*Centre for Astronomy and Particle Theory, University of Nottingham*
*NG7 2QB*
*UK*
*luke.conaboy@nottingham.ac.uk*
*lconaboy.github.io*
*lconaboy*
*0000-0002-6580-7177*

# Luke Conaboy

## Employment

2022–present Research Associate, University of Nottingham, Nottingham, UK
Supervisor: Dr Emma Chapman

## Education

2018–2022 PhD Astronomy, University of Sussex, Brighton, UK
Supervisor: Prof Ilian T. Iliev
Thesis: Simulations of structure formation and feedback at high redshift

2014–2018 MSci Physics with Astronomy, University of Nottingham, Nottingham, UK
Degree classification: First

## Publications

### First author publications

2022 (in review) *Relative baryon-dark matter velocities in cosmological zoom simulations*, **Luke Conaboy**, Ilian T. Iliev, Anastasia Fialkov, Keri L. Dixon, David Sullivan

### 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

## Conference proceedings

2022 *The Reionisation of the Local Universe in the Hestia Suite*, *John von Neumann Institute for Computing Symposium*, **Luke Conaboy**, Ilian T. Iliev, Noam I. Libeskind

## Supervision

2022-present Assistant supervisor to a PhD student, University of Nottingham

## Talks

Jul 2022 *Hestia in the EoR*, CLUES Meeting 2022, Madrid

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: Dr Noam I. Libeskind, PC: Prof Ilian T. Iliev) JUWELS (Jülich, Germany) computing time (13.3M core-h, applied) (**11M core-h, granted**)

## Computing 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)
Codes `ramses, music, camb, gadget`
Other Linux, High performance computing, LaTeX

## 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.

## Project participation

2022-present Square Kilometre Array-Epoch of Reionisation (SKA-EoR) data challenge team
2018-present Cosmic Dawn (CoDa) simulation team

## Conferences and workshops

### Organising

2020 SAZERAC 2020, *LOC*, online
Moderating discussion

### Attended

2022 SKA-EoR meeting
2022 CLUES meeting
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