

# SADIE L. BARTHOLOMEW

Computational scientist & open-source contributor

Explore: [sadielbartholomew on GitHub](#)

[Sadie\\_Bartholomew on ResearchGate](#)

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## EXPERIENCE

Computational Scientist [Jan 2020 - present]

National Centre for Atmospheric Science, Computational Modelling Services (based at University of Reading, Department of Meteorology)

- Creating infrastructure software & standards for **ES-DOC** (the Earth System Documentation project), notably leading on development of documents characterising machine & performance (i.e. model run).
- Developing & optimising the earth science data analysis library **cf-python** & training users including leading the course on regridding.

Foundation Scientific Software Engineer [Oct 2017 - Nov 2019]

Met Office, Modelling Infrastructure Support Systems team

Developing, maintaining & providing user support for the Python infrastructure systems **Cylc** & **Rose** used to configure & run scientific software for both operational forecasting & research. Notably I:

- implemented suite host selection & asymmetric cryptography in Cylc;
- converted the entire Cylc documentation from LaTeX to Sphinx;
- ported a Rose utility from Python 2 to 3, & CherryPy to Tornado;
- registered numerous bug reports, bug fixes, user requests, & ideas;
- co-delivered internal training courses & an internal update seminar;
- co-presented at *Fourth Conference of Research Software Engineering*.

Independent open-source & personal development [2016+]

- Notably completed **Hacktoberfest** in 2018 & 2019 by contributing to often unfamiliar projects, & built creative designs using **matplotlib**.

Student Research Assistant [Dec 2015 - March 2017]

Coltraco Ultrasonics Ltd

- Conducting scientific & technical research relating to ultrasonic measurement on a remote, part-time basis & assimilating into reports.

Science and Technology Editor [2013 - 2014; 2014 - 2015]

The Bubble Magazine; Palatinate Newspaper

- Sourcing & writing articles to deadlines for two separate student publications, receiving the *Hunter Davies Prize for Journalism* in 2014.

## EDUCATION

MPhys (Hons) Integrated Masters in Physics (II:i) [2012 - June 2017]

Durham University

- Final-year computational project entitled '*Searches for boosted top quarks*', evaluating & refining top-tagging algorithms, implemented in C++, as applied to simulated LHC proton-proton scattering events.
- Undergraduate physics syllabus plus elective masters-level modules on Advanced Quantum (Field) Theory, Particle Theory & Cosmology.

Secondary Education [2007 - 2012]

Ponteland Community High School

- A levels: Physics (A\*), Chemistry (A\*), Mathematics (A\*), Further Mathematics (A), Critical Thinking (A), Extended Project (A\*)

## LANGUAGES, SYSTEMS

**Key:** years (○ being one) of experience  
using: professionally (●) | as a student (◐) | for personal projects (◑). ★ indicates preferred.

### Languages:

Python : ●● | ●● | ●●●

Unix shell (★ bash) : ●● | ●● | ●●●

C++ : | ●|

Web (HTML, CSS & JavaScript) : ● | | ●

Version control: git (& GitHub) ★ SVN

Environment/OS: Linux ★ Windows

## SOFTWARE SKILLS

planning development code review

design patterns documentation writing

testing (unit, regression & integration)

version control user support & training

(distributed) collaboration automation

packaging open-source contribution

retrospection continuous learning

## PUBLICATIONS

- H. Oliver et al., 'Workflow Automation for Cycling Systems: The Cylc Workflow Engine', published in *Computing in Science & Engineering*, 2019 (DOI: 10.1109/MCSE.2019.2906593)

## INTERESTS

Technical & creative software

HPC

Mathematics

Chess

Art

Guitar

## REFERENCES

Available on request.