

# 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)

- 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

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- **Data Science**  
R / RStudio, data visualization, uni- and multivariate statistics, machine learning, parallel computing
- **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

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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)
- 2013-2016 **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**

- **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

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Available upon request.

**This CV was created using the R package *vitae*.**