

## Jesse Patrick Harrison

Data Scientist (CSC – IT Center for Science Ltd)

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## Projects and Publications

- R environment maintenance on CSC's Puhti HPC cluster
- Research and data analysis services (Finnish universities and research institutes)
- Designing and teaching R courses at CSC and external institutes
- Bioinformatics tool development and teaching
- 20 peer-reviewed publications in the fields of microbial ecology, environmental chemistry and astrobiology

## Work Experience

- April 2019 – Present: Data Scientist  
CSC – IT Center for Science Ltd, Espoo, Finland  
Artificial Intelligence and Data Analytics (AIDA) team  
HPC environment maintenance, research and data analysis services, bioinformatics tool development (Chipster analysis software), teaching focusing on R
- 2018 – 2019: Postdoctoral Researcher  
Turku Bioscience, Medical Bioinformatics Centre, Turku, Finland  
Research topics: human gut microbiology and bioinformatics tool development
- 2017 – 2018: Postdoctoral Researcher  
University of Helsinki, Faculty of Biological and Environmental Sciences, Aquatic Biogeochemistry Research Unit (ABRU), Helsinki, Finland  
Research topic: high-throughput sequencing as a tool for marine environmental monitoring
- 2015 – 2017: Postdoctoral Researcher  
University of Vienna, Centre for Microbiology and Environmental Systems Science, Division of Microbial Ecology (DOE), Vienna, Austria  
Research topic: Raman microspectroscopy for analysing bacterial cells within complex environments
- 2014 – 2015: Technical Advisory Group Member  
UK Department for Environment, Food and Rural Affairs (DEFRA), London, UK  
Advising the UK Government on issues concerning plastic biodegradability (leader of the Aquatic Environments Work Package)
- 2012 – 2015: Postdoctoral Researcher  
The University of Edinburgh, School of Physics and Astronomy, UK Centre for Astrobiology, Edinburgh, UK  
Research topics: the habitability of extreme environments and extremophile physiology

## Education

- 2008 – 2012: NERC / CASE PhD project  
The University of Sheffield, Department of Animal and Plant Sciences  
Industrial partner: UK Centre for Environment, Fisheries and Aquaculture Science (CEFAS)  
Research topics: microbial-microplastic interactions, detection of microplastics in sediments
- 2004 – 2008: MBiolSci in Biology with Conservation and Biodiversity (1<sup>st</sup> Class Hons)  
The University of Sheffield, Department of Animal and Plant Sciences  
Masters project focusing on freshwater ecotoxicology

## Teaching

### Instructor Training and Certificates

- Sept – Dec 2019: Training the Trainer Course (CSC / Haaga-Helia University of Applied Sciences)
- Aug 2019: Data Carpentry Instructor

### R Courses (2019 - Present)

- Statistics with R (KLTO-132, University of Helsinki)
- Data Analysis with R (CSC)

### Other Teaching

- 2013 – 2017: Supervisor for six Masters students (Universities of Vienna and Edinburgh)
- 2016: Practical Instructor, International Fluorescence In Situ Hybridization Course (University of Vienna)
- 2012 – 2013: MOOC Teaching Assistant (Astrobiology and the Search for Extraterrestrial Life, The University of Edinburgh)

## Skills

### Data Analysis

- Data wrangling and manipulation
- Data visualization
- Statistical modeling and interpretation
- Bioinformatics and sequence data repositories (e.g. NCBI GenBank)

### OS / Software

- Linux
- R / RStudio
- Anaconda
- Spack (basic skills)
- Singularity and Docker
- Git / GitHub
- Jupyter
- PRIMER
- Bioinformatics tools (e.g. micca, mothur)

## Committee and Board Memberships

- 2015 – Present: Frontiers Editorial Board  
Review Editor (Extreme Microbiology / Microbiotechnology)
- 2018: Research Programme Committee  
University of Helsinki, Faculty of Biological and Environmental Sciences
- 2015: AstRoMap European Astrobiology Roadmap Panel  
Funding: European Commission
- 2013 – 2016: PhD Project Steering Committee  
Swansea University and Fera Science Ltd.

## Science Communication

- Eight oral presentations and eleven poster presentations at international and national conferences
- Invited attendee at four workshops (including 2013 Royal Society / Chinese Academy of Sciences Frontiers of Science Symposium, Beijing)
- Interviews including BBC Radio 4 (UK), DRadio Wissen (Germany) and a documentary on marine plastic pollution ("Plastic: The Real Sea Monster", screened in Europe by ARTE)