

# Curriculum vitae

Joseph Tooby-Smith\*

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## Education and qualifications

Oxford graduate, Cambridge PhD Researcher

2012-2014 York 6th form college:

- As-level: Biology A
- A-level: Physics A\*, Maths A\*, Further Maths A\*, Additional Further Maths A\*, Chemistry A\*

2014-2018 Oxford University, Christ Church College:

- MMathPhys (with initial three years on MPhys): Distinction/First Class (double classification)

2018- Cambridge University, Robinson College and Cavendish Laboratory

- PhD Candidate Physics (HEP theory), supervised by Ben Gripaios.

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## Papers: Peer-reviewed

3 peer-reviewed papers

- Davighi, J., Gripaios, B., Tooby-Smith, J., 2020. *Quantum mechanics in magnetic backgrounds with manifest symmetry and locality*. J. Phys. A: Math. Theor. 53, 145302. <https://doi.org/10.1088/1751-8121/ab78ce>
- Allanach, B.C., Gripaios, B., Tooby-Smith, J., 2020. *Solving local anomaly equations in gauge-rank extensions of the standard model*. Phys. Rev. D 101, 075015. <https://doi.org/10.1103/PhysRevD.101.075015>
- Allanach, B.C., Gripaios, B., Tooby-Smith, J., 2020. *Geometric general solution to the  $U(1)$  anomaly equations*. J. High Energ. Phys. 2020, 65. [https://doi.org/10.1007/JHEP05\(2020\)065](https://doi.org/10.1007/JHEP05(2020)065)

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## Papers: Accepted (in production)

2 accepted for PRL

- Cohen, T., Craig, N., Koren, S., McCullough, M., Tooby-Smith, J., 2020. *Supersoft Stops*. arXiv:2002.12630 [hep-ph]. (Accepted by PRL)
- Allanach, B.C., Gripaios, B., Tooby-Smith, J., 2020. *Anomaly cancellation with an extra gauge boson*. arXiv:2006.03588 [hep-ph, physics:hep-th]. (Accepted by PRL)

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## Papers: Preprints

3 preprint papers

- Davighi, J., McCullough, M., Tooby-Smith, J., 2020. *Undulating Dark Matter*. arXiv:2007.03662 [hep-ex, physics:hep-ph].

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## Teaching Experience

Enthusiastic teacher

2016 Undertook a teaching module as part of my undergraduate

2018 Demonstrator for theoretical physics part I (Department of Physics, Cambridge)

2019-2020 Supervisor for Gauge Field Theory (Department of Physics, Cambridge)

2019 Supervisor for Quantum Field Theory (DAMTP, Cambridge)

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\*Legal name: Joseph Stanley Smith. Nationality: British.

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**Prizes and awards**

10 academic awards

2014	Principal's Prize (York College)
2014-2017	Scholarships (Christ Church College, Oxford)
2016	Collections Prize (Christ Church College, Oxford)
2016	The Scott Prize for performance in the Physics Part A examination (Oxford University)
2017	The Scott Prize for best performance in the MPhys Part B examination (Oxford University)
2018	Clifford Smith Prize (Christ Church College, Oxford)
2018	Prize for the Best Results on the Oxford MMathPhys (Oxford University)
2018	Honorary Vice-Chancellor's Award (Cambridge University)
2018	Hooke Prize (Christ Church College, Oxford)
2018	Roach Prize (Christ Church College, Oxford)

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**Presentations and Conferences**

1 conference organised

2019	Organising committee and a convener for the Cavendish Laboratory Graduate Student Conference
2020	Seminars on "Local anomalies in $Z'$ models" at: Cambridge University; Imperial College London; Edinburgh University; Oxford University
2020	Seminar on "Supersoft Stops" at Bonn University
Upcoming	Seminar at BSM PANDEMIC (2nd October, 2020).

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**Public Engagement**

Committed volunteer

2016-2018	Oxford Hands on Science roadshows, and committee member (2017)
2017-2018	Oxford Physics department and Christ church college open days
2017	Volunteered at Stargazing Oxford event
2019	Volunteered at Cambridge Science Festival
2019	Helped out at Cambridge HEP master classes.

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**Athletic achievements**

High performing athlete

2019	3rd team at National 6-stage road relays with Cambridge and Coleridge AC
2019	2nd team at National Cross Country relays with Cambridge and Coleridge AC
2019	1st in both the Oxford and Cambridge Town and Gown 10k.
2019	Represented Cambridgeshire in track-and-field.
2019	2nd Individual in Oxford Vs Cambridge Blues varsity cross-country, and team win.
2020	30th Individual in National Cross Country Championships
	Personal Bests: 1:59.4 (800m), 3:59.40 (1500m), 8:39.6 (3000m), 9:59.49 (3000m Steeple chase), 15:08.92 (5000m), 30:01 (10k).

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*Referees: Ben Gripaios (gripaios@hep.phy.cam.ac.uk), Matthew McCullough (matthew.mccullough@cern.ch), and Ben Allanach (b.c.allanach@damtp.cam.ac.uk).*