

Research Reproducibility 2020
Educating for Reproducibility: Pathways to Research Integrity
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**LESSONS FROM THE FRICTIONLESS DATA FOR REPRODUCIBLE RESEARCH
FELLOWS PROGRAMME**

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ABSTRACT

Introduction: The Frictionless Data for Reproducible Research [Fellows Programme](#) trains early career researchers to become champions of reproducible science by using open source Frictionless Data tooling. [Frictionless Data](#) (FD) is a suite of open [software, tools](#), and [specifications](#), making it easier to work with data so researchers can progress from data to insight faster. Fellows learn how to use Frictionless tools to improve reproducible research workflows while advocating for open science. With mentorship from the FD team, Fellows also lead training workshops and write blogs and tutorials. Fellows are supported with stipends during the part-time, nine-month long Fellows Programme. This programme has been a learning experience for both the FD team and the Fellows.

Objectives: The main objective is to teach Fellows how to use open source software with their own data to make their research more reproducible. Additionally, Fellows gain experience presenting to technical audiences, advocating for open science, and working remotely and globally.

Methods: Fellows work in a combination of independent learning time and via virtual group meetings, following a [syllabus](#) that allows for flexibility. Fellows are expected to work an average of 6 hours per week on the Programme.

Results: Fellows have learned many lessons on reproducible research, including data publishing best practices, how to include machine readable metadata, and how to validate their data during their research data workflows by using FD open source software. They have also learned about the importance of reproducibility and openness in the research lifecycle, presenting their work and writing blogs. Fellows were particularly interested by themes of “Open for Whom”, software literacy, understanding why some researchers are opposed to open science, and science communication. For the FD team, lessons learned included how to effectively communicate remotely with Fellows around the world, how to create a flexible syllabus allowing for part-time participation, and how to encourage technical growth in scientists.

Conclusions: During the Frictionless Data for Reproducible Research Fellows Program, four early career researchers from around the globe have become advocates for open, reproducible science by learning how to use open source software with their own scientific data.