

Dr Matthew Bothwell

Public Astronomer - Institute of Astronomy - University of Cambridge

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📍 Cambridge, UK

Education

PhD in Astronomy

University of Cambridge

📅 2007 - 2011

- Thesis: Galaxy evolution, near and far
- Advisors: Professor Rob Kennicutt and Dr. Scott Chapman

MPhys in Astrophysics

University of Southampton

📅 2003 - 2007

- 1st Class Honours
- Included a year of full-time research at the Harvard Center for Astrophysics (master's thesis: Spectroscopic observations of the neutron star system 4U2129+47)

Professional Appointments

Public Astronomer

Institute of Astronomy (IoA), University of Cambridge

📅 2021 - present

- I am responsible for the outreach program at the IoA
- Duties include running public events, hosting stargazing groups, delivering public lectures, giving talks to schools, organising the Cambridge Festival, liaising with the media, writing press releases, maintaining a web and social media presence, and providing science communication training for students

Outreach Officer

Kavli Institute for Cosmology, University of Cambridge

📅 2018 - present

- I lead the *AstroEast* project, which delivers astronomy teaching to secondary schools in deprived areas across East Anglia
- Other responsibilities include maintaining the Kavli's web and social media presence, and coordinating projects between faculty, post-docs, and students

Outreach Assistant/Facilitator

Institute of Astronomy, University of Cambridge

📅 2017 - 2021

Postdoctoral Researcher

Astrophysics Group, University of Cambridge

📅 2012 - 2017

Postdoctoral Researcher

Steward Observatory, University of Arizona

📅 2011 - 2012

IT Skills

- Fluent in a range of document packages, including MS Word, Excel, Keynote, PowerPoint (etc).
- Experienced with using film, video editing, and livestreaming to communicate science to online audiences
- Attended training courses on Falcon and Drupal website content management services
- I administer the IoA and KICC public websites
- Experienced with a range of programming languages (IDL, C++, LaTeX)

Professional activities

- Invited referee for *Nature*, *Nature Physics*, the *Astrophysical Journal*, *Monthly Notices of the Royal Astronomical Society*, and *Astronomy & Astrophysics*
- Honorary president of LYRA (Lowestoft & Yarmouth Regional Astronomers) and LDAS (Letchworth & District Astronomical Society)
- Lead administrator: *The Laws of Star Formation* conference, Cambridge, July 2018
- Member of the Cambridge Physics Centre organising committee
- Member of the European Space Agency's James Webb Telescope Communication Coordination Group
- Served on the organising committee for *Pint of Science* (2015-2018)
- Founded Cambridge's *Astronomy on Tap* committee (2018-)

Research

- My research interests involve the role of gas in galaxy evolution across cosmic time
- PI of the ESO large program 'MASCOT', awarded 1000 hours with the Arizona Radio Observatory
- I have 42 papers in refereed journals (including 2 in *Nature*);
- As of April 2021, I have 4117 citations and my h -index = 33

Science Commiunication

Public Speaking

- I have given presentations on astronomy in-person and online to a combined audience of over 70,000 people
- I regularly speak to school pupils at all educational stages from pre-school to sixth-form
- I have spoken on a range of astronomical topics, including exobiology, planetary science, stars, galaxies, cosmology, and more
- Audiences and venues include YouTube, amateur astronomical associations, various science festivals, Pint of Science, Astronomy on Tap, Cafe Scientifiqué, the Cambridge Physics Centre, Kettle's Yard 'LATE', the Fitzwilliam Museum, and the Institute of Physics (IoP) lecture series
- In 2019 I was invited to give the Keynote Lecture (and a tie-in children's lecture) at the Ely Cathedral Science Festival
- In 2020 I was invited to give a plenary lecture as part of the Royal Astronomical Society bicentenary celebrations

Science Writing

- My science writing has appeared in *Aeon Magazine*
- I write a weekly newsletter (summarising the week's top astronomical news stories) for the public attending our open evenings
- My popular astronomy book *The Invisible Universe* will be published by OneWorld Publications in November 2021
- I am a consulting science editor at *Atalier Editions*, and worked on the upcoming book 'Beyond the Earth'

Working with the media

- I make regular media appearances, including BBC Radio 5's 'The Naked Scientists' podcast, BBC local radio (Radio Cambridgeshire, Radio Kent, etc), Voice of Islam Radio, Cambridge 105, and more.
- I am regularly consulted by science journalists from a range of national and international publications (including the BBC, the Daily Mail, the Telegraph, and the Guardian) to discuss and comment on breaking astronomical news stories

Teaching

- I am a course tutor at the University of Cambridge Institute for Continuing Education (ICE)
- I have taught a wide range of courses for ICE, including the Undergraduate Diploma in Astronomy (2016-2017); Understanding the Universe: a multi-wavelength approach (2018-2020); Our Expanding Universe (2019); 18th-Century Astronomy (2020); Windows to the Universe (2021)
- I have delivered astronomy courses for a variety of International Summer Schools (including 'CL Global', and 'Reach Cambridge'). The audience for these generally consists of international students aged 14-18.

Interdisciplinary Collaborations

- In 2018 I revitalised the IoA's 'Artist in Residence' program (after a ~ 10-year hiatus), and invited Tim Watts, Affiliated Lecturer at the Faculty of Music, to the post
- I worked with Dr Watts on 'The Creation of the Universe', which used spoken words, poetry, and a score for string quintet to explore the link between music and astronomy. We performed this piece at the King's Lynn Festival in 2019.
- In 2019 I collaborated with playwright Natalie Songer on her interactive theatre piece 'Satellites'
- In 2021 I worked with visual artist Rhea Quinn, and contributed a lecture to her Cambridge Festival piece 'Dance of Light'