

Richard Stiskalek

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	NASA ADS: h-index = 5, total citations = 77 (April 18, 2024)	
INTERESTS	Constrained cosmological simulations, galaxy–halo connection, astrophysical tests of gravity, gravitational-wave astronomy, machine learning	
EDUCATION	<p>University of Oxford, Astrophysics DPhil 2022 – 2026 (expected) Thesis: “New tests of physics with constrained large-scale structure simulations” Supervised by <i>Julien Devriendt</i>, <i>Adrianne Slyz</i> and <i>Harry Desmond</i></p> <p>Ludwig-Maximilians-Universität München, Physics M.Sc. 2020 – 2022 Thesis: “Frequency- and polarization-dependent lensing of gravitational waves in strong fields” Supervised by <i>Miguel Zumalacárregui</i>, <i>Marius A. Oancea</i> and <i>Jochen Weller</i>¹</p> <p>Hong Kong University of Science and Technology 2017 – 2018 Undergraduate Exchange Programme</p> <p>University of Glasgow, Physics with Astrophysics B.Sc. 2016 – 2020 Thesis: “Gravitational-wave cosmology” Supervised by <i>Martin Hendry</i></p>	
PUBLICATIONS	<p>[1] “Evaluating the reconstruction of individual haloes in constrained cosmological simulations”, R. Stiskalek, H. Desmond, J. Devriendt, A. Slyz [arXiv:2310.20672]</p> <p>[2] “Probing general relativistic spin-orbit coupling with gravitational waves from hierarchical triple systems”, M. A. Oancea, R. Stiskalek, M. Zumalacárregui.[arXiv:2307.01903]</p> <p>[3] “On the fundamentality of the radial acceleration relation for late-type galaxy dynamics”, R. Stiskalek, H. Desmond [MNRAS 525:6130, arXiv:2305.19978]</p> <p>[4] “From the gates of the abyss: Frequency- and polarization-dependent lensing of gravitational waves in strong gravitational fields”, M. A. Oancea, R. Stiskalek, M. Zumalacárregui [arXiv:2209.06459]</p> <p>[5] “The scatter in the galaxy–halo connection: a machine learning analysis”, R. Stiskalek, D. J. Bartlett, H. Desmond, D. Anbajagane [MNRAS 514:4026, arXiv:2202.14006]</p> <p>[6] “The dependence of subhalo abundance matching on galaxy photometry and selection criteria”, R. Stiskalek, H. Desmond, T. Holvey, M. G. Jones [MNRAS 506:3205, arXiv:2101.02765]</p> <p>[7] “Are stellar-mass binary black hole mergers isotropically distributed?”, R. Stiskalek, J. Veitch & C. Messenger [MNRAS 501:970, arXiv:2003.02919]</p>	
ACADEMIC INTERNSHIPS	<p>Max Planck Institute for Gravitational Physics, Observational Relativity and Cosmology 2020 Supervised by <i>Collin Capano</i></p> <p>University of Oxford, Astrophysics 2019 Supervised by <i>Harry Desmond</i></p> <p>University of Glasgow, Institute for Gravitational Research 2018 Supervised by <i>John Veitch</i> & <i>Chris Messenger</i></p>	
TEACHING EXPERIENCE	<p><i>MPhys C1 Astrophysics</i>, University of Oxford, Astrophysics 2023 – 2024 Tutoring of cosmology, stellar Astrophysics and galaxies</p> <p><i>Practical Course - 3rd year</i>, University of Oxford, Astrophysics 2023 Astrophysics computational practical course demonstrator</p> <p><i>Lumiere Education</i> 2023 – present Mentorship of senior high school students conducting a research project</p>	

¹Internal thesis advisor

STUDENT SUPERVISION	Catherine Spencer (MPhys project), University of Oxford	2023 – present
	“The influence of cosmic environment on galaxy properties“ James Harvey (undergraduate project), University of Oxford “Machine learning the time of last major merger from spectroscopic data”	2023 – present
SERVICE	Referee for <i>ApJ</i> , <i>MNRAS</i> , <i>PNAS</i>	2022 – present
	Aquila Consortium Oxford Meeting local organiser	2023
	Aquila Consortium Monthly Telecon organiser	2023 – present
	Organiser of “Middle of Scotland Science Festival”	2018
AWARDS AND SCHOLARSHIPS	DAAD Study Scholarship, German Academic Exchange Service	2021 - 2022
	Kerr Bursary, University of Glasgow	2020
	Lang Scholarship, University of Glasgow	2019
	Undergraduate Summer Bursary, Royal Astronomical Society	2018
	Dean’s List, Hong Kong University of Science and Technology	2018
	Astronomy 1 Prize, University of Glasgow	2017
	Matthew A Muir Bursary, University of Glasgow	2017
	South East Asia Study Abroad Scholarship, University of Glasgow	2017 - 2018
SKILLS	<i>Programming languages</i>	
	- Python, Julia, Mathematica, C, C++, Fortran, Bash	
	<i>Software</i>	
	- RAMSES, Gadget, Rockstar, DisPerSe, MPI, git, TensorFlow, JAX, PyTorch, \LaTeX and others	
SELECTED TALKS	<i>Languages</i>	
	- English, Czech, Slovak, French (intermediate), German (beginner)	
	<i>Velocity field of the local Universe</i>	
	University of Portsmouth	2024
	<i>Is the radial acceleration relation a fundamental correlation?</i>	
	University of Oxford	2023
	<i>Frequency and polarisation dependent propagation of gravitational waves</i>	
	University of Glasgow	2022
	Ludwig-Maximilians-Universität München	2022
	Max Planck Institute for Gravitational Physics, Potsdam	2022
	<i>The scatter in the galaxy–halo connection</i>	
	Baryon Pasters Collaboration meeting	2022
	Ludwig-Maximilians-Universität München	2021
	<i>Reversible-jump MCMC in gravitational-wave astronomy</i>	
	Max Planck Institute for Gravitational Physics, Hannover	2020
	<i>Are binary-black hole mergers isotropically distributed?</i>	
	LIGO Scientific Collaboration Data Analysis telecon	2020
	<i>The relation between galaxies and dark matter halos</i>	
	University of Oxford	2019