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## **Contact information**

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**I am an Australian Research Council Future Fellow, Associate Professor, and Deputy Head of Department with Macquarie University's Department of Biological Sciences. My research spans comparative neurobiology and behavioural ecology examining the mechanisms and evolution of behavioural systems, cognition and social behaviour.**

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Publication profiles: <http://scholar.google.com.au/citations?user=ah1jBk4AAAAJ&hl=en>  
[https://www.researchgate.net/profile/Andrew\\_Barron2](https://www.researchgate.net/profile/Andrew_Barron2)  
<http://publicationslist.org/andrew.barron>

## **Employment**

2015 - ongoing: Australian Research Council Future Fellow

2014 - ongoing: Associate Professor, Department of Biological Sciences at Macquarie University

2012 - ongoing: Deputy Head of Department, Department of Biological Sciences at Macquarie University

2007 - 2014: Senior Lecturer, Department of Biological Sciences at Macquarie University

2004 - 2007: Postdoctoral Fellow, Research School of Biological Sciences, Australian National University

2001 - 2004: Fulbright Postdoctoral Fellow, University of Illinois

1999 - 2001: Royal Society Postdoctoral fellow, University of Sydney

## **Education**

1995 - 1999 Department of Zoology, Cambridge University, PhD

1992 - 1995 Fitzwilliam College, Cambridge University, First Class Honours Degree in Natural Sciences

## **Major grants**

2017 **A.B. Barron**. An analysis of the distribution and degrees of intelligence across animal groups. Templeton World Charity Foundation TWCF0266

2015 K. Cheng, **A.B. Barron**, J. Zeil, A. Narendra, R. Wehner. Navigating brains: the neurobiology of spatial cognition. ARC Discovery Project Grant DP150101172

2014 **A.B. Barron**. Comprehending and modelling the workings of the animal brain. ARC Future Fellowship FT 140100452

2013 **A.B. Barron**. Integrative analyses of honey bee colony function and performance. Enterprise Partnership Scheme, United States Department of Agriculture

2012 R. Maleszka & **A.B. Barron**. Beyond the genome: unravelling the intricacies of epigenetic regulation using the honey bee model. ARC Discovery Project Grant DP120101803

2011 **A.B. Barron**. Understanding colony collapse: a social analysis of honey bee colony failure. Hermon Slade Foundation Project Grant

2010 R. Maleszka, J.L. Cornish & **A.B. Barron**. Molecular memory: how DNA methylation contributes to spatial memory. NHMRC Project Grant 585442

- 2010 **A.B. Barron**. The molecular and cellular basis the memory in the honey bee. Macquarie University Research Development Grant
- 2009 **A.B. Barron**, J.L. Cornish & R. Maleszka. Vulnerability to cocaine use: discovering common mechanisms conserved across animal phyla. ARC Discovery Project Grant DP0986021
- 2005 G.E. Robinson & **A.B. Barron**. Neuromodulation of reward-directed behaviour. NIH Cutting Edge Biological Research Award
- 2002 G.E. Robinson & **A.B. Barron**. Organisation of behavioural plasticity by neurochemicals. National Science Foundation Project Grant

**Current funded international collaborations (in which I am a named participant)**

- 2016 Brains on Board. Engineering and Physical Sciences Research Council. CI James Marshall University of Sheffield
- 2015 Analysing and modelling decision making in the honey bee brain. Royal Society International Exchanges Scheme. CI James Marshall University of Sheffield
- 2013 Allatostatin receptors and stress resilience in honey bees. ANR project ASTRAPIS. CI Jean Marc Devaud, Universitat Paul Sabbatier, Toulouse.
- 2012 En garde! The development of a stress response in bees and its impact on learning and memory. Royal Society for New Zealand Marsden Fund. CI Prof. Alison Mercer, Otago University

**Awards & fellowships**

- 2017 Leverhulme Visiting Professorship, hosted by University of Sheffield
- 2017 Macquarie University Research Awards: Jim Piper Award for Excellence in Research Leadership, Highly Commended
- 2017 Macquarie University Faculty of Science and Engineering Excellence in Research Leadership Award
- 2015 Australian Museum Eureka Awards 2015 Finalist: Excellence in Research
- 2015 Macquarie University Research Awards 2015 Finalist: Excellence in Research – Secure Planet category
- 2014 Australian Research Council Future Fellowship.
- 2014 Macquarie University Research Awards 2014: Excellence in Research in Science and Engineering Highly Commended.
- 2012 Australian Award for University Teaching – Genes to Geoscience Research Enrichment Program.
- 2010 Young Tall Poppy Award, Australian Institute for Policy and Science, to recognise Australia's promising young scientists.
- 2010 Faculty of Science Teaching Award, Macquarie University.
- 2004 Human Frontier Science Program short-term research fellowship to fund a new collaboration with the University of Otago.
- 2003 Centre for Visual Science New Initiatives Fellowship to fund my first year at The Research School for Biological Sciences.
- 2001 Fulbright Distinguished Scholars Award, The Fulbright Commission. A highly competitive award that funded my first year of postdoctoral research at the University of Illinois.
- 2000 U2000 Research Fellowship, University of Sydney. A research fellowship won in competition across the University of Sydney.
- 1999 Postdoctoral Travelling Fellowship award from the Royal Society of London. A competitive award that supported my first year of study at The University of Sydney.

### **Organised symposia at international meetings**

- 2017 Knowing where you are going: comparative perspectives on a core problem. Australian Neuroscience Society, Sydney
- 2012 Signalling in insects and spiders; conflict and cooperation. Australian Entomological Society 43<sup>rd</sup> AGM and Scientific meeting Hobart Tasmania
- 2011 Small and large brains. Gordon Conference in Neuroethology Easton Mass. U.S.A.
- 2010 New insights into social evolution: Molecular and genomics approaches to comparative neuroethology. International Congress of the IUSSI, Copenhagen Denmark
- 2005 Perception, cognition and social behaviour. 3<sup>rd</sup> European Congress on Social Insects, St Petersburg, Russia.

### **Invited conference and workshop participation.**

- 2017 Invited speaker and panelist Animal Consciousness Conference, New York University
- 2017 Invited speaker Re-use and Evolvability Workshop, Australian National University
- 2017 Invited speaker Beecon, York University Toronto CA
- 2017 Invited speaker TEDx Fulbright Sydney: "Why I'm Building a Model of the Bee Brain"
- 2016 Invited speaker Azrieli Program in Brain, Mind and Consciousness, Canadian Institute for Advanced Research. Seattle USA
- 2016 Invited speaker Australasian Neuroscience Society Annual Scientific Meeting. Hobart Australia
- 2016 Invited speaker International Conference on Pollinator Biology, Health and Policy, Penn. State, USA
- 2016 Invited speaker International Congress of Neuroethology, Montevideo, Uruguay
- 2015 Invited speaker Invertebrates as Models of Cognition. CNS 2015 Workshop. Prague.
- 2014 Invited speaker Bee and Fly Neuroscience meeting Howard Hughes Medical Institute, Janelia Farm.
- 2014 Member of Program Committee 11<sup>th</sup> International Neuroethology Conference, Sapporo Japan.
- 2013-2014 Invited participant: working group. 'Towards a unified theory of animal decision making' NESCent, Duke University, Durham.
- 2013 Invited participant: working group. 'Inspiring smarter brain research in Australia' Theo Murphy High Fliers Think Tank, Australian Academy of Science, Melbourne University
- 2012 Invited participant and speaker 'Biogenic amines and the organisation of honey bee society' DFG Research Unit "Biogenic Amines in Insects" working group, Freie Universitat Berlin.
- 2012 Invited speaker 'Pheromonal Control' Australian Entomological Society 43<sup>rd</sup> AGM and Scientific meeting Hobart Tasmania
- 2011 Discussion leader Gordon Research Conference on Neuroethology, Easton MA
- 2010 Invited speaker. 'Pheromonal control of worker bee behaviour' International Congress of the IUSSI, Copenhagen Denmark
- 2008 Invited speaker 'Bees on crack' Gordon Research Conference on Genes and Behaviour, Barga Italy
- 2008 Discussion leader Gordon Research Conference on Neuroethology, Oxford
- 2008 Discussion leader and mentor Gordon-Keenan Postgraduate Seminar: Neuroethology 2050, Oxford

### **Honorary positions and appointments**

- 2017 Conference local organising committee member, International Congress of Neuroethology, Brisbane 2018

2016	Conference local organising committee member, Inter-University Neuroscience and Mental Health Conference, Macquarie University
2016	Conference co-Chair, Australasian Society for the Study of Animal Behaviour
2014	Conference Chair, Australasian Society for the Study of Animal Behaviour
2014	Invited Member of Program Committee International Society for Neuroethology Congress Sapporo 2014
2013	Invited participant ,Theo Murphy High Flyers Think Tank: Inspiring Smarter Brain Research in Australia
2013 – 2014	Invited Member, NESCent working group: Towards a Unified Theory of Animal Decision Making
2012 – 2014	President, Australasian Society for the Study of Animal Behaviour
2012	National Science Foundation Grants Review Panel Member: Behavioural Systems
2011	National Science Foundation Grants Review Panel Member: Animal Behaviour
2010 – 2012	Vice-President, Australasian Society for the Study of Animal Behaviour
2008 – 2010	Treasurer, Australasian Society for the Study of Animal Behaviour

## **Publications**

1. Barron, A. B. & Plath, J. A. 2017. The evolution of honey bee dance communication: A mechanistic perspective. *Journal of Experimental Biology*, 220, 4339-4346.
2. Cope, A. J., Sabo, C., Vasilaki, E., Barron, A. B. & Marshall, J. A. R. 2017. A computational model of the integration of landmarks and motion in the insect central complex. *PLoS ONE*, 12.
3. He, X. J., Jiang, W. J., Zhou, M., Barron, A. B. & Zeng, Z. J. 2017a. A comparison of honeybee (*Apis mellifera*) queen, worker and drone larvae by RNA-Seq. *Insect Science*.
4. He, X. J., Zhou, L. B., Pan, Q. Z., Barron, A. B., Yan, W. Y. & Zeng, Z. J. 2017b. Making a queen: an epigenetic analysis of the robustness of the honeybee (*Apis mellifera*) queen developmental pathway. *Molecular Ecology*, 26, 1598-1607.
5. Klein, S., Cabirol, A., Devaud, J. M., Barron, A. B. & Lihoreau, M. 2017a. Why Bees Are So Vulnerable to Environmental Stressors. *Trends in Ecology and Evolution*, 32, 268-278.
6. Klein, S., Pasquaretta, C., Barron, A. B., Devaud, J. M. & Lihoreau, M. 2017b. Inter-individual variability in the foraging behaviour of traplining bumblebees. *Scientific Reports*, 7.
7. Perry, C. J., Barron, A. B. & Chittka, L. 2017. The frontiers of insect cognition. *Current Opinion in Behavioral Sciences*, 16, 111-118.
8. Plath, J. A., Entler, B. V., Kirkerud, N. H., Schlegel, U., Galizia, C. G. & Barron, A. B. 2017. Different roles for honey bee mushroom bodies and central complex in visual learning of colored lights in an aversive conditioning assay. *Frontiers in Behavioral Neuroscience*, 11.
9. Robinson, G. E. & Barron, A. B. 2017. Epigenetics and the evolution of instincts: Instincts may evolve from learning and share the same cellular and molecular mechanisms. *Science*, 356, 26-27.
10. Scheiner, R., Entler, B. V., Barron, A. B., Scholl, C. & Thamm, M. 2017a. The effects of fat body tyramine level on gustatory responsiveness of honeybees (*Apis mellifera*) differ between behavioral castes. *Frontiers in Systems Neuroscience*, 11.
11. Scheiner, R., Reim, T., Søvik, E., Entler, B. V., Barron, A. B. & Thamm, M. 2017b. Learning, gustatory responsiveness and tyramine differences across nurse and forager honeybees. *Journal of Experimental Biology*, 220, 1443-1450.
12. Søvik, E., LaMora, A., Seehra, G., Barron, A. B., Duncan, J. G. & Ben-Shahar, Y. 2017. *Drosophila* divalent metal ion transporter Malvolio is required in dopaminergic neurons for feeding decisions. *Genes, Brain and Behavior*, 16, 506-514.

13. Barron, A. B. & Klein, C. 2016. What insects can tell us about the origins of consciousness. *Proceedings of the National Academy of Science of the United States of America*, 113, 4900-4908.
14. Brown, M. J. F., Dicks, L. V., Paxton, R. J., Baldock, K. C. R., Barron, A. B., Chauzat, M. P., Freitas, B. M., Goulson, D., Jepsen, S., Kremen, C., Li, J., Neumann, P., Pattemore, D. E., Potts, S. G., Schweiger, O., Seymour, C. L. & Stout, J. C. 2016. A horizon scan of future threats and opportunities for pollinators and pollination. *PeerJ*, 2016.
15. He, X. J., Zhang, X. C., Jiang, W. J., Barron, A. B., Zhang, J. H. & Zeng, Z. J. 2016. Starving honey bee (*Apis mellifera*) larvae signal pheromonally to worker bees. *Scientific Reports*, 6.
16. Hebets, E. A., Barron, A. B., Balakrishnan, C. N., Hauber, M. E., Mason, P. H. & Hoke, K. L. 2016. A systems approach to animal communication. *Proceedings. Biological sciences*, 283, 20152889.
17. Klein, C. & Barron, A. B. 2016a. Insects have the capacity for subjective experience. *Animal Sentience*, 100.
18. Klein, C. & Barron, A. B. 2016b. Reply to Adamo, Key et al., and Schilling and Cruse: Crawling around the hard problem of consciousness. *Proceedings of the National Academy of Science of the United States of America*, 113, E3814–E3815.
19. Peso, M., Even, N., Søvik, E., Naeger, N. L., Robinson, G. E. & Barron, A. B. 2016. Physiology of reproductive worker honey bees (*Apis mellifera*): insights for the development of the worker caste. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology*, 202, 147-158.
20. Søvik, E., Plath, J. A., Devaud, J. M. & Barron, A. B. 2016. Neuropharmacological manipulation of restrained and free-flying honey bees, *Apis mellifera*. *Journal of Visualized Experiments*, 2016.
21. Ushitani, T., Perry, C. J., Cheng, K. & Barron, A. B. 2016. Accelerated behavioural development changes fine-scale search behaviour and spatial memory in honey bees (*Apis mellifera* L.). *Journal of Experimental Biology*, 219, 412-418.
22. Barron, A. B. 2015. Death of the bee hive: Understanding the failure of an insect society. *Current Opinion in Insect Science*, 10, 45-50.
23. Barron, A. B., Gurney, K. N., Meah, L. F. S., Vasilaki, E. & Marshall, J. A. R. 2015a. Decision-making and action selection in insects: inspiration from vertebrate-based theories. *Frontiers in Behavioral Neuroscience*, 9, 216.
24. Barron, A. B., Hebets, E. A., Cleland, T. A., Fitzpatrick, C. L., Hauber, M. E. & Stevens, J. R. 2015b. Embracing multiple definitions of learning. *Trends in neurosciences*, 38, 405-407.
25. Chang, L. H., Barron, A. B. & Cheng, K. 2015. Effects of the juvenile hormone analogue methoprene on rate of behavioural development, foraging performance and navigation in honey bees (*Apis mellifera*). *Journal of Experimental Biology*, 218, 1715-1724.
26. Hauber, M. E., Tong, L., Bán, M., Croston, R., Grim, T., Waterhouse, G. I. N., Shawkey, M. D., Barron, A. B. & Moskát, C. 2015. The Value of Artificial Stimuli in Behavioral Research: Making the Case for Egg Rejection Studies in Avian Brood Parasitism. *Ethology*, 121, 521-528.
27. Perry, C. J., Søvik, E., Myerscough, M. R. & Barron, A. B. 2015. Rapid behavioral maturation accelerates failure of stressed honey bee colonies. *Proceedings of the National Academy of Sciences*, 112, 3427-3432.
28. Peso, M., Elgar, M. A. & Barron, A. B. 2015. Pheromonal control: Reconciling physiological mechanism with signalling theory. *Biological Reviews*, 90, 542-559.
29. Plath, J. A. & Barron, A. B. 2015. Current progress in understanding the functions of the insect central complex. *Current Opinion in Insect Science*, 12, 11-18.
30. Søvik, E., Perry, C. J. & Barron, A. B. 2015a. Insect reward systems: Comparing flies and bees. *Advances in Insect Physiology*.
31. Søvik, E., Perry, C. J., LaMora, A., Barron, A. B. & Ben-Shahar, Y. 2015b. Negative impact of manganese on honeybee foraging. *Biology Letters*, 11.
32. Ah-King, M., Barron, A. B. & Herberstein, M. E. 2014. Genital evolution: why are females still understudied? *PLoS Biology* 12, e1001851.
33. Andrew, S. C., Perry, C. J., Barron, A. B., Berthon, K., Peralta, V. & Cheng, K. 2014. Peak shift in honey bee olfactory learning. *Animal Cognition* 17, 1177-1186.

34. E Søvik, N. E., CW Radford, AB Barron 2014. Cocaine affects foraging behaviour and biogenic amine modulated behavioural reflexes in honey bees. *PeerJ*, 2, e662.
35. He, X., Tian, L., Barron, A., Guan, C., Liu, H., Wu, X. & Zeng, Z. 2014a. Behaviour and molecular physiology of nurses of worker and queen larvae in honey bees (*Apis mellifera*). *Journal of Asia-Pacific Entomology*, 17, 911–916.
36. He, X. J., Tian, L. Q., Barron, A. B., Guan, C., Liu, H., Wu, X. B. & Zeng, Z. J. 2014b. Behavior and molecular physiology of nurses of worker and queen larvae in honey bees (*Apis mellifera*). *Journal of Asia-Pacific Entomology*, 17, 911-916.
37. Maleszka, R., Mason, P. H. & Barron, A. B. 2014. Epigenomics and the concept of degeneracy in biological systems. *Briefings in Functional Genomics*, 13, 191-202.
38. Peso, M. & Barron, A. B. 2014. The effects of brood ester pheromone on foraging behaviour and colony growth in apicultural settings. *Apidologie*, 45, 529-536.
39. Scheiner, R., Toteva, A., Reim, T., Søvik, E. & Barron, A. B. 2014. Differences in the phototaxis of pollen and nectar foraging honey bees are related to their octopamine brain titers. *Frontiers in Physiology*, 5
40. Søvik, E., Even, N., Radford, C. W. & Barron, A. B. 2014. Cocaine affects foraging behaviour and biogenic amine modulated behavioural reflexes in honey bees. *PeerJ*, 2014.
41. Guan, C., Barron, A. B., He, X. J., Wang, Z. L., Yan, W. Y. & Zeng, Z. J. 2013. A Comparison of Digital Gene Expression Profiling and Methyl DNA Immunoprecipitation as Methods for Gene Discovery in Honeybee (*Apis mellifera*) Behavioural Genomic Analyses. *PLoS ONE*, 8.
42. Khoury, D. S., Barron, A. B. & Myerscough, M. R. 2013. Modelling food and population dynamics in honey bee colonies. *PLoS ONE*, 8, e59084.
43. Naeger, N. L., Peso, M., Even, N., Barron, A. B. & Robinson, G. E. 2013. Altruistic behavior by egg-laying worker honeybees. *Current Biology*, 23, 1574-1578.
44. Perry, C. J. & Barron, A. B. 2013a. Honey bees selectively avoid difficult choices. . *Proceedings of the National Academy of Sciences* 110, 19155-19159.
45. Perry, C. J. & Barron, A. B. 2013b. Neural mechanisms of reward in insects. *Annual Review of Entomology*.
46. Perry, C. J., Barron, A. B. & Cheng, K. 2013. Invertebrate learning and cognition: relating phenomena to neural substrate. *WIREs Cognitive Science*.
47. Peso, M., Nino, E. L., Grozinger, C. M. & Barron, A. B. 2013. Effect of honey bee queen mating condition on worker ovary activation. *Insectes Sociaux*, 60, 123-133.
48. Russell, S., Barron, A. B. & Harris, D. 2013. Dynamic modelling of honey bee (*Apis mellifera*) colony growth and failure. *Ecological Modelling*, 265, 158-169.
49. Søvik, E. & Barron, A. B. 2013. Invertebrate models in addiction research. *Brain, Behavior and Evolution*, 82, 153-165.
50. Søvik, E., Cornish, J. L. & Barron, A. B. 2013. Cocaine tolerance in honey bees. *PLoS ONE*, 8, e64920.
51. Barron, A. B., Brockmann, A., Moushumi Sen Sarma & Robinson, G. E. 2012. Neurogenomic and neurochemical dissection of honey bee dance communication. In: GALIZIA, C. G., EISENHARDT, D. & GIURFA, M. (eds.) *Honeybee Neurobiology and Behavior A Tribute to randolf Menzel*. New York: Springer.
52. Barron, A. B. & Brown, M. J. F. 2012. Science journalism: Let's talk about sex. *Nature*, 488, 151-152.
53. Even, N., Devaud, J. M. & Barron, A. B. 2012. General stress responses in the honey bee. *Insects*, 3, 1271-1298.
54. He, X., Wang, W., Qin, Q., Zeng, Z., Zhang, S. & Barron, A. B. 2012. Assessment of flight activity and homing ability in Asian and European honey bee species, *Apis cerana* and *Apis mellifera*, measured with radio frequency tags. *Apidologie*.
55. McQuillan, H. J., Barron, A. B. & Mercer, A. R. 2012. Age- and behaviour-related changes in the expression of biogenic amine receptor genes in the antennae of honey bees (*Apis mellifera*). *Journal of Comparative Physiology a-Neuroethology Sensory Neural and Behavioral Physiology*, 198, 753-761.

56. Barron, A. B., Ah-King, M. & Herberstein, M. E. 2011. Plenty of sex, but no sexuality in biology undergraduate curricula: How sexuality and variation in sexual behaviour are addressed in current biological teaching in relation to recent research findings. *BioEssays*, 33, 899-902.
57. Khoury, D. S., Myerscough, M. R. & Barron, A. B. 2011. A quantitative model of honey bee colony population dynamics. *PLoS ONE*, 6, e18491.
58. Barron, A. B., Søvik, E. & Cornish, J. L. 2010. The roles of dopamine and related compounds in reward-seeking behavior across animal phyla. *Frontiers in Behavioral Neuroscience*, 4, 63.
59. Shafir, S. & Barron, A. B. 2010. Optic flow informs distance but not profitability for honeybees. *Proceedings. Biological sciences / The Royal Society*, 277, 1241-5.
60. Barron, A. B., Maleszka, R., Helliwell, P. G. & Robinson, G. E. 2009. Effects of cocaine on honey bee dance behaviour. *Journal of Experimental Biology*, 212, 163-168.
61. Maleszka, J., Barron, A. B., Helliwell, P. G. & Maleszka, R. 2009. Effect of age, behaviour and social environment on honey bee brain plasticity. *Journal of Comparative Physiology a-Neuroethology Sensory Neural and Behavioral Physiology*, 195, 733-740.
62. Barron, A. B. & Robinson, G. E. 2008. The utility of behavioral models and modules in molecular analyses of social behavior. *Genes, brain, and behavior*, 7, 257-65.
63. Barron, A. B., Maleszka, J., Vander Meer, R. K., Robinson, G. E. & Maleszka, R. 2007a. Comparing injection, feeding and topical application methods for treatment of honeybees with octopamine. *Journal of Insect physiology*, 53, 187-194.
64. Barron, A. B., Maleszka, R., Vander Meer, R. K. & Robinson, G. E. 2007b. Octopamine modulates honey bee dance behavior. *Proceedings of the National Academy of Sciences of the United States of America*, 104, 1703-1707.
65. Barron, A. & Srinivasan, M. V. 2006. Visual regulation of ground speed and headwind compensation in freely flying honey bees (*Apis mellifera* L.). *Journal of Experimental Biology*, 209, 978-984.
66. Lehman, H. K., Schulz, D. J., Barron, A. B., Wraight, L., Hardison, C., Whitney, S., Takeuchi, H., Paul, R. K. & Robinson, G. E. 2006. Division of labor in the honey bee (*Apis mellifera*): The role of tyramine  $\beta$ -hydroxylase. *Journal of Experimental Biology*, 209, 2774-2784.
67. Barron, A. B. & Robinson, G. E. 2005. Selective modulation of task performance by octopamine in honey bee (*Apis mellifera*) division of labour. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology*, 191, 659-668.
68. Barron, A. B., Zhu, H., Robinson, G. E. & Srinivasan, M. V. 2005. Influence of flight time and flight environment on distance communication by dancing honey bees. *Insectes Sociaux*, 54, 402-407.
69. Barron, A. B. & Robinson, G. E. Octopamine modulation of dance communication and division of labour in honey bees. 2004 Nyborg, Denmark.
70. Dampney, J. R., Barron, A. B. & Oldroyd, B. P. 2004. Measuring the cost of worker reproduction in honeybees: Work tempo in an 'anarchic' line. *Apidologie*, 35, 83-88.
71. Barron, A. B., Schulz, D. J. & Robinson, G. E. 2002. Octopamine modulates responsiveness to foraging-related stimuli in honey bees (*Apis mellifera*). *Journal of Comparative Physiology A*, 188, 603-610.
72. Dampney, J. R., Barron, A. B. & Oldroyd, B. P. 2002. Policing of adult honey bees with activated ovaries is error prone. *Insectes Sociaux*, 49, 270-274.
73. Johnson, R. N., Oldroyd, B. P., Barron, A. B. & Crozier, R. H. 2002. Genetic control of the honey bee (*Apis mellifera*) dance language: segregating dance forms in a backcrossed colony. *Journal of Heredity*, 93, 170-173.
74. Schulz, D. J., Barron, A. B. & Robinson, G. E. 2002. A role for octopamine in honey bee division of labor. *Brain Behavior and Evolution*, 60, 350-359.
75. Barron, A. B. 2001. The life and death of Hopkins' host-selection principle. *Journal of Insect Behavior*, 14, 725-737.
76. Barron, A. B. & Oldroyd, B. P. 2001. Social regulation of ovary activation in 'anarchistic' honey-bees (*Apis mellifera*). *Behavioral Ecology and Sociobiology*, 49, 214-219.
77. Barron, A. B., Oldroyd, B. P. & Ratnieks, F. L. W. 2001. Worker reproduction in honey-bees (*Apis*) and the anarchic syndrome: A review. *Behavioral Ecology and Sociobiology*, 50, 199-208.

78. Halling, L. A., Oldroyd, B. P., Wattanachaiyingcharoen, W., Barron, A. B., Nanork, P. & Wongsiri, S. 2001. Worker policing in the bee *Apis florea*. *Behavioral Ecology and Sociobiology*, 49, 509-513.
79. Oldroyd, B. P., Halling, L. A., Good, G., Wattanachaiyingcharoen, W., Barron, A. B., Nanork, P., Wongsiri, S. & Ratnieks, F. L. 2001. Worker policing and worker reproduction in *Apis cerana*. *Behavioral Ecology and Sociobiology*, 50, 371-377.
80. Barron, A. B. 2000. Anaesthetising *Drosophila* for behavioural studies. *Journal of Insect Physiology*, 46, 439-442.
81. Barron, A. B. & Corbet, S. A. 2000. Behavioural induction in *Drosophila*: timing and specificity. *Entomologia Experimentalis et Applicata*, 94, 159-171.
82. Barron, A. B. 1999. *Influences of the chemical environment on the behaviour of adult Drosophila melanogaster*. PhD, University of Cambridge.
83. Barron, A. B. & Corbet, S. A. 1999a. Pre-exposure affects the olfactory response of *Drosophila melanogaster* to menthol. *Entomologia Experimentalis et Applicata*, 90, 175-181.
84. Barron, A. B. & Corbet, S. A. 1999b. Preimaginal conditioning in *Drosophila* revisited. *Animal Behaviour*, 58, 621-628.
85. Comba, L., Corbet, S. A., Barron, A., Bird, A., Collinge, S., Miyazaki, N. & Powell, M. 1999. Garden flowers: insect visits and the floral reward of horticulturally-modified variants. *Annals of Botany*, 83, 73-86.
86. Barron, A. & Wilson, K. 1998. Overwintering survival in the seven spot ladybird, *Coccinella septempunctata* (Coleoptera: Coccinellidae). 95, 639-642.

### **Book chapters**

1. Myerscough M.R. Kroury D.S. Ronzani S. & **Barron A.B.** (2017) Why do hives die? Using mathematics to solve the problem of honey bee colony collapse. In *The Role and Importance of Mathematics in Innovation*. B. Anderssen, P. Broadbridge, Y. Fukumoto, N. Kamiyama, Y. Mizoguchi, K. Polthier, O. Saeki (eds) p 35-50 Springer New York
2. **Barron A.B.** Brockmann A. Sen Sarma M. & Robinson G.E. (2011) Neurogenomic and neurochemical dissection of honey bee dance communication. In *Honeybee neurobiology and behavior – a tribute for Randolph Menzel*. C.G. Galizia, D. Eisenhardt & M. Giurfa (eds) p 323-340 Springer New York
3. **Barron A.B.** (2009) Learned host preferences. In *Insect Phenotypic Plasticity: Mechanisms and Consequences*, D. Whitman & T.N. Ananthakrishnan (eds) p 767 – 781 Science Publishers, Enfield USA
4. **Barron A.B.** & Robinson G.E. (2009) From social behaviour to molecules: models and modules in the middle. in *Organisation of Insect Societies: From Genome to Sociocomplexity*. J. Gadau and J. Fewell, (eds) p 525-545. Harvard University Press, Cambridge USA

### **Magazine articles**

1. **Barron A.B.** (2016) What is it like to be a bee: insects can teach us about the origins of consciousness. *The Conversation* 19 Apr.
2. **Barron A.B.** (2014) Its time to build a bionic brain for smarter research. *The Conversation* 25 Feb.
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