

Dr Emma Chapman – Curriculum Vitae

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Research Interests: Foreground mitigation; Epoch of reionisation; Cosmology; Radio interferometry and data reduction; Signal processing

Proleptic Lecturer	University of Nottingham	Oct 2021 – present
Royal Society Dorothy Hodgkin Fellowship	University of Nottingham	Oct 2021 – present
	Imperial College London	Oct 2018 – Oct 2021

My fellowship is centred around research into the Epoch of Reionisation (EoR), contributing to its detection through membership of the LOFAR core EoR team and leading a focus group on foreground removal within the SKA working group. I supervise two PhD students.

Science Communication Author Freelance

I am a popular science writer and have produced articles in popular magazines such as The I Paper, The Big Issue, Astronomy Now. “First Light”, my first popular science book, was published by Bloomsbury in November 2020 to great acclaim.

Co-director of The 1752 Group Jan 2017 – Apr 2021

Lead of Media, Campaigns and Advocacy in the 1752 Group (www.1752group.com), a research and activist organisation tackling sexual misconduct in higher education via. evidence-based policy change.

Royal Astronomical Society Research Fellowship Imperial College London Oct 2015 – Oct 2018

Postdoctoral Researcher University College London Dec 2013 – Oct 2015

SKA-funded postdoctoral research position, continuing personal research and contributing to the organization of the SKA EoR pipeline within the SKA SDP consortium.

PhD University College London Oct 2010 – Dec 2013

Thesis title: Seeing the Light: Foreground Removal in the Dark and Dim Ages.

MPhys Durham University Oct 2006 – July 2010

Integrated masters in Theoretical Physics awarded as a First. Overall Firsts achieved in every year and every module with an overall degree percentage of 81%.

Research Prizes and Major Grants

2020 Women of the Future Award, Shortlisted

2019 Imperial College Julia Higgins Medal for a significant contribution to the support of academic women.

2018 Royal Society Research Enhancement Award, £97,000

2018 Royal Society Dorothy Hodgkin Fellowship (accepted), £635,000

2018 STFC Ernest Rutherford Fellowship (declined)
2018 Royal Society Athena Medal and Prize, £5000
2017 L'Oréal Women in Science Fellowship, Highly Commended, £1000
2016 CAASTRO visitor grant, £7000
2015 Royal Astronomical Society Fellowship
2014 The Shell and Institute of Physics Award for the Very Early Career Woman Physicist of the Year: winner, £1000
2013 UCL Chris Skinner Department of Physics and Astronomy Thesis Prize: winner
2013 Royal Astronomical Society Michael Penston Thesis Prize: runner up
2010 Durham University J.B.Chalmers Prize: winner for exceptional Physics degree marks
2009 Durham University Award for Outstanding Achievement in Physics: winner for consistently achieving grades of over 80%.

Research Presentations

25+ invited talks, 7 accepted presentations, 2 posters.

Recent invited talks:

- University of Nottingham, November 2021
- University of Sussex, November 2021
- ASTRON, Groningen, Netherlands, June 2021
- University of Cambridge, March 2021
- University of Oxford, February 2021
- University of Lancaster, June 2020, (postponed due to Covid-19)
- Cosmological Analyses Featuring Galactic Foreground Emission, May 2020, **invited review** (postponed due to Covid-19)
- University of Hertfordshire, February 2020
- Queen Mary University of London, Astronomy colloquium, Oct 2018
- IAU Symposium 333: "Peering towards Cosmic Dawn", Dubrovnik, Croatia, October 2017, **invited review**
- University of Birmingham, Astronomy colloquium, May 2017
- University of Nottingham, Astronomy colloquium, February 2017
- CAASTRO annual retreat, Australia, December 2016, **invited review**

Professional Services

Leadership and Project Participation

- Chair of SKA office inquiry into the effect of possible decrease in maximum baseline (8 members)
- Focus group leader within SKA-EoR working group
- LOFAR-EoR core member
- SKA-SDP

Conference Organisation

- The Epoch of Reionisation: UK community update, RAS Specialist Meeting, Feb 2018 (organiser)
- "Science at Low Frequencies IV", Sydney, December 2017 (SOC)
- IAU Symposium: Peering towards the Cosmic Dawn, May 2017, Croatia (SOC)
- EoR Algorithms, June 2016, Cambridge (SOC)

Journal Review: AAS, MNRAS

Grant Review: STFC Astronomy Grants Panel Consolidated Grant, Canada Foundation for Innovation (CFI)

Committee Work

- Nottingham Physics and Astronomy Outreach Committee (chair), Nov 2021 - present
- UK SKA Programme Board, Jun 2021 – present
- UK SKA Early Career Researcher Committee, October 2020 - present
- Organised creation of Imperial College Department of Physics Welfare Committee, 2018
- Co-director of the 1752 Group, involved in drafting best practice harassment and bullying policy with UUK, UCU and NUS, 2017 – present (see www.1752group.com)
- Imperial College Sexual Harassment Policy Reform Working Group, 2018 - present
- Imperial College Equality and Diversity Forum, 2017 - present
- Imperial College London JUNO committee culture focus group leader, 2015 - present
- Institute of Physics Diversity and Inclusion Committee member, 2013 - 2017
- UCL JUNO committee, 2014 – 2015

Media

- BBC 'Science's Greatest Mysteries' interviewee
- BBC 'Universe'/NOVA 'Universe Revealed', feature interviewee:
<https://www.pbs.org/wgbh/nova/video/nova-universe-revealed-age-of-stars/>, Oct 2021
- Guest on Radio 4 Today Programme, Harassment and Bullying in Science, July 2021
- NPR Cool Science Podcast, May 2021
- Royal Astronomical Society Supermassive Podcast, Feb 2021
- Guest on BBC Radio 4 Inside Science discussing astronomy stories of the year
- Authored Article in the i Paper, an excerpt from First Light: <https://inews.co.uk/news/science/first-stars-world-bodies-emma-chapman-astrophysicist-explained-795458>
- Guest on Irish TechNews, Future Proof, Times Radio, Dec 2020
- The Times Podcast, Dec 2020
- Authored Article in Science Focus on Cecilia Payne-Gaposchkin, Dec 2020:
<https://www.sciencefocus.com/space/the-life-changing-and-long-lasting-influence-of-cecilia-payne-gaposchkin/>
- Guest on Irish TechNews, Future Proof, Times Radio, Nov 2020
- Interplanetary Podcast, November 2020, <https://podcasts.apple.com/gb/podcast/211-emma-chapman-first-stars/id1097505801?i=1000498723248>
- BBC Sky at Night Magazine podcast, November 2020, <https://play.acast.com/s/radio-astronomy/20yearsoftheinternationalspacestation>
- Guest on BBC News discussing NDAs, and their use in higher education, March 2020
- National Geographic, October 2019, <https://www.nationalgeographic.co.uk/science-and-technology/2019/10/once-most-famous-scientists-were-men-thats-changing>
- Guest on Victoria Derbyshire, LBC, Sky News and Channel 5 News, MP's call for a ban on NDAs, June 2019
- Guest on Radio 4 Inside Science end of year special representing Astrophysics, Dec 2018
- Invited Commentary to Physics Today December Issue,
<https://physicstoday.scitation.org/doi/10.1063/PT.3.4080>
- Guest on Radio 4 Inside Science discussing women in STEM initiatives, August 2018
- "Report harassment or risk losing funding, says top UK science funder", March 2018,
<https://www.nature.com/articles/d41586-018-05071-7>

- “Cosmic dawn: astronomers detect signals from first stars in the universe”, February 2018, <https://www.theguardian.com/science/2018/feb/28/cosmic-dawn-astronomers-detect-signals-from-first-stars-in-the-universe>
- Guest on BBC Radio 4 Woman’s Hour on topic of sexual misconduct, February 2018
- Guest on sexual harassment in academia and Hollywood, BBC World News, BBC UK News, BBC Radio 4 “The World Tonight” (October 14/15 2017)
- Physics World Blog Contribution: <http://blog.physicsworld.com/2017/07/28/bias-stereotyping-and-harassment-what-women-battle/#more-14619>
- Contribution to “More universities must confront sexual harassment” editorial in Nature 547, 379 (27 July 2017) doi:10.1038/547379a
- Scientific advisor for Pioneer Productions, “The Universe and Me”, July 2017
- Panel member for Radio 4 “All in the Mind: Unconscious Bias” episode, a Royal Institution event (03 March 2017)
- Institute of Physics News article on PhD student culture, May 2015: http://www.iop.org/news/15/may/page_65667.html

Recent Outreach

Science

- Nature Masterclasses: Networking – major contributor and interviewee
- Open University Space Society, July 2021
- Edinburgh Science Festival, A reading of First Light, July 2021 <https://www.sciencefestival.co.uk/event-details/first-light-switching-on-stars-at-the-dawn-of-time-with-emma-chapman>
- York Science Festival, June 2021 https://www.youtube.com/watch?v=Zq_bbQyD94E
- American Natural History Museum, New York, May 2021
- Physics Today (US publication) Webinar, April 2021
- AstroFest 2021, March 2021
- Skeptics in the Pub, February 2021
- Royal Institution talk on the First Stars, audience of 700, Nov 2020
- https://www.youtube.com/watch?v=wmhR_ttQ9-E
- Royal Museums Greenwich, In conversation with..., Nov 2020 <https://www.rmg.co.uk/membership/conversation-dr-emma-chapman-first-light-switching-on-stars-dawn-time>
- Babble Talks, June 2019 and Jan 2020
- Imperial Festival, Day in the Life talks, June 2019
- Friends of Imperial College London, “First Stars”, October 2018
- New Scientist Live, “First Stars”, September 2018, largest audience of the day. <https://www.newscientist.com/video/2184799-emma-chapman-the-first-stars-in-the-universe/>
- Euroscience Open Forum, “The Square Kilometer Array: showing the early stages of our Universe”, July 2018
- Cheltenham Science Festival, Panel Member, “Beyond Light: The Future of Astronomy”, June 2018

Diversity

- University of Nottingham, Nov 2021, School of Physics and Astronomy Women’s Network
- University of Nottingham, May 2021, School of Physics and Astronomy **invited colloquium**

- University of Bristol, Bristol Quantum Information Technologies Workshop, **invited diversity panel member**, Apr 2020
- Cheltenham Science Festival, Panel Member, “Workplace Bullies”, June 2019
- Gamechangers Conference, Turing Institute, “How to Moan Effectively and Effect Change”, September 2018, <https://www.youtube.com/watch?v=31M8SGez90E>
- Institute of Physics JUNO Diversity and Harassment Conference, “Sexual Misconduct in UK Universities”, August 2018
- “How do we Solve Science's Problem with Women?”, Wellcome Collection, February 2018
- Panel member for “Bias in Science”, International Conference for Women in Physics, Birmingham, July 2017

Teaching

- 2019-2023 – Co-supervisor of PhD student
- 2017-2022 – Co-supervisor of PhD student
- 2020/2021 – Supervisor of four BSc research projects and one MSc research project
- 2015/2016 – Third year laboratories, semi-conductor physics, Imperial College London
- 2014/2015 – Mathematical Methods I Problem Solving Tutorials, UCL