

# Oliver Newton

## Curriculum Vitæ

### Employment & voluntary work

#### Vocational

- 2019– **Postdoctoral Researcher**, *Institut de Physique des Deux Infinis*, Lyon, France.  
2014–2015 **Graduate Trading Platform Engineer**, *Fidessa*, Woking, UK.

#### Volunteering

- 2014–2020 **Founding trustee & Treasurer**, *UniBrass Foundation* (charity number: 1159359), UK.

### Education

- 2015–2019 **PhD**, *Institute for Computational Cosmology*, Durham, UK.  
*Probing the nature of dark matter with small-scale cosmology*  
Supervisors: Prof. Adrian Jenkins and Prof. Carlos Frenk  
2010–2014 **BSc MPhys**, *University of Warwick*, Coventry, UK, *1st Class (Hons)*.  
Masters project: *Determining the fundamental properties of Higgs candidates at the LHC*

### Awards and scholarships

- 2019 **ICC Research Scholarship**, Institute for Computational Cosmology, Durham, UK.  
2015–2019 **STFC Postgraduate Studentship**, Institute for Computational Cosmology, Durham, UK.

### Conference contributions

#### Contributed talks

- July 2020 **EAS (Online)**, Leiden, Netherlands.  
Constraining the properties of WDM using the satellite galaxies of the Milky Way  
Jan 2020 **VIRGO Consortium meeting**, Durham, UK.  
Constraining the properties of WDM using the satellite galaxies of the Milky Way  
Sep 2019 **CLUES Collaboration meeting**, IN2P3, Lyon, France.  
Constraints on thermal relic WDM from satellites of the LG  
July 2019 **Small Galaxies, Cosmic Questions**, Durham, UK.  
Constraints on the mass of the thermal relic warm dark matter particle  
Jan 2019 **DEX XV**, Edinburgh, UK.  
Constraints on the mass of the thermal relic warm dark matter particle  
Dec 2018 **VIRGO Consortium meeting**, Leiden University, Netherlands.  
Constraints on the mass of the thermal relic warm dark matter particle  
Aug 2018 **XXX IAU General Assembly**, Vienna, Austria.  
Constraining the mass of the WDM particle using estimates of the total satellite population of the Milky Way  
Jan 2018 **DEX XIV**, Durham, UK.  
The total satellite population of the Milky Way  
Dec 2017 **VIRGO Consortium meeting**, MPA Garching, Munich, Germany.  
The total satellite population of the Milky Way  
July 2017 **National Astronomy Meeting**, Hull, UK.  
The total satellite population of the Milky Way

Dec 2016 **VIRGO Consortium meeting**, Durham, UK.

MW satellite galaxies: how many could there be?

#### Posters

June 2019 **EWASS**, Lyon, France.

Constraints on the mass of the thermal relic warm dark matter particle

Aug 2018 **XXX IAU General Assembly**, Vienna, Austria.

Constraining the mass of the WDM particle using estimates of the total satellite population of the Milky Way

### Teaching/supervising experience

2017–2019 Co-supervising two 4th year undergraduate student Master's theses

### Professional service

#### Peer review

2021– Journal of Cosmology and Astroparticle Physics

#### Institution

2021– **CLUES discussion meeting**, *Convener*, IP2I Lyon, France.

2016–2017 **Postgraduate Journal Club**, *Co-convener*, Durham, UK.

#### Conferences and meetings

2018–2019 **Small Galaxies, Cosmic Questions LOC**, *Member*, Durham, UK.

### Memberships

Oct 2019– Member CLUES Collaboration

May 2017– Fellow of the Royal Astronomical Society, UK

Oct 2015– Member Virgo Consortium

### Outreach

#### Events

Oct 2018 **Celebrate Science**, Durham, UK.

Galaxy Makers

Apr 2018 **Schools Science Festival**, Durham, UK.

Galaxy Makers

Oct 2017 **Celebrate Science**, Durham, UK.

Galaxy Makers

Apr 2017 **Schools Science Festival**, Durham, UK.

Galaxy Makers

Jul 2016 **Royal Society Summer Science Exhibition**, London, UK.

Galaxy Makers

#### Activity development

2015–2016 **Galaxy Makers**, Durham, UK.

Developed design ideas and ran the constituent **EAGLE** volumes that were visualised in the final exhibit.

### Computing

Languages Python, HPC,  $\text{\LaTeX}$ , TCL, SQL, Microsoft Office suite

Simulations AHF, SubFind, Gadget, AREPO

### Publications

- 2021 Wolfgang Enzi, Riccardo Murgia, **Oliver Newton**, et al., Joint constraints on thermal relic dark matter from strong gravitational lensing, the Ly  $\alpha$  forest, and Milky Way satellites, *MNRAS*, 506(4):5848–5862, October 2021, doi: [10.1093/mnras/stab1960](https://doi.org/10.1093/mnras/stab1960)
- Oliver Newton**, Matteo Leo, Marius Cautun, et al., Constraints on the properties of warm dark matter using the satellite galaxies of the Milky Way, *JCAP*, 2021(08):062, August 2021, doi: [10.1088/1475-7516/2021/08/062](https://doi.org/10.1088/1475-7516/2021/08/062)
- Oliver Newton**, Noam I. Libeskind, Alexander Knebe, et al., Hermeian dark matter haloes of the Local Group, *ArXiv e-prints*, April 2021, <https://arxiv.org/abs/2104.11242>
- Oliver Newton**, Hermeian Paper plotting code, Zenodo, April 2021, doi: [10.5281/zenodo.4708339](https://doi.org/10.5281/zenodo.4708339)
- Mark R. Lovell, Marius Cautun, Carlos S. Frenk, et al., The spatial distribution of Milky Way satellites, gaps in streams and the nature of dark matter, *ArXiv e-prints*, April 2021, <http://arxiv.org/abs/2104.03322>
- 2018 **Oliver Newton**, Marius Cautun, Adrian Jenkins, et al., The total satellite population of the Milky Way, *MNRAS*, 479(3):2853–2870, September 2018, doi: [10.1093/mnras/sty1085](https://doi.org/10.1093/mnras/sty1085)
- Oliver Newton**, Marius Cautun, Adrian Jenkins, et al., The Milky Way's total satellite population and constraining the mass of the warm dark matter particle, *Proc. IAU*, 14(S344):109–113, August 2018, doi: [10.1017/S1743921318006464](https://doi.org/10.1017/S1743921318006464)
- Oliver Newton** and Marius Cautun, MW Satellite LF: V1.0.0 release, Zenodo, March 2018, doi: [10.5281/zenodo.1205622](https://doi.org/10.5281/zenodo.1205622)