Andrew Jonathan Balmer

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Nationality: British

Education

M.Phil. Biological Sciences (Zoology) – University of Cambridge **April 2015-April 2016**

- Project: Seasonal variation in androconia size and the effect on male sex pheromone production and mating success in *Bicyclus anynana*.
- Successfully demonstrated for the first time that several species of tropical butterflies differentially invest in male secondary sexual structures in response to environmental cues which signal opportunities for reproduction.

B.Sc. Biology (Int.) – University of Leeds & University of Heidelberg **Sept 2010-Jul 2014**

- 1st Class Honours degree, with marks consistently within top 5 in class.
- Third year project: The imperfect mimics: an empirical investigation into the evolution of imperfect mimicry in insects (achieved 74%) – due to be published in 2018.
- Achieved the highest marks in my year in modules such as Social insect biology (80%), Advanced topics in evolution (76%) and Organismal evolution (75%).

Employment experience

Research projects:

Research Intern, University of Cambridge (Leggett Group) **October 2017-Present**

- Contributing to meta-analysis project in parasite social evolution, preparing experimental evolution project to start April 2018.

Senior Research Laboratory Technician, University of Cambridge **October 2017-Present**

- Providing general lab assistance to facilitate the daily running of the lab and support of ongoing research projects, performing computer based processing and analysis of recordings of insect behaviour, testing pharmacological agents on cricket phonotaxis behavior.

Research Intern, Centre for Pathogen Evolution, University of Cambridge **June 2017-Present**

- Using quantitative genetics techniques to quantify the influence of genetics and environment on response to influenza vaccination and furthering work in this area to show response to influenza vaccination to be almost entirely determined by an individual's environment.

Research Intern, University of Cambridge **April 2016-Present**

- Continuation of M. Phil. project and research assistant work into publications.

Research Assistant, University of Cambridge **Sept 2014–April 2016**

- Designed and carried out experimental breeding programs for insects, measured insect wing traits and put resulting data into an evolutionary and developmental context. Also provided educational support for undergraduate courses in the Department of Zoology.

Research Intern, University of Leeds **Jun 2014-Sept 2014**

- Continuation of undergraduate project, collected phenotypic data on a range of insect species to test hypotheses for the evolution of imperfect mimicry – due to be published in 2018.

Research Assistant, University of Heidelberg **Oct 2012-Jul 2013**

- Paid internship working in the field of developmental genetics, I helped establish a fast and efficient modular cloning system for *Arabidopsis thaliana*.

Research Assistant, University of Leeds **Jan 2012-Sept 2012**

Science Communication:

Synthetic Biology Strategic Research Initiative Assistant Coordinator **Oct 2016-June 2017**

- Maintained a website for the initiative, organised events and publicity, assisted with committee meetings and communication of departmental research.

Public Relations Intern, Max Planck (MPI-CBG) **Jun 2014-Sept 2014**

Student Employability Representative, University of Leeds **Jan 2013-Jul 2013**

Founder and President of Luu:Sci magazine **Jun 2012-Jun 2014**

- Founder of the magazine, primarily involved in editing and producing issues, along with organising membership, advertisement, funding and printing.

Freelance Journalist **Oct 2012-Present**

- Regular science writer and freelance journalist. I have written articles for high profile publications including Scientific American and Yahoo News, and produced press releases on research for the Max Planck Institute and the University of Cambridge.

Grants and awards

Masters Bursary (Science), 'Postgraduate Search' - £1000 **2014**

Leeds Partnership Award for Innovation **2013**

- Awarded University of Leeds Partnership award for innovation for my work on Luu:Sci.

Santander Research Scholarship - £500 **2012**

- For undertaking research in the field of developmental genetics during my study abroad year at the University of Heidelberg.

Core skills

- **Lab techniques:** DNA/RNA extractions, PCR, gel-electrophoresis, cloning and transformations in bacteria, restriction enzyme digests, ligation into vectors, in-vitro transcription, media preparation, experience in plant tissue and cell culture techniques, organism handling and breeding schemes for insects and plants, competition assays, morphometric measurements of insects, insect dissection and ecdysteroid hormone injections, handling and ordering replacement materials and solutions for lab use.
- **Computer skills:** R, Image J/Fiji, SPSS, Microsoft Office, Prezi, Adobe Illustrator.
- **Science communication**: Strong writing and communication skills for academic and popular audiences, presentation skills, editing, use of social media platforms.
- **Project organisation:** Project and event organisation, advertising and administrative support.
- **Language skills:** Completed a number of German language courses from accredited institutions in Germany.

Publications

- **Balmer AJ,** Brakefield PM, Brattström O, and van Bergen E, (2017): 'Developmental plasticity for male secondary sexual traits in a group of polyphenic tropical butterflies' (under review at Oikos).
- **Balmer AJ**, Hossie TJ, Hassall C: 'The imperfect mimics: an empirical investigation into the evolution of imperfect mimicry in insects' (in prep).

Teaching experience

- 2014 – 2018, Undergraduate Laboratory Practical Demonstrator (University of Cambridge).
- 2014 – 2018, Assisted with marking of undergraduate practical reports (University of Cambridge).
- 2013, Organised and presented a short series of student lectures on science communication (University of Leeds).

Additional public outreach and extracurricular work

- 2017, Cambridge University Science Fair volunteer.
- 2017, Centre for the Study of Existential Risk Conference volunteer (University of Cambridge).
- 2013, Recorded a series of popular science podcasts for Leeds University Student Radio.
- 2013, Editor of Faculty of Biological Sciences student newsletter (University of Leeds).
- 2013, Student undergraduate employability representative (University of Leeds).

Professional memberships

- Student affiliate of the Society of Biology since June 2013.
- Member of the British Science Association since September 2013.

Referees

Dr. Berthold Hedwig,
Reader in Neurobiology, Department of Zoology
University of Cambridge
bh202@cam.ac.uk, 01223 (3)36603

Dr. Christopher Hassall,
Lecturer in Animal Biology and Marie Curie Fellow, University of Leeds,
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