

Astronomy Centre, University of Sussex  
Brighton, BN1 9QH  
UK

✉ [l.conaboy@sussex.ac.uk](mailto:l.conaboy@sussex.ac.uk)  
📄 [users.sussex.ac.uk/~lc589/](https://users.sussex.ac.uk/~lc589/)  
🌐 [lconaboy](#)

# Luke Conaboy

## Education

- 2018–present PhD Astronomy, University of Sussex, Brighton, UK.  
Supervisor: Prof. Ilian T. Iliev
- 2014–2018 MSci Physics with Astronomy (Hons), University of Nottingham, Nottingham, UK.  
Degree classification: First

## Publications

### First author publications

- 2022 *Baryon drift effects at high-redshift*, **Luke Conaboy**, Ilian T. Iliev, David Sullivan, (in prep.) Anastasia Fialkov, Keri L. Dixon.

### Other publications

- 2022 *The short ionizing photon mean free path at  $z=6$  in Cosmic Dawn III, a new fully-coupled radiation-hydrodynamical simulation of the Epoch of Reionization*, Joseph S. W. Lewis, Pierre Ocvirk, Jenny G. Sorce, Dominique Aubert, **Luke Conaboy**, Paul R. Shapiro, Taha Dawoodbhoy, Romain Teyssier, Gustavo Yepes, Stefan Gottlöber, Kyungjin Ahn, Ilian T. Iliev, Émilie Thélie.
- 2022 *Impact of early binary populations on radiative feedback and the escape fraction of ionizing photons*, Keri L. Dixon, David Sullivan, Ilian T. Iliev, **Luke Conaboy**. (in prep.)

## Talks

- Sep 2021 *Baryon drift effects at high-redshift*, RAMSES User Meeting 2021, online.
- Dec 2020 *Baryon drift effects on small-scale structure*, PhD in a Pandemic 2020, online.
- Nov 2020 *Local Group zoom simulations and baryon drift*, CLUES Mid-term Meeting, online.
- Oct 2020 *Baryon drift effects on small-scale structure*, Third Global 21cm Meeting, online.
- Jan 2020 *Cosmological reionisation*, RAS Specialist Meeting, London, UK.

## Awards

- 2022 Physics Finalist, STEM for Britain.

## Grants

- 2022 Co-PI (PI: Noam Libeskind, PC: Ilian Iliev) JUWELS (Jülich, Germany) computing time (13.3M core-h, applied) (**11M core-h, granted**).

## Computer Skills

A list of languages or packages that I use regularly, or have experience using.

Languages Python (numpy, scipy, matplotlib, mpi4py, yt) (7 years/experienced), Fortran (3 years), Bash (3 years), MPI (3 years), Matlab (3 years), C/C++ (1 year/novice).

Codes ramses, music, camb, gadget.

Other Linux, High performance computing, L<sup>A</sup>T<sub>E</sub>X.

## Teaching

Spring 2020 Foundation Mathematics B, *University of Sussex*.  
Assisting with workshops, marking.

Autumn 2019 Scientific Computing, *University of Sussex*.  
Assisting with workshops, marking.

Autumn 2019 Financial Computing with MATLAB, *University of Sussex*.  
Assisting with workshops, marking.

## Conferences and Workshops

Organising

2020 SAZERAC 2020, *LOC*, online.  
Moderating discussion

Attended

2021 RAMSES User Meeting.  
2020 PhD in a Pandemic.  
2020 Third Global 21cm Meeting.  
2020 RAS Specialist Meeting, *Radiation-hydrodynamics*.  
2019 RAMSES User Meeting.  
2019 RAS Specialist Meeting, *Machine Learning in Astronomy*.  
2018 Parallel and GPU Programming in Python.  
2018 ICIC Data Analysis Workshop.

## Master's Thesis

Title *Investigating the response in African climate anomalies to the El Niño-Southern Oscillation*

Supervisor Prof. Frazer Pearce

Authors Luke Conaboy and Mark G. Skilbeck

Description We explore the use of remote sensing methods in examining the effects of El Niño, La Niña and other ocean-atmosphere systems on cloud coverage and vegetation growth in South and East Africa.