Hannah Ross

Curriculum Vitae

Lawrence Berkeley National Lab
1 Cyclotron Rd
Berkeley
CA 94720

Tel: +1 510 974 3040
Email: HRoss@lbl.gov
Citizenship: British
Languages: English, Spanish

Research Interests

Topics	Cosmology: the cosmic dawn, reionization, the intergalactic medium, fully numerical methods, large-scale structure of the Universe, galaxy evolution, early X-ray sources.

Education

Sep 2014 - Oct 2018	**University of Sussex (PhD)**
Supervisor	Dr. Ilian Iliev
Synopsis	Ran and analysed fully numerical radiative transfer simulations to predict the fluctuations in the 21-cm signal from the Cosmic Dawn due to heating and Ly-α coupling.
Oct 2010 - Jul 2014	**University of Durham (MSci)**
Degree	Natural Sciences: Physics & Computer Science
Supervisor	Dr. Chris Done
Masters Thesis	Modelled the variability in accretion disks around black holes, created mock observations and compared to observational data.

Employement

Oct 2018 - Present	**Lawrence Berkeley National Lab (Postdoc)**
Supervisor	Dr. Zarija Lukić
Synopsis	Working with the cosmological Nyx code to include additional physics, including the implementation of radiative transfer to correctly model reionization.

Collaborations

ExaSky	A member of the EPC project ExaSky: Computing the Sky at Extreme Scales.
SKA	Involved in the SKA science team.

Computing Skills

Languages	Extensive knowledge of Fortran, C, C++, Java, Python and Matlab.
Paralell computing	Proficient with OpenMP and MPI. Experience testing and running massively parallel code.
Supercomputing	Experience with high performance multicore computing: Marenostrum (Barcelona), Cosma (Durham), Apollo (Sussex) and the Nestum Cluster (Sofia).
Code Development	Experience modifying and improving the fully numerical code C^2-Ray.

Grants

2014 - 2018	**Joint STFC-MPS Studentship in the School of Mathematical & Physical Sciences:** Full-time studentshipt at the University of Sussex *Financial support to fund a PhD in Physics.*
2014 - 2015	**Prace, 11th Call:** Named colaborator (Project leader I. T. Iliev) *14000000 core hours on MareNostrum. Running and analysing RT simulations.*
2017 - present	**Prace, 14th Call:** Named collaborator (Project leader I. T. Iliev) *52000000 core hours on MareNostrum and 34000000 on Piz Daint. Running and analysing RT simulations.*

Presentations

18 - 21 Sep 2018	**Revealing cosmology & reionization with the intergalactic medium** Contributed Talk
2 - 6 Oct 2017	**Peering towards Cosmic Dawn** Contributed Talk
13 - 15 Mar 2017	**SKA Meeting (Pisa)** Contributed Talk
14 - 16 Dec 2016	**Virgo Symposium** Contributed Talk
7 - 11 Nov 2016	**Science for the next SKA Generation** Contributed Talk
18 - 29 Apr 2016	**MIAPP: Cosmic Reionization** Invited Talk
7 - 10 Dec 2015	**Cosmology and First Light** Poster
21 - 27 Jul 2015	**International HPC Summer sch.** Selected to attend & present e-poster

Teaching Experience

Teaching Assistant	**Scientific Computing: Python Programming** (*Dr. Ilian Iliev*) Supervising coding labs, marking assignments and invigilating exam.
Teaching Assistant	**Maths Methods 1** (*Dr Alessandro Cerri*) Supervising workshops and marking assignments.

Outreach

Dec 2015	**Assembly at Brighton and Hove High School** *Gave assembly on careers advice.*
Jan 2017	**Stargazing Live** *Evening of Astronomical Activities open to the Public.*
Jun 2016/2017	**Outreach with the Travelling Observatory** *Showing the public planets and Sun.*