

Jesse Patrick Harrison

DATA SCIENTIST (PHD, MBiolSci)

✉ jesse.harrison@csc.fi | 📧 jessepharrison | 🌐 jessepharrison | 🐦 jessepharrison

Employment

CSC – IT Center for Science Ltd

DATA SCIENTIST (ARTIFICIAL INTELLIGENCE AND DATA ANALYTICS TEAM)

- HPC environment maintenance (R / RStudio Server environment on CSC Puhti supercluster)
- Bioinformatics tool and software development (Chipster software for high-throughput genomic analysis)
- Design and delivery of R courses at CSC and external institutes
- Research and data analysis services

Espoo, Finland

2019 - Present

Turku Bioscience (University of Turku / Åbo Akademi)

POSTDOCTORAL RESEARCHER (MEDICAL BIOINFORMATICS CENTRE)

- Research topics: human gut microbiology and bioinformatics tool development

Turku, Finland

2018 - 2019

University of Helsinki

POSTDOCTORAL RESEARCHER (AQUATIC BIOGEOCHEMISTRY RESEARCH UNIT)

- Research topic: high-throughput sequencing as a tool for marine environmental monitoring

Helsinki, Finland

2017 - 2018

University of Vienna

POSTDOCTORAL RESEARCHER (DIVISION OF MICROBIAL ECOLOGY, DEPARTMENT OF MICROBIOLOGY AND ECOSYSTEM SCIENCE)

- Research topic: Raman microspectroscopy for analyzing bacterial cells within complex environments

Vienna, Austria

2015 - 2017

Department for Environment, Food and Rural Affairs

TECHNICAL ADVISORY GROUP MEMBER

- Advising the UK Government on issues concerning plastic biodegradability
- Leader of the Aquatic Environments Work Package

London, UK

2014 - 2015

The University of Edinburgh

POSTDOCTORAL RESEARCHER (UK CENTRE FOR ASTROBIOLOGY, SCHOOL OF PHYSICS AND ASTRONOMY)

- Research topics: the habitability extreme environments and extremophile physiology

Edinburgh, UK

2012 - 2015

Education and Qualifications

The Carpentries

DATA CARPENTRY INSTRUCTOR

- Training undertaken at Information Management Systems Institute, Athena Research Center

Athens, Greece

Aug 2019

The University of Sheffield

PHD (DEPARTMENT OF ANIMAL AND PLANT SCIENCES, FUNDING: NERC / CASE)

- Industrial partner: UK Centre for Environment, Fisheries and Aquaculture Science (Cefas)
- Dissertation: The spectroscopic detection and bacterial colonisation of synthetic microplastics in coastal marine sediments

Sheffield, UK

2008 - 2012

The University of Sheffield

MBiolSci (1ST CLASS HONS) IN BIOLOGY WITH CONSERVATION AND BIODIVERSITY (DEPT. OF ANIMAL AND PLANT SCIENCES)

- Masters Project: PAH Phototoxicity in Freshwater Invertebrates

Sheffield, UK

2004 - 2008

Teaching experience

COURSES ORGANIZED BY CSC

Total of eight R and bioinformatics courses since April 2019 (the list below shows the most recent five):

- May 28–29 **Data Analysis with R**: Lead Lecturer
 - 2020 Remote course using Zoom
- Apr 21 **Microbial Community Analysis with Chipster**: Assistant Lecturer
 - 2020 Remote course using Zoom
- Feb 04–05 **Data Analysis with R**: Lead Lecturer
 - 2020 Face-to-face course (CSC)
- Jan 10 **Microbial Community Analysis with Chipster**: Assistant Lecturer
 - 2020 Face-to-face course (Finnish Food Authority)
- Dec 17–18 **Statistics with R (KLTO-132)**: Lead Lecturer
 - 2019 Face-to-face course (University of Helsinki)

OTHER TEACHING EXPERIENCE

- 3x (2013 - **Masters Projects in Microbiology and Astrobiology**: Project Supervisor
- 2017) Total of six students (Universities of Vienna and Edinburgh)
- 2016 **International Fluorescence In Situ Hybridization Course**: Practical Instructor
- Division of Microbial Ecology (University of Vienna)
- 2013 **Astrobiology and the Search for Extraterrestrial Life**: MOOC Teaching Assistant
- UK Centre for Astrobiology (The University of Edinburgh)

Skills

- **Data science**
R / RStudio, data visualization (e.g. ggplot2), uni- and multivariate statistics, machine learning
- **Reproducible coding**
Git / GitHub, Markdown / RMarkdown, Pandoc, Jupyter, Travis CI
- **Containers and environment management**
Singularity, Docker, Conda, Spack (basics)
- **Bioinformatics and life sciences**
Sequence repositories and bioinformatics tools (e.g. micca, mothur), PRIMER
- **Back-end**
Unix / Linux shell scripts, Lmod
- **Languages**
Finnish and English (native), Swedish (basic), German (beginner)

Committees and Panel Memberships

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

Academic Research

Detailed information on my publications and peer review activities can be found via the following links: **Google Scholar**, **Publons**

- **Scientific Publications**
20 peer-reviewed papers in the fields of microbial ecology, environmental chemistry and astrobiology
- **Peer review**
>50 article reviews; research grant reviewer for the French National Research Agency (ANR)
- **Presentations**
Eight oral presentations and eleven poster presentations at national and international conferences
- **Workshops**
Invited attendee at four workshops (incl. 2013 Royal Society / CAS Frontiers of Science Symposium)
- **Science Communication**
Interviews including BBC Radio 4 (UK), DRadio Wissen (Germany) and a documentary on plastic pollution ("Plastic: The Real Sea Monster", screened in Europe by ARTE)

References

Available upon request.