

A. Bradley Duthie

I am an evolutionary ecologist and ecological modeller with broad interests in developing theory across the biological and environmental sciences. My research primarily uses mathematical and individual-based models to understand complex interactions in populations, communities, and social-ecological systems. I am especially interested in applying these modelling approaches to questions concerning the evolution and maintenance of biodiversity, and the management of populations under conservation conflict.

Professional Appointments

Leverhulme Trust Early Career Fellow, Nov. 2017 – Oct. 2020
Biological and Environmental Sciences, University of Stirling

ERC Postdoctoral Research Assistant, Nov. 2016 – Oct. 2017
Biological and Environmental Sciences, University of Stirling

ERC Postdoctoral Research Fellow, Jun. 2013 – Oct. 2016
School of Biological Sciences, University of Aberdeen

Education

Ph.D. Ecology and Evolutionary Biology, Spring 2013
Graduate Minor: Statistics
Certificate: Graduate Student Teaching Certificate
Iowa State University

B.S. Biology (Magna cum laude), Spring 2007
Specialisation: Ecology, Evolution, Environment
Southern Illinois University Edwardsville

B.S. Philosophy (Magna cum laude), Spring 2007
Minor: Chemistry
Southern Illinois University Edwardsville

Publications

21. Duthie, AB. *PLoS Comput. Biol.* In review.
20. Duthie, AB, et al. *Method. Ecol. Evol.* In press.
19. Cusack, JJ, et al. *Conserv. Lett.* In press.
18. Paine, CET., et al. 2018. *Funct. Ecol.* 32 (7):1681-1692.
17. Redpath, SM, et al. 2018. *Trends Ecol. Evol.* 33 (6):415-426.
16. Duthie, AB, et al. 2018. *J. Evol. Biol.* 31:31-45.
15. Duthie, AB, et al. 2016. *Proc. R. Soc. B.* 282:20161845.
14. Duthie, AB, et al. 2016. *Am. Nat.* 188 (6):651-667.
13. Duthie, AB, et al. 2016. *Oikos*. 125 (11):1597-1606.
12. Duthie, AB, et al. 2016. *Evolution*. 70 (9):1927-1943.
11. Frater, PN & AB Duthie. 2016. *Ideas Ecol. Evol.* 9:15-18.
10. Reid, JM, et al. 2016. *Evolution*. 70 (7):1512-1529.
9. Reid, JM, et al. 2015. *Evolution*. 69 (11):2846-2861.
8. Duthie, AB, et al. 2015. *Am. Nat.* 186 (1):151-158.
7. Reid, JM, et al. 2015. *J. Anim. Ecol.* 84 (4):1029-1040.
6. Duthie, AB & JM Reid. 2015. *PLoS One*. 10 (4):e0125140.
5. Duthie, AC & AB Duthie. 2015. *Polymath*. 5 (1):1-22.
4. Reid, JM, et al. 2015. *Evolution*. 69 (1):59-74.
3. Duthie, AB, et al. 2014. *Am. Nat.* 183 (6):826-841.
2. Duthie, AB & MR Falcy. 2013. *Ecol. Modell.* 251:260-270.
1. Duthie, AB. 2004. *J. Memetics*. 8 (1).

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Grants and Fellowships

Scottish Natural Heritage Tender (Co-PI; 2018)	9,947 GBP
Leverhulme Trust Early Career Fellowship (2017)	88,650 GBP
NSF Postdoctoral Research Fellowship in Biology (2013; award declined)	138,000 USD
NSF Doctoral Dissertation Improvement Grant (2010)	13,411 USD
Biotechnology Graduate Fellowship (ISU; 2007)	20,000 USD

Teaching Experience

Professional Development:

- **Fellow of the Higher Education Academy**
- Principles of Learning and Teaching in Higher Education programme. University of Aberdeen.
- Preparing Future Faculty (PFF) Program: Iowa State University. PFF Associate.
- Graduate Student Teaching Certificate (GSTC) Program (PFF Track): Iowa State University.

University Instruction:

- *Biology Field Course – Course Contributor: statistics lecture* U. of Stirling. Fall 2017, 2018.
- *Introduction to Ecological and Environmental Modelling – Course Contributor.* U. of Aberdeen. Spring 2015, 2016.
- *Biology for Undergraduates (BUGS) – Tutorial Session ZOO-4.* U. of Aberdeen. Fall 2014.
- *Biological Evolution.* Iowa State U. Summer 2011, 2012*, Spring 2013*. *Distance Learning Course (online).

University Teaching Assistantships:

- *Biological Evolution.* Iowa State U. Spring 2011-2012.
- *Principles of Biology Laboratory I.* Iowa State U. Fall 2008, 2012.
- *Principles of Biology Laboratory II.* Iowa State U. Fall 2009-2011, Spring 2008-2010.

Student Mentoring

Undergraduate researchers. Cody Duncan (2010), Megan Stoner (2010-11), Elizabet Howe (2011), Christina Pacholec (2011), Ethan Van Helten (2011), Christine Lim (2011-12), Aisha Azhar (2012-13), & Arianna Chiti (2018).

Leadership

Manuscript reviewer: *Acta Oecologica, American Naturalist, Arthropod-Plant Interactions, Behavioral Ecology and Sociobiology, Biology Letters* (5), *BMC Evolutionary Biology, Ecology and Evolution, Evolution* (3), *the Journal of Animal Ecology, the Journal of Applied Ecology* (2), *the Journal of Theoretical Biology* (3), *Landscape Ecology, Molecular Ecology* (2), *Oikos, PLoS One, Proceedings of the Royal Society B, Royal Society Open Science, and Symbiosis*

Grant reviewer: National Science Foundation (USA)

Conference organiser: Midwest Ecology and Evolution Conference at Iowa State University (2010)

Workshop organiser: European Congress of Conservation Biology in Jyväskylä, Finland (2018)

Representative: Post-doctoral researchers (organiser at UoS; 2017-2018), Graduate and Professional Student Senate (Senator at ISU; 2011-2013), and Graduate Research in Evolutionary Biology and Ecology (Vice President at ISU; 2009-2010)

Computer Skills

Experience in statistical analysis, mathematical & individual-based modelling, genetic algorithms, and computer programming in C, R, and MATLAB

Use of Linux, git, and high performance computing clusters

Knowledge of HTML, Markdown, L^AT_EX, and MS Office Suite

Course design and instruction in Blackboard

Software Developed

All listed software is publicly available on the Comprehensive R Archive Network (CRAN) and on GitHub.

2. **GMSE** *v0.3.1.9*. 2017. Generalised Management Strategy Evaluation Simulator. *Written in R and C*.
R package link: < <http://CRAN.R-project.org/package=GMSE> >
Website link: < <https://confoobio.github.io/gmse/> >
1. **gamesGA** *v1.1.3.2*. 2017. Genetic Algorithm for Sequential Symmetric Games. *Written in R and C*.
R package link: < <http://CRAN.R-project.org/package=gamesGA> >

Selected Presentations

‡Denotes invited talk, *Denotes undergraduate author

Duthie, AB. 2018. **Fifth European Congress of Conservation Biology** in Jyväskylä, Finland.

‡ Duthie, AB. 2018. **Institute of Evolutionary Biology Seminar** at U. of Edinburgh, Scotland.

‡ Duthie, AB. 2017. **Mathematics and Statistics Group Seminar** at U. of Stirling, Scotland.

‡ Duthie, AB 2017. **Workshop: “Behavioural games and conflict”** at Grimsö Wildlife Research Station, Sweden.

Duthie, AB, et al. 2015. **Population Genetics Group Meeting 49** at U. of Edinburgh, Scotland.

Duthie, AB, et al. 2015. **The Scottish Informatics and Computer Science Alliance (SICSA) workshop on Computational Ecology** at U. of Edinburgh, Scotland.

Duthie, AB & JM Reid. 2014. **Workshop: “Evolution of Mating Systems”** at Konnevesi Research Station of the U. of Jyväskylä, Finland.

Duthie, AB, et al. 2013. **Ento ’13 International Symposium and Annual National Science Meeting** at U. of Saint Andrews, Scotland.

Duthie, AB, et al. 2013. **XIV Conference of the European Society for Evolutionary Biology** at the University of Lisbon, Portugal.

Lim*, C, et al. 2012. **Symposium on Undergraduate Research and Creative Expression** at Iowa State U., Ames, Iowa.

Selected Awards

Iowa State University Teaching Excellence Award (top 10% of TAs; 2010)

Donal G. Myer Outstanding Student Award (SIUE; awarded to one science student; 2007)

Ober Honours Award in Philosophy (SIUE; awarded to one philosophy student; 2007)

Phi Kappa Phi (Collegiate Honour Society; 2006)

Chancellor’s Scholarship (SIUE; full tuition for undergraduate education; 2003-2007)

Professional Affiliations

Society for Conservation Biology, European Society for Evolutionary Biology