

# JESS FRIEDERSDORFF

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## PROFILE

I am currently in the latter stages of my PhD, preparing to submit my thesis. I consider myself a microbiologist and bioinformatician with a particular adoration for bacteriophages and microbiomes. Through developing a combination of wet laboratory and computational skills, I am comfortable both in a wet microbiology and computer lab. I thoroughly enjoy giving presentations, talks and lectures and am proactive in social and networking situations. On the path to lectureship I see myself working in both a team and independently, placing my passion into high impact research.

## EDUCATION AND QUALIFICATIONS

- 2016 – Present                    Aberystwyth University, PhD in Biological Sciences
- 2015 – 2016                      University of Leicester, MSc Infection and Immunity; Distinction
- 2012 – 2015                      De Montfort University, BSc Biomedical Sciences; 1st Class

## RELEVANT SKILLS

I have experience with a range of molecular laboratory techniques, planning and carrying out a variety of experiments complete with computational downstream processing, and have successfully isolated, purified, characterised and sequenced novel bacteriophages and their genomes. I am comfortable using a number of common bioinformatic tools and the programming languages R and Python. I am proficient in scripting on the command line with Bash, awk, sed and friends, as well as using multi-user Linux environments and high-performance computer systems to analyse genomic, transcriptomic and metagenomic data sets.

## RELEVANT EMPLOYMENT HISTORY

- Dec 2019 - June 2020    Research assistant at Queen's University, Belfast. Role is to work alongside Prof. Chris Creevey and his research group, studying bacteriophages and their role in the rumen microbiome, as a development of some findings in my PhD.
- Oct 2016 – present        Demonstrator for IBERS and computer science at Aberystwyth University. Role includes flexible availability to support lecturers and lead demonstrators on practical sessions. This has included laboratory and computer based practicals on a variety of topics.

## PUBLICATIONS

- Friedersdorff, J. C. A., Kingston-smith, A. H., Pachebat, J. A., Cookson, A. R., Rooke, D., and Creevey, C. J. (2020). The Isolation and Genome Sequencing of Five Novel Bacteriophages from the Rumen Active Against *Butyrivibrio fibrisolvens*. *Front. Microbiol.*
- Friedersdorff, J. C. A., Thomas, B. J., Pidcock, S. E., Hart, E. H., Rubino, F., and Creevey, C. J. (2020). "Genome sequencing and the rumen microbiome," in *Improving Rumen Function*, eds. C. S. Mcsweeney and R. I. Mackie (Cambridge, UK: Burleigh Dodds Science Publishing), 97–132.
- Gilbert, R. A., Townsend, E. M., Crew, K. S., Hitch, T. C. A., Friedersdorff, J. C. A., Creevey, C. J., et al. (2020). Rumen Virus Populations: Technological Advances Enhancing Current Understanding. *Front. Microbiol.* 11, 450. doi:10.3389/fmicb.2020.00450.
- Hitch, T. C. A., Thomas, B. J., Friedersdorff, J. C. A., Ougham, H., and Creevey, C. J. (2018). Deep sequence analysis reveals the ovine rumen as a reservoir of antibiotic resistance genes. *Environ. Pollut.* 235, 571–575. doi:10.1016/j.envpol.2017.12.067.

## NOTABLE TALKS, POSTERS AND PRIZES

- April 2019 Talk at the Annual Microbiology Society conference; “Characterising the Genomes and Transcriptomes of Hyper Ammonia Producing Bacteria from the Rumen”.
- Aug 2018 Poster and flash presentation at the Annual Counter Current Chromatography Conference, Braunschweig, Germany. “Using High Performance Counter Current Chromatography for the Separation, Preparation and Purification of Bacteriophages from the Rumen Microbiome”; awarded best poster and travel grant.
- Dec 2017 Talk at Young Systematists Forum, Natural History Museum, London. “Getting HAPpy with Phylogenetics: A Journey of Studying Hyper Ammonia Producers using Phylogenetic Approaches”; 3rd prize poster award.

## COURSES/CONTINUING PROFESSIONAL DEVELOPMENT

- Oct 2017; Two-weeks European Course on Comparative Genomics in Lyon, France. The course was the equivalent of a Master’s degree module and comprised talks from a variety of people covering phylogenetics, comparative genomics and evolution research.
- Oct 2016 – May 2017 Postgraduate Professional Skills Modules at Aberystwyth University. Included courses in Statistics, Bioinformatics, Seminar Skills, Research skills and Personal Development, and Ethics, Plagiarism and Academic Practice. These modules all required assignments for which I scored highly on all.

## TEACHING AND DEMONSTRATING EXPERIENCE

I am an associate fellow of the higher education academy (AFHEA) and looking to pursue this to become a fellow. I have delivered two lectures on bacteriophages to third year undergraduates, demonstrated on a variety of lab practicals and taught tutorials for the computer science department.

## SUPERVISION OF STUDENTS

I supervised an A-level student in 2017 under the Nuffield Placement scheme for 5 weeks, and developed a small project looking at using agar-based methods for bacteriophage screening from rumen samples. I also have experience helping Master’s and undergraduate students in the lab.

## OUTREACH AND PUBLIC ENGAGEMENT

Experience talking about research and interests to the general public through representing IBERS at the Royal Welsh Show in Summer 2017 and giving public talks on bacteriophages at the Aber Science Café and Machynlleth Comedy Festival. Also participating in interactive scientific activities for local children and young adults at National Science Week 2017 event at Aberystwyth University.

## PROFESSIONAL SOCIETIES & MEMBERSHIPS

- 2016 – present Microbiology Society; Postgraduate Student Member
- 2016 – present International Society for viruses of Microorganisms; Member
- 2017 – present Royal Society of Biology; Associate Member
- 2019 – present Higher Education Academy; Associate Fellow

## LANGUAGES

English (first language)  
German (fluent)

## EXTRACURRICULAR

I was the Member in Charge of the Aberystwyth LINKs division of St John Cymru Wales for the duration of the academic year 2017/2018. In my free time I enjoy horse riding, sewing, playing the guitar and playing board games. I am aiming towards grade three on the flute.

## REFEREES

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