

# Jesse Patrick Harrison

DATA SCIENTIST (PHD, MBIOLSCI)

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## Employment

### CSC – IT Center for Science Ltd

DATA SCIENTIST (ARTIFICIAL INTELLIGENCE AND DATA ANALYTICS TEAM)

Espoo, Finland

2019 - Present

- Work Package lead for PerMedCoE (EC-funded research project on personalized medicine)
- Data analysis support for other multinational research projects (e.g. ERC-funded LIFEPLAN project)
- Bioinformatics tool development (Chipster platform for high-throughput genomic analysis)
- HPC analytical environment planning and software containerization
- Designing and teaching R and bioinformatics courses at CSC and external institutes

### Turku Bioscience (University of Turku / Åbo Akademi)

POSTDOCTORAL RESEARCHER (MEDICAL BIOINFORMATICS CENTRE)

Turku, Finland

2018 - 2019

- Research topics: human gut microbiology and bioinformatics tool development

### University of Helsinki

POSTDOCTORAL RESEARCHER (AQUATIC BIOGEOCHEMISTRY RESEARCH UNIT)

Helsinki, Finland

2017 - 2018

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

### University of Vienna

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

Vienna, Austria

2015 - 2017

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

### Department for Environment, Food and Rural Affairs

TECHNICAL ADVISORY GROUP MEMBER

London, UK

2014 - 2015

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

### The University of Edinburgh

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

Edinburgh, UK

2012 - 2015

- Research topics: the habitability extreme environments and extremophile physiology

## Education and Qualifications

### The Carpentries

DATA CARPENTRY INSTRUCTOR

Athens, Greece

Aug 2019

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

### The University of Sheffield

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

Sheffield, UK

2008 - 2012

- 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

### The University of Sheffield

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

Sheffield, UK

2004 - 2008

- Masters Project: PAH Phototoxicity in Freshwater Invertebrates

## Teaching experience

### COURSES ORGANIZED BY CSC

**Total of 13 R and bioinformatics courses since April 2019 (11 as lead instructor)**

### OTHER TEACHING EXPERIENCE

- 2013-17 **Masters Projects in Microbiology and Astrobiology:** Project Supervisor (three projects)  
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

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- **Data Science**  
R / RStudio, parallel computing, data visualization, uni- and multivariate statistics
- **Reproducible Coding**  
Git / GitHub, Markdown / RMarkdown, Pandoc, Jupyter
- **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

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- 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)
- 2013-16 **PhD Project Steering Committee**  
Member (project hosted by Swansea University and Fera Science Ltd)

## Academic Research

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

- **Publications**  
22 peer-reviewed articles in the fields of microbial ecology, environmental chemistry and astrobiology;  
>1600 citations (Google Scholar, May 2021)
- **Peer review**  
>50 article reviews for 20 journals; 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)
- **Public Outreach**  
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)
- **Conference Organization**  
Organizing Committee Member, EANA2014 14th European Astrobiology Conference, Edinburgh, UK

## References

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Available upon request.

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