

Hollie Marshall

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Coding

R
Bash
L^AT_EX
Markdown

Languages

English (Native)
German (CEFR: A2)

Societies

European Society for
Evolutionary Biology

The Genetics Society

British Ecological
Society

Royal Entomological
Society

International Union for
the Study of Social
Insects

Twitter

@MooHoll

I am an ecological epigeneticist, specialising in the integration of epigenomic data sets with genomic and transcriptomic data from non-model arthropod species. I am currently a postdoctoral research associate at the University of Edinburgh, UK. I also lead the "epigenetics task-force" for a large international project hosted by the University of Birmingham. I pride myself on my ethics as a researcher; I support open science, publishing pre-prints for all of my papers, I champion diversity through actively par-taking in University-wide policy change meetings and I jump at opportunities to engage the public with science.

Professional Experience

15.11.19–Present	Post Doctoral Research Associate Insect epigenetics and reproduction.	University of Edinburgh, UK
15.07.19–11.10.19	Post Doctoral Research Assistant Adaptive Epigenetics of <i>Daphnia magna</i> .	University of Birmingham, UK

Education

28.09.15–06.12.19	PhD The Role of Methylation in Arthropod Plasticity.	University of Leicester, UK
29.09.14–18.09.15	MSc by Research Temporal Genetic Stability and Fitness Responses to Human-Driven Eutrophication in <i>Daphnia magna</i> .	University of Birmingham, UK
28.09.09–15.07.12	BSc (Hons) Animal Biology [1st] Dissertation: Development of a Non-Invasive Method to Genotype Wild Owl Populations.	University of Worcester, UK

Publications

Marshall, H., Jones, A., Lonsdale, Z.N. and Mallon, E.B. (2020). Bumblebee worker castes show differences in allele-specific DNA methylation and allele-specific expression. Accepted. *Genome Biology and Evolution*. Pre-print <https://doi.org/10.1101/2020.02.07.938423>.

Marshall, H., van Zweden, J.S., Van Geystelen, A., Benaets, K., Wäckers, F., Mallon, E.B. and Wenseleers T. (2020). Genome-wide search for parent-of-origin gene expression in *Bombus terrestris*. Under Review. *Evolution Letters*. Pre-print: doi: <https://doi.org/10.1101/2020.01.17.909168>.

Marshall, H., Lonsdale, Z.N. and Mallon, E.B. (2019). Methylation and gene expression differences between bumblebee reproductive castes. *Evolution Letters*. 3 (5), p485-499.

Bebane, P., Hunt, B., Pegoraro, M., Jones, A.R.C., **Marshall, H.**, Rosato, E. and Mallon, E.B. (2019). The effects of the neonicotinoid imidacloprid on gene expression and DNA methylation in the buff-tailed bumblebee *Bombus terrestris*. *Proc. Roy. Soc. B*. 286: 20190718.

Cambroner, M., **Marshall, H.**, De Meester, L., Davidson, T.A., Beckerman, A.P. and Orsini, L. (2018). Predictability of the impact of multiple stressors on the keystone species *Daphnia*. *Scientific Reports*. 8 (1), p17572.

Pegoraro, M., **Marshall, H.**, Lonsdale, Z.N. and Mallon, E.B. (2017). Do social insects support Haig's kin theory for the evolution of genomic imprinting? *Epigenetics*. 12 (9), p725-742.

Orsini, L., **Marshall, H.**, Cuenca-Cambroner, M., Chaturvedi, A., Thomas, K. W., Pfreder, M.E., Spanier, K.I. and De Meester, L. (2016) Temporal genetics stability in natural populations of the waterflea *Daphnia magna* in response to strong selection pressure. *Molecular Ecology*. 25 (24), p6009–6267.

Industrial Innovation

13.02.16–24.02.16 **Consultancy: Epigenetic applications in bovine dairy breeding** Cogent Breeding Ltd, UK
Produced a report to aid the integration of epigenetic research in the bovine dairy industry.

Awards/Grants

04.02.20 **Marie Skłodowska-Curie Actions Independent Fellowship: Seal of Excellence** Horizon2020 European Commission
Scored 92.2% on a MSCA Independent Fellowship application. Funding cut-off for 2019 in the life sciences was 92.6%.

05.12.19 **Fisher Memorial Trust Bursary: £250** Fisher Memorial Trust
Received a bursary to attend and present at PopGroup53 in Leicester, UK.

15.11.19 **Runner-Up Poster Award: £30** IUSSI Winter Meeting, UK
Won a runner-up prize in the poster competition.

15.11.19 **Gold Poster Award: £380** The Genetics Society, UK
Won the prize for the best poster in the Epigenetics session at the 'Centenary of Genetics' conference.

27.06.18 **Junior Scientist Conference Grant: £350** The Genetics Society, UK
Received funding to aid travel costs to the ESEB conference in Montpellier, France.

10.05.18 **Annette Cashmore Award: £200** University of Leicester, UK
Winner of the Annette Cashmore postgraduate researcher award for the best student seminar talk in 2018.

15.09.17 **1st Place Poster Award: £100** Loughborough University, UK
Won first prize in the poster competition in the annual CENTA student conference.

21.10.16 **Innovation Placement Award: £960** CENTA, NERC, UK
Received funding for an industrial placement. Spent two weeks applying epigenetics to the dairy bovine genetics industry through COGENT UK.

05.01.16 **Travel Grant: 600€** Programming for Evolutionary Biology, Germany
Received funding to aid travel costs for a bioinformatics training course in Leipzig, Germany.

20.03.15 **PhD Scholarship: ~£75,000** CENTA, NERC, UK
Awarded a competitively funded scholarship for PhD study, this includes a stipend for 3.5 years, all tuition fees and £8000 in research funding. NERC ref: 1645174.

Conference Organisation

16.05.17–14.09.18 **Genomics Special Interest Group** Royal Society of Entomology, UK
Lead organiser and chair of the annual one day meeting. Secured additional funding of **£250**.

29.01.16–16.09.16 **CENTA Student Conference** CENTA, NERC, UK
Joint lead organiser and chair of a one-day student conference. Secured sponsorship from numerous organisations, totalling: **£658**. Attracted industry participation from the international Cheeky Scientist company and attracted a British TV presenter/palaeontologist as keynote speaker for public engagement with science

Professional Services

04.09.17–Present **Peer Review**
Currently a reviewer for: Genome Biology and Evolution, Apidology and Peer Community in Evolutionary biology. I also jointly reviewed for Scientific Reports with Dr. Eamonn Mallon during my PhD.

Conference Presentations

08.06.20	Evolution Letters Seminar Series Pre-recorded oral presentation: https://youtu.be/D0ZQMqgx2Dw .	Online
05-08.01.20	53rd Population Genetics Group Oral presentation for a specialist audience.	Leicester, UK
16.12.19	IUSSI North-Western European Section Poster for a specialist audience.	London, UK
13.11.19 – 15.11.19	A Centenary of Genetics, The Genetics Society Lightening talk and poster for a specialist audience.	Edinburgh, UK
14.09.18	Genomics Special Interest Group, Royal Entomological Society Poster for specialist audience.	Leicester, UK
19.08.18–22.08.18	Evolution Poster for specialist audience.	Montpellier, France
18.12.17–19.12.17	IUSSI North-Western European Section Received an 'honourable mention' for an oral presentation.	York, UK
15.09.17	CENTA Student Conference Won first prize in the poster competition.	Loughborough, UK
16.09.17–20.09.17	Programming for Evolutionary Biology Oral presentation with a focus on bioinformatics.	Bialowieza, Poland
16.05.17	Genomics SIG, Royal Entomology Society Poster for specialist audience.	Rothamsted Research, Harpenden, UK
02.05.17	Royal Society of Biology: Festival of Biology Poster for a scientific but non-specialist audience, with a focus on public engagement.	Lincoln, UK
16.09.16	CENTA Student Conference 3 minute 'flash talk' for a scientific but non-specialist audience.	Leicester, UK
08.09.16–11.09.16	Programming for Evolutionary Biology Oral presentation with a focus on bioinformatics.	Belgrade, Serbia
15.06.15	Molecular and Genome Evolution Symposium Poster for specialist audience.	Manchester, UK

Undergraduate Teaching and Supervision

23.08.19	Fellow of the Higher Education Academy Awarded full fellowship to the HEA in recognition of higher education teaching excellence.	AdvanceHE, UK
14.11.18	Invited Speaker: GTAs/PGRs who teach event Invited to give a short presentation on challenges, experiences and advice regarding teaching whilst completing a PhD.	University of Leicester, UK
24.09.17-30.06.19	International Foundation Year Tutor Module leader for biology on the Science International Foundation Year. This involves full module design and delivery, including practical sessions, all assessments and 5hrs teaching time per week each semester.	University of Leicester, UK
01.07.15–15.11.19	Student Supervision Supervised two undergraduate students (Lucy Day, 2019 and Marine Bochsler, 2019) and one undergraduate Erasmus student through successful research projects (Henar Tomero, 2018). Co-supervised three other undergraduate students and one masters student.	University of Birmingham, UK
01.02.15–31.03.19	Demonstrating/Marking Demonstrated on various undergraduate biology modules, including: wet lab, computer based practicals and small tutorial groups. Additionally helped teach a PhD beginner level course on the programming language R.	University of Leicester, University of Birmingham, UK
29.10.15–31.12.19	STEM Ambassador Regularly give educational/career talks to students from ages 13-18.	UK

Collaborations

01.10.18–Present	Dr. Luisa Orsini Epigenetic adaptation and recovery in <i>Daphnia magna</i> . Part of the £1.3M NERC grant deCODE NE/N016777/1. Project included a year long stay in Birmingham to conduct sample collection, lab work, analysis and student supervision. I now remotely head the "epigenetics task-force" for this grant, which includes leading an international team of PIs, postdocs and students.	University of Birmingham, UK
12.02.16–Present	Prof. Tom Wenseleers Exploration of parent-of-origin gene expression and methylation in <i>Bombus terrestris</i> as a test for Haig's Kinship Theory. Project included a week long visit to Leuven for data analysis. This collaboration will result in two first-author publications, of which one is currently under review.	KU Leuven, Belgium

Public Engagement and Outreach

26.10.19	British Entomological Natural History Society: Student meeting Invited speaker for entomological career options.	Reading, UK
01.07.19	Frontier Magazine Produced an article for the postgraduate magazine at the University of Leicester, currently awaiting publication. Titled: "Evolutionary theory: bumblebees may hold the answer."	University of Leicester, UK
01.06.19	Soapbox Science Selected for the Leicester Soapbox Science event. Talk title: "Time-travelling water fleas and all girl bees!"	Leicester, UK
20.07.18	PhDetails Interview Interviewed about life as a PhD student for a blog called 'PhDetails'.	Online
13.09.18 13.09.17–14.09.17	Genetics Education Networking for Innovation and Excellence Volunteer Activity leader for banana DNA extraction for around 600 students aged 13-14 years.	Leicester, UK
08.11.17	HOPE Against Cancer Charity Evening Ran public engagement activities around cancer research.	Leicester, UK
16.08.17	Biomedical Research CPD: Public Engagement Training Aided the GENIE department in delivering public engagement training during the Chinese Biomedical Science Continuing Professional Development course.	Leicester, UK
17.03.17–18.03.17	Big Bang Fair Volunteer Volunteered for two days representing ecological genetics as a career path at a national STEM conference for school children.	Birmingham, UK
07.02.17	Cafe Research Gave a 10 minute public talk to members of the University of Leicester's research community.	Leicester, UK
27.01.17	Public Engagement Training Obtained a place on a competitive training course for public engagement. It focused on science communication using techniques other than the a standard lecture/talk. E.g. science busking.	British Ecological Society, UK
01.02.17	PodhD Podcast Invited for an interview about my research which was broadcast as a podcast online (episode 5). Part of the PubhD brand.	Online
14.06.16	PubhD Talk Gave a 20 minute talk to the general public in a pub using only a whiteboard to explain my research.	Leicester, UK

Research Career Breaks

01.01.10–30.09.17	Manager / Live Presenter <i>Gala Bingo: five locations UK</i>
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I worked part-time through out my undergraduate degree, masters degree and PhD. I also worked full-time in between education (15.07.2012 – 29.09.2014). **Having worked in a managerial role for six years I have excellent people management skills and the ability to work to strict financial targets.** I also worked as a stage presenter within the company earning 'platinum mic' recognition, which was the highest company standard of live public entertainment. **I left this job to take up the position of Biology Module Leader** for the International Foundation Year course at the University of Leicester.

Relevant Training

04.04.19	Continuing Professional Development: Inspiring young people in STEM Two week course, self-paced.	STEM Ambassadors, UK
14.11.18	Introduction to Python Programming Half day session on basic python syntax.	University of Leicester, UK
04.06.18–25.06.18	Intermediate Course in R: Programming Four half day sessions on intermediate R programming.	University of Leicester, UK
04.05.18	Continuing Professional Development: Assessment for learning Tutoring Continuing Professional Development course: how to use formative assessment and feedback effectively.	University of Sheffield, UK
16.01.17–18.01.17	Population Genomics Workshop Secured a place on a competitive week long training course analysing whole genome population data using BASH.	University of Sheffield, UK
09.02.16–27.02.16	Programming for Evolutionary Biology Won a place on a prestigious three week long training course covering many aspects of bioinformatics within the fields of evolution and ecology. Including coding courses on: R, BASH (Linux) and Python.	University of Leipzig, Germany
22.03.15–27.03.15	NERC-MDIBL Evolutionary Genomics Attended a week long course on RNA-Seq data analysis.	University of Birmingham, UK
24.05.11–27.05.11	Molecular Ecology Techniques Secured a place as the only undergraduate student (that year) to attend a week long course on DNA extraction, microsatellite amplification and population genetic analysis.	University of Sheffield, UK