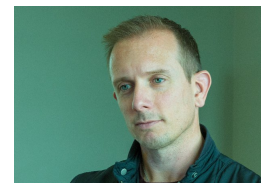


Andrew Barron
Research Fellow
Department of Biological Sciences
Biosecurity Futures Research Centre
Macquarie University Species Spectrum Research Center
Biomolecular Discovery and Design Research Centre
Email: andrew.barron@mq.edu.au
Phone: +61 2 9850 1310



Biography

Dr Barron is an Australian Research Council Future Fellow, and Deputy Head of the Department of Biological Sciences at Macquarie University. He is a neuroethologist, which is a discipline of neuroscience studying the neural mechanisms of natural animal behaviour. Most of his research focuses on insects, especially honey bees. Using advanced techniques to visualise, manipulate, map and record from the insect brain Barron's team has made important contributions to the understanding of fundamental behavioural systems such as cognition, navigation, social behaviour and learning and memory.

He also conducts research to improve honey bee health and welfare. He is studying how bees and bee colonies are impacted by pesticide and disease stressors, and how to best intervene to help bee colonies under stress.

Employment

ARC Future Fellow

Research Fellow
Department of Biological Sciences
Macquarie University
1 Jun 2015 → present

Biosecurity Futures Research Centre

Macquarie University
1 Jul 2015 → 31 Dec 2018

Macquarie University Species Spectrum Research Center

Macquarie University
1 Jan 2017 → 31 Dec 2019

Biomolecular Discovery and Design Research Centre

Macquarie University
1 Jan 2017 → 31 Dec 2019

Australian Research Council Future Fellow

Australian Research Council
Canberra, Australia
1 Jan 2015 → present

President, Australasian Society for the Study of Animal Behaviour

AUSTRALASIAN SOCIETY OF THE STUDY OF ANIMAL BEHAVIOUR
Australia
1 Jan 2012 → 1 Jan 2014

Vice-President, Australasian Society for the Study of Animal Behaviour

AUSTRALASIAN SOCIETY OF THE STUDY OF ANIMAL BEHAVIOUR
Australia
1 Jan 2010 → 1 Jan 2012

Treasurer, Australasian Society for the Study of Animal Behaviour

AUSTRALASIAN SOCIETY OF THE STUDY OF ANIMAL BEHAVIOUR

Australia

1 Jan 2008 → 1 Jan 2010

Postdoctoral Fellow, Research School of Biological Sciences

Australian National University

ACT 0200, Australia

1 Jan 2004 → 1 Jan 2007

Fullbright Postdoctoral Fellow

University of Illinois

Champaign, United States

1 Jan 2001 → 1 Jan 2004

Royal Society Postdoctoral Fellow

University of Sydney

2006, Australia

1 Jan 1999 → 1 Jan 2001

Research output

The development of honey bee colonies assessed using a new semi-automated brood counting method: Combcount

Colin, T., Bruce, J., Meikle, W. G. & Barron, A. B. 16 Oct 2018 In : PLoS ONE. 13, 10, 14 p., e0205816

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Starving honey bee (*Apis mellifera*) larvae signal pheromonally to worker bees

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Rapid behavioral maturation accelerates failure of stressed honey bee colonies

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Insect reward systems: Comparing flies and bees

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Scheiner, R., Toteva, A., Reim, T., Søvik, E. & Barron, A. B. 2014 In : *Frontiers in Physiology*. 5, p. 1-8 8 p., 116

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Genital evolution: why are females still understudied?

Ah-King, M., Barron, A. B. & Herberstein, M. E. 2014 In : *PLoS Biology*. 12, 5, p. 1-7 7 p., e1001851

Peak shift in honey bee olfactory learning

Andrew, S. C., Perry, C. J., Barron, A. B., Berthon, K., Peralta, V. & Cheng, K. 2014 In : *Animal Cognition*. 17, 5, p. 1177-1186 10 p.

The effects of brood ester pheromone on foraging behaviour and colony growth in apicultural settings

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Cocaine tolerance in honey bees

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Modelling food and population dynamics in honey bee colonies

Khoury, D. S., Barron, A. B. & Myerscough, M. R. 7 May 2013 In : *PLoS ONE*. 8, 5, p. 1-7 7 p., e59084

Neural mechanisms of reward in insects

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Assessment of flight activity and homing ability in Asian and European honey bee species, *Apis cerana* and *Apis mellifera*, measured with radio frequency tags

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Policing of adult honeybees with activated ovaries is error prone
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Social regulation of ovary activation in 'anarchistic' honey-bees (*Apis mellifera*)
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The life and death of Hopkin's host selection principle
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Behavioural induction in *Drosophila*: timing and specificity
Barron, A. B. & Corbet, S. A. 2000 In : Entomologia Experimentalis et Applicata. 94, 2, p. 159-171 13 p.

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Overwintering survival in the seven spot ladybird, *Coccinella septempunctata* (Coleoptera:Coccinellidae)

Barron, A. & Wilson, K. 1998 In : *European Journal of Entomology*. 95, 4, p. 639-642 4 p.

Awards

Projects

Analysing the neural mechanisms of animal cognition and behaviour

Narendra, A., Barron, A., Cheng, K., Hart, N. & Cornish, J.
1/01/16 → 31/12/16

An analysis of the distribution of degrees of intelligence across animal groups

Barron, A.
4/06/18 → 3/06/20

A new understanding of complex systems through study of self-assembled swarm architecture in ants

Reid, C. & Barron, A.
30/06/17 → ...

Automated Fluorescence Stereo Microscope

Narendra, A., Taylor, P., Lindsay, S., Barron, A., Herberstein, M., Hart, N., Williamson, J., Griffith, S., Whiting, M., Brock, G. & Jacob, D.
1/01/17 → ...

Biomolecular Discovery and Design Research Centre

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Biosecurity Futures Research Centre

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1/07/15 → ...

Combined gas chromatography/ electroantennogram detector for insect olfaction research

Taylor, P., Jamie, I., Herberstein, M., Kemp, D., Barron, A., Jamie, J., Akter, H., Adnan, S., Moadeli, T., Akter, K., Bakshi, D. & MQRES, M.
1/01/15 → 31/12/15

Comprehending and modelling the workings of the animal brain

Barron, A., MQRES (International), M. (. & MQRES, M.
1/06/15 → ...

MQRIS Small: Enhancing electrochemical recording techniques in the animal research facility

Cornish, J., Baracz, S., McMullan, S., Goodchild, A., Barron, A. & Hildreth, C.

1/01/18 → 31/12/18

Exploring neurogenomic adaptations to repeated cocaine exposure in honey bees

Barron, A.

22/10/08 → 21/10/09

Gene expression analysis system

Barron, A., Cheng, K., Taylor, P., Nelson, X. & Pryke, S.

1/01/08 → 31/12/08

High quality ultramicrotome for precision specimen preparation for optical and electron microscopy

Deng, W., Chung, R., Nevalainen, H., Phillips, J. K., McMorrnan, B. & Barron, A.

1/01/14 → 31/12/14

High Throughput Molecular Sample Processing Facility

Zakoshanski, I., Paulsen, I., Whiting, M., Power, M., Lanfear, R., Barron, A., Westoby, M., Warren, D., Van Sluyter, S., Clarke, T., Wunderlin, T., Ostrowski, M., Mazard, S. & Tetu, S.

4/02/15 → 31/12/15

Integrative analysis of honey bee colony function and performance (58-5342-3-004F: Developing the use of sensors to model bee colony dynamics and to monitor bee health, productivity and performance)

Barron, A. & Meikle, W.

1/07/13 → ...

Invertebrate olfaction facilities

Taylor, P., Herberstein, M., Barron, A., Weldon, C., Nelson, X. & Prenter, J.

1/01/09 → 31/12/09

Knowing what you don't know: analyzing the biology of metacognition and uncertainty in a simple model system

Perry, C., Barron, A. & Perry, C.

1/06/11 → 1/06/14

Macquarie University Species Spectrum Research Center

Herberstein, M., Gillings, M., Jacob, D., Saintilan, N., Barron, A., Westoby, M., Sofronov, G. & Tetu, S.

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Taylor, P., Barron, A. & Weldon, C.

1/01/10 → 31/12/10

Molecular memory: how DNA methylation contributes to spatial memory

Maleszka, R., Cornish, J. & Barron, A.

1/01/10 → 31/12/12

Navigating brains: the neurobiology of spatial cognition

Cheng, K., Zeil, J., Narendra, A., Barron, A., Wehner, R. & MQRES, M.

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Navigating brains: the neurocomputational foundations of insect spatial cognition

Cheng, K., Barron, A. & Wehner, R.

1/01/14 → 31/12/14

Neural adaptations for social harmony in bees

Barron, A.

1/01/08 → 31/12/08

Operant behavioural chambers for rat research

Cornish, J., Clemens, K., Staples, L., Goodchild, A., Haynes, P., Barron, A., Baillie, A. & Pilowsky, P.

1/01/11 → 31/12/11

Origin of Consciousness and it's Computational Applications in Machines (MQ Discretionary Scheme)

Barron, A., Klein, C., Balleine, B. W., Bell, G., Millford, M. & Van Swinderen, B.

12/02/18 → 31/12/18

Protecting vulnerable Australian honey bees

Barron, A.

25/07/17 → ...

The bionic bee brain

Barron, A.

19/06/15 → 24/08/15

The genomic response to colony disease stress in honey bees

Barron, A. & Gillings, M.

1/07/12 → 30/06/14

The molecular and cellular basis the memory in the honey bee

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1/08/09 → 30/07/11

Towards a Bionic Brain

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30/04/14 → 25/12/14

Understanding colony collapse: a social analysis of honey bee colony failure

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Understanding the functions of neural circuit changes in visual navigation

Kamhi, F., Narendra, A. & Barron, A.

1/01/17 → ...

Vulnerability to cocaine use: discovering common mechanisms conserved across animal phyla

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1/01/09 → 31/12/12