21. Linander N, Dacke M, **Baird E\*** 2015 Bumblebees measure optic flow for position and speed control flexibly within the frontal visual field. *J Exp Biol* **218**:1051-1059 doi: 10.1242/jeb.107409  
\*senior author
22. **Baird E\***, Fernandez D, Wcislo W, Warrant E. 2015 Flight control and landing precision in the nocturnal bee *Megalopta* is robust to large changes in light intensity *Front Physiol* **6**:305 doi: 10.3389/fphys.2015.00305  
\*lead author and author for correspondence
23. Reber T, Vähäkainu A, **Baird E**, Weckström M, Warrant E, Dacke M 2015 Effect of light intensity and temporal properties of photoreceptors in bumblebees. *J Exp Biol* **218**:1339-1346 doi: 10.1242/jeb.113886

24. el Jundi B, Foster JJ, Byrne MJ, **Baird E**, Dacke M 2015 Spectral information as an orientation cue in dung beetles. *Biol Lett* **11**:20150656 doi: 10.1098/rsbl.2015.0656
25. Scholtyssek C, Dacke M, **Baird E\*** 2014 Control of self-motion in dynamic fluids, fish do it differently from bees. *Biol Lett* **10**:20140279 doi: 10.1098/rsbl.2014.0279  
\*senior author
26. el Jundi B, Smolka J, **Baird E**, Byrne M, Dacke M. 2014 Diurnal dung beetles use the intensity gradient and the polarization pattern of the sky for orientation. *J Exp Biol* **217**:2422-2429 doi: 10.1242/jeb.101154
27. Dacke M, El Jundi B, Smolka J, Byrne M, **Baird E\*** 2014 The role of the sun in the celestial compass of dung beetles. *Phil Trans R Soc* **369**:20130036 doi: 10.1098/rstb.2013.0036  
\*senior author and author for correspondence
28. **Baird E\***, Boeddeker N, Ibbotson MR, Srinivasan MV. 2013 A universal strategy for visually guided landing. *PNAS* **110**:18686-18691 doi: 10.1073/pnas.1314311110  
\*lead author and author for correspondence
29. Dacke M, **Baird E**, Byrne M, Scholtz C, Warrant E. 2013 Dung beetles use the Milky Way for orientation. *Current Biology* **23**:298-300 doi: 10.1016/j.cub.2012.12.034
30. Dacke M, Byrne M, Smolka J, Warrant E, **Baird E\*** 2013 Dung beetles ignore landmarks for straight-line orientation. *J Comp Physiol A* **199**:17-23 doi: 10.1007/s00359-012-0764-8  
\*senior author and author for correspondence
31. Smolka J, **Baird E**, Byrne M, el Jundi, B, Warrant E, Dacke, M. 2012 Dung beetles use their dung ball as a mobile thermal refuge. *Curr Biol* **22**:R864 doi: 10.1016/j.cub.2012.08.057
32. **Baird E\***, Dacke M. 2012 Visual flight control in naturalistic and artificial environments. *J Comp Physiol A* **198**:869-876 doi: 10.1007/s00359-012-0757-7  
\*lead author and author for correspondence
33. **Baird E\***, Byrne M, Smolka J, Warrant E, Dacke M. 2012 The dung beetle dance: An orientation behaviour? *PLoS one* **7**:e30211 doi: 10.1371/journal.pone.0030211  
\*lead author and author for correspondence
34. Johansson CJ, Engel S, **Baird E\***, Dacke M, Muijres FT, Hedenström A. 2012 Elytra boost lift, but reduce aerodynamic efficiency in flying beetles. *J R Soc Interface* **9**:2745-2748 doi: 10.1098/rsif.2012.0053
35. **Baird E\***, Kreiss E, Wcislo W, Warrant E, Dacke M. 2011 Nocturnal insects use optic flow for flight control. *Biol Lett* **7**:499-501 doi: 10.1098/rsbl.2010.1205  
\*lead author and author for correspondence

36. Kelber A, Jonsson F, Wallén R, Warrant E, Kornfeldt T, **Baird E** 2011 Hornets can fly at night without obvious adaptations of eyes and ocelli. *PLoS one* **6**:e21892 doi: 10.1371/journal.pone.0021892
37. **Baird E\***, Kornfeldt T, Dacke M. 2010 Minimum viewing angle for visually guided ground speed control in bumblebees. *J Exp Biol* **213**:1625-1632 doi: 10.1242/jeb.038802  
\*lead author and author for correspondence
38. **Baird E\***, Byrne M, Scholtz C, Warrant E, Dacke M. 2010 Bearing selection in ball-rolling dung beetles: Is it constant? *J Comp Physiol A* **196**:801-806 doi: 10.1007/s00359-010-0559-8  
\*lead author and author for correspondence
39. Dittmar L, Stürzl W, **Baird E**, Böddeker N, Egelhaaf M. 2010 Goal seeking in honeybees: matching of optic flow snapshots? *J Exp Biol* **213**:2913-2923 doi: 10.1242/jeb.043737
40. Dacke M, Byrne M, **Baird E**, Scholtz C, Warrant E. 2010 How dim is dim? Precision of the celestial compass in moonlight and sunlight. *Phil Trans R Soc B* **366**, 697-702 doi: 10.1098/rstb.2010.0191
41. Veeraraghavan A, Srinivasan M, Chellappa R, **Baird E**, Lamont R. 2006 Motion based correspondence for 3D tracking of multiple dim objects. *ICASSP 2006*, IEEE: II, 669-672 doi: 10.1109/ICASSP.2006.1660431
42. **Baird E\***, Srinivasan M, Zhang S, Lamont R, Cowling A. 2006 Visual control of flight speed and height in the honeybee. In *Lecture Notes in Computer Science* (Eds. Nolfi, S. et al.), **4095**:40-51 doi: 10.1007/11840541\_4  
\*lead author and author for correspondence
43. **Baird E\***, Srinivasan M, Zhang S, Cowling A. 2005 Visual control of flight speed in honeybees. *J Exp Biol* **208**:3895-3905 doi: 10.1242/jeb.01818  
\*lead author and author for correspondence

### Preprint articles

- Taylor G, Hall S, Gren J, **Baird E\***. 2018 Imaging the evolution of visual specializations in fungus gnats *Biorxiv* online 28 March 2018 doi:10.1101/290841  
\* senior author

### Other articles

- Baird E\***, Taylor G 2017 X-ray micro computed-tomography *Curr Biol* **27**:R289-R291 doi: 10.1016/j.cub.2017.01.066  
\*senior author

**Baird E\***, 2017 What does a bee see? Elucidating the visual world of bees using x-ray microtomography *Diamond Light Source Annual Report 2016/17*