

# Tessa Baker

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AREAS OF EXPERTISE:

- cosmological extensions of GR
- dark siren methods and pipelines
- cosmological voids
- gravitational waves as probes of gravity/fundamental physics
- COLA simulations for modified gravity
- model-independent frameworks for tests of GR

EMPLOYMENT & EDUCATION:

Professor	Institute of Cosmology & Gravitation	2023 - present.
Reader	Queen Mary University of London	2019 - 2023.
Fulbright Scholar	University of Pennsylvania	2015 - 2016
Postdoctoral Research Fellow	All Souls College, University of Oxford	2013 – 2018.
Astrophysics D.Phil.	University of Oxford	2010 – 2013

GRANTS & AWARDS:

European Research Council Starting Grant	€1.5M (EUR)	2021-2025
Royal Society University Research Fellowship Renewal	£641k	2024-2026
Royal Society University Research Fellows Enhancement Award	£115k	2022-2023
Royal Society Covid Extension Award	£21k	2021-2022
Royal Society University Research Fellows Enhancement Award	£200k	2019-2021
Royal Society University Research Fellowship	£475k	2019-2023
Fulbright All-Disciplines Scholar Award	\$50k (USD)	2015-2016
Winner of the ‘Women of the Future Award’, science category		2015
SET for Britain Cavendish medal for Physics		2014

COLLABORATION MEMBERSHIPS & ROLES:

Chair for Fundamental Physics for LISA Science Investigation Work Package.

Member of LISA Consortium Constituent Council.

Former PI and founder of QMUL LIGO Scientific Collaboration group, now transferred to ICG group. Active in Cosmology and TGR LSC groups.

UK co-PI of LSST-DESC, member of LSST Modelling and Combined Probes group, key contributor to topical team ‘Beyond  $\Lambda$ CDM’.

Member of the Theory Working Group (TWG) for the ESA Euclid satellite mission; member of the review document editorial board 2013 - 2016. Co-lead of modified gravity project within work package 10 (Novel probes).

STUDENT & POSTDOCTORAL SUPERVISION:

Dr. Konstantin Leyde, postdoctoral researcher, ICG, September 2023 - present.

Dr. Charles Dalang, postdoctoral researcher, QMUL & ICG, September 2022 - present.

Dr. Bartolomeo Fiorini, postdoctoral researcher, QMUL & ICG, September 2022 - present.

Dr. Bill Wright, postdoctoral researcher, QMUL, January 2020 - December 2022.

Dr. Rachel Gray, postdoctoral researcher, QMUL, September 2021 - December 2022.

PhD students: Anson Chen, Ashim Sen Gupta, Stefano Zazzera, Elena Colangeli.

For my publications, please see here on Inspire-HEP (embedded link).

#### PUBLIC OUTREACH

I tweet regularly from the Twitter handle @Tessa\_M\_Baker and give talks to the general public. A few recent highlights include:

- Science Tent public talk at Standon Calling Festival, 'The Sounds of Spacetime', July 2023.
- Royal Institution Lecture on 'The Sounds of Spacetime', May 2023.
- Invited interview for 'Rough Cut Cosmology' YouTube channel by Shaun Hotchkiss, September 2022:  
[https://youtu.be/DB0NZVS\\_UDo](https://youtu.be/DB0NZVS_UDo)
- Lecturer for New Scientist Academy masterclass on General Relativity, July 2021:  
<https://academy.newscientist.com/courses/general-relativity-online-course>