

Hannah O'Sullivan *Curriculum Vitae*

h.osullivan18@imperial.ac.uk • +44 7460 302016 • hannah.julia.osullivan (Skype) • github.com/hjosullivan
24 Aintree Close • Berkshire • SL3 0QF • UK

Summary

Research interests: *Evolution and ecology; Ecoinformatics; Biological responses to climate change; Tropical ecology; Bioacoustics; Entomology.*

I am a quantitative ecologist currently studying for an MRes in Computational Methods in Ecology and Evolution at Imperial College London. My research project involves the development of a python and R package for fitting temperature response curves of metabolic traits to alternative mathematical models. In addition to the development of a new software tool, key questions regarding the variation in the thermal

physiology of ectotherms will be addressed.

I am also a Scientific Associate at the Natural History Museum, London. Some of my ongoing projects at the NHM include; amphibian island bioacoustics, arthropod biodiversity in West Africa, management of a wildlife sound archive and analysis of South African freshwater eDNA samples. My background is a combination of quantitative biology, tropical fieldwork and collection based museum research. I am interested in using multidisciplinary techniques to investigate the complexity of the natural world.

Education

MRes Computational Methods in Ecology and Evolution

SILWOOD PARK, UK

Imperial College London

Oct '18 – Oct '19

Computational approaches towards the empirical and theoretical study of ecological and evolutionary systems. Computing in Python, R, Linux/UNIX, HPC and C. Research project: *A new tool for quantifying the response of metabolic traits to climate change.*

BSc Zoology (2.1)

PENRYN CAMPUS, UK

University of Exeter

Sep '13 – May '16

General topics in zoology including; Ecology and evolution, disease modelling, physiology, conservation and biodiversity, climate change and genetics. Research project: *Acoustic fingerprinting of Cornish landscapes*

Employment History

Senior Herpetologist

IWOKRAMA, GUYANA

Operation Wallacea

Jun '18 – Aug '18

- Leading herpetofauna surveys in the Iwokrama reserve since 2014.
- Surveys in pristine lowland rainforest, an ecotourism site and a reduced impact logging site.
- Teaching tropical ecology/field skills to 40-50 undergraduate research assistants per field season.
- Soundscape recordings at [BioAcoustica](#), an online repository for scientific recordings of wildlife sounds.

Cetacean Strandings Officer

LONDON, UK

Natural History Museum

Sep '17 – Dec '17

- Recording all cetacean stranding occurrences along the coastlines of England.
- Interacting with the general public and responding to stranding reports on a daily basis.
- Retrieving specimens and delivering them to ZSL for post-mortem.
- Deliver information on current marine conservation issues to people from a wide range of backgrounds.
- Data management of the CSIP strandings database.

Web developer

RIO DE JANEIRO, BRAZIL

Edventurists

Feb '17 – May '17

- Providing alternative learning experiences.
- Creating meaningful links between skilled volunteers and exceptional social and environmental change makers.
- Initial web development of the project in Django, Python.
- Creating baseline outreach and survey tools for potential students and hosts based on a number of psychometric tests for business and personality types.

Field Assistant

MADRE DE DIOS, PERU

CREES

Dec '16 – Feb '17

- Conducting biodiversity surveys of butterfly, birds, mammals, reptiles, amphibians and freshwater species.
- Rotation of surveys completed in line with CREES' long-term monitoring goals.
- Teaching of undergraduate students, high school students and tourists throughout.

Research Assistant (DIF Acoustics)

LONDON, UK

Natural History Museum

Sep '16 – Dec '16

- Tropical soundscapes: Analysis of soundscape recordings from Opwall expeditions to the Iwokrama forest, Guyana. Presentation of this research at the annual Orthopterists conference.
- Island bioacoustics: Investigation of inter/intra island variation in the advertisement calls of *T. seychellensis*.
- Web apps: Management of large historic datasets for the data portal, i.e. herbarium and microfossil data.

Training and Volunteering

Intern

BANGKOK, THAILAND

QSMI Snake Farm

Jun '15 – Aug '15

- Internship in the biology, taxonomy and venom composition of SE asian venomous snakes.
- Giving daily presentations in Thai and English to tourists and university students.
- Venom extraction, handling and husbandry of venomous snakes as well as snake bite first aid.

Volunteer

LONDON, UK

Natural History Museum

Jun '15 – Aug '15

- Survey of the chelonian type collection.
- Photographing and cataloguing each specimen for the transferal of data from paper records to a microsoft access database.
- Basic maintenance of historic labels on specimens when necessary.

Students

Co-Supervisor

BERBICE CAMPUS, GUYANA

University of Guyana

May '18 – May '19

BSc Andre Surendre: *Effects of Reduced Impact Logging on the Herpetofauna of the Iwokrama Forest*

Skills

Technical skills: *Computational skills:* R, Python, UNIX/Linux and C, High performance computing. Familiar with a range of R and python packages including ggplot2, seewave, biopython and beautifulsoup. *Statistics:* Summary statistics, NLLS, Maximum likelihood, bayesian statistics, machine learning. *Web technologies:* HTML, XML, django, flask, web2py.

Field skills: *Entomology:* Butterfly trapping, light trapping, malaise trapping, pitfall trapping, flight-intercept trapping, kick sampling, manual and remote sound recording of vocal insects. *Herpetology:* Pitfall trapping, visual encounter surveys. *Ornithology:* Mist netting (200+ ringed birds in the neotropics), point counts. *Mammalogy:* Bat mist netting (100+ extracted), camera trapping, point counts, sherman trapping. *Forestry field skills:* Identification of Guyanese tree species, inventory plots, measurement of functional traits.

Languages: English (*mother tongue*), Thai (*speaking and listening only*), Spanish (*conversational*), French (*conversational*) and German (*beginner*).

Grants

Collection Enhancement (Entomology)

DJIBLOHO, EQUATORIAL GUINEA

Natural History Museum

Jan '18 – Feb '18

Collection of insects from mainland Equatorial Guinea to enhance the museum's entomology collection. All research and export permits were attained independently. This collecting expedition has added thousands of specimens from this locality and greatly enhanced the potential for entomological research in this understudied region of Africa.