Katie O'Brien

EDUCATION

09/19 – 09/20 **MRes in Ecology, Evolution and Conservation**
Department of Life Sciences, Imperial College London
Final Grade: Distinction (73%)

Core Modules: Computing and statistics in R, geographic information systems (GIS), genomics, ecology, bioinformatics, and field skills.

Research Project One (Nov 2019 – Apr 2020): Investigating the link between signal evolution and speciation in suboscine birds using comprehensive trait datasets.

Research Project Two (Apr 2020 – Sep 2020): Incorporating gene flow into estimates of recent effective population size using the number of independent origins in soft selective sweeps.

09/14 – 06/18 **BA Degree in Zoology**
Natural Sciences Department, University of Dublin (Trinity College), Ireland
Final Grade: 1st (75%)

Core Modules: Fundamentals of ecology, research comprehension, data handling, evolution, conservation and wildlife management, entomology, marine biology, animal diversity, behavioural ecology, advances in parasitology, comparative physiology, developmental biology, experimental design and analysis, tropical ecology.

Research Project: An investigation into the acoustic and morphological variation of the Lemon-Bellied White Eye (*Zosterops chloris*) across South-East Sulawesi.

09/09 – 06/14 **Leaving Certificate (Irish Equivalent of A levels)**
Maynooth Secondary School, Kildare, Ireland
565 points (top 3% in the country)

ACADEMIC PRIZES AND AWARDS

Research Computing Accelerator Award for HPC computing - £ 5,721.50 (2023)
Engage Grants Progression Fund (Public Engagement Department – University of Bath) for solo exhibition at Somerscience festival - £2,500 (2022)
Trans-Antarctic Association Grant: "Metagenomics as a method of parasite and pathogen detection in penguin faecal samples" (2021) - £1,500
NERC Environmental Omics Grant: "Environment driven changes in penguin gut microbes and parasites" (2021) - £9,000
Westarctica Conservation Scholarship - £500
W.C. Campbell Undergraduate Moderatorship Prize awarded for best overall result in final year Zoology (2018)
W.C. Campbell Undergraduate Research Prize for best overall research project in final year Zoology (2018)
Gold Medal awarded by Trinity College Examination Board for exceptional final examination results (2018)

PUBLICATIONS

Connell, D. P., Kelly, D. J., Lawless, N., O'Brien, K., Ó Marcaigh, F., Karya, A., Analuddin, K., Marples, N. M. (2019) A sympatric pair of undescribed white-eye species (Aves: Zosteropidae: Zosterops) with different origins. *Zoological Journal of the Linnean Society*. 186: 701–724. doi: 10.1093/zoolinnean/zlz022

PUBLIC OUTREACH, MEDIA COVERAGE AND OTHER QUALIFICATIONS

- Science guest on BBC Radio (September 2021, February 2022)
- Impact through engagement: researcher training workshop with FUTURES initiative (September 2021)
- Storytelling training for researchers with FUTURES initiative (September 2021)
- Sparking Stem: Effective Outreach with Children workshop (May 2021)
- Devised and taught a virtual climate change workshop for A-level students at Villiers Park, focusing on the history of climate change on Earth and case studies on current climate change issues (Apr 2021)
- Researcher participant in the FUTURES2020 public engagement event in collaboration with the Natural History Consortium - ran an interactive science communication stand and presented a talk at Researchers' Tales (Oct 2020)
- Active user of social media for public engagement on Instagram (@thepenguinphd)
- Online engagement training with FUTURES initiative (November 2020)
- My research has been covered by mainstream media including major newspapers, e.g. The Times and The Irish Times
- Children's entertainer with Irish events company ThinknBlink - face painting, Santa's elf and brand activation (2015-2018)

RELEVANT WORK EXPERIENCE

09/20 – Present **University of Bath, Somerset, England**

PhD Researcher studying "The adaptations of Antarctic penguins in a rapidly changing environment". Currently investigating bioinformatics methods for molecular parasite detection, microbiota characterisation and dietary analysis.

09/22 – 11/22 **Royal Institution**

PhD Presenter Intern at the Royal Institution - 3 month internship with Young Scientist Centre where my main duties were: delivering science workshops to students ages 4-18, performing at live shows, and creating social media content (September-November 2022)

10/20 – 12/20 **The Brilliant Club**

PhD tutor in Southwest of England, providing mathematics tutorials for students from low-participation schools

06/18 – 09/19 **Centaur Financial Services, Custom House Plaza, Dublin, Ireland**
Data analyst, used a range of cutting-edge coding/analysis packages such as Microsoft Visual Studio, SQL and C++ for a hedge fund administration company.

06/16 – 09/16 **Allianz Ireland, Elm Park, Dublin 4, Ireland**
Sales analyst, gathered product information from competitors, analysed and presented results to management to improve insurance products.

SKILLS

Through my career so far, I have built up a strong expertise in:

- Public engagement, science communication and presentation
- Programming in Unix/Ubuntu/Linux using Conda package management, R, Julia and Python
- Nanopore sequencing including DNA extraction, library preparation, sequencing and analysis
- "Omics" lab techniques including DNA extraction and quantification, PCR, gel electrophoresis, and sequencing library preparation
- Management and interpretation of large genomics data sets using various bioinformatics tools