

Richard Stiskalek

CONTACT INFORMATION	www.richard-sti.github.io/ www.github.com/richard-sti	richard.stiskalek@protonmail.com +420 720 153 538
INTERESTS	Astrophysical tests of gravity and galaxy formation, gravitational-wave astronomy, Bayesian inference	
EDUCATION	Ludwig Maximilian University of Munich M.Sc. Physics <i>Thesis</i> : “Frequency and Polarisation Dependent Propagation of Gravitational Waves” <i>Supervisor</i> : Miguel Zumalacárregui, Marius A. Oancea	2020 –
	University of Glasgow B.Sc. Physics with Astrophysics <i>Thesis</i> : “Gravitational-wave Cosmology” <i>Supervisor</i> : Martin Hendry	2016 – 2020
	Hong Kong University of Science and Technology Undergraduate Student Exchange Program	2017 – 2018
	Gymnazium Jakuba Skody	2008 – 2016
EMPLOYMENT	Primer Research¹ , Munich <i>Project</i> : “Development of a Gaussian process-based portfolio optimiser and probabilistic regressors for high-frequency trading”	2021
	Max Planck Institute for Gravitational Physics (Hannover) <i>Project</i> : “EPSIE: an Embarrassingly Parallel Sampler for Inference Estimation” <i>Supervisor</i> : Dr. Collin Capano	2020
	University of Oxford <i>Project</i> : “The dependence of subhalo abundance matching on galaxy photometry and selection criteria” <i>Supervisor</i> : Dr. Harry Desmond	2019
	University of Glasgow <i>Project</i> : “Are stellar-mass binary black hole mergers isotropically distributed?” <i>Supervisors</i> : Dr. John Veitch and Dr. Chris Messenger	2018
	Amper Market , Prague <i>Project</i> : Prediction of imbalances in an electricity distribution system	2017
PUBLICATIONS	<ol style="list-style-type: none">1. “The scatter in the galaxy–halo connection: a machine learning analysis” R. Stiskalek, Deaglan J. Bartlett, Harry Desmond, Dhayaa Anbajagane. [arXiv:2202.14006]2. “The dependence of subhalo abundance matching on galaxy photometry and selection criteria” R. Stiskalek, H. Desmond, T. Holvey, M. G. Jones. <i>MNRAS</i> 506:3205. [arXiv:2101.02765]3. “Are stellar-mass binary black hole mergers isotropically distributed?” R. Stiskalek, J. Veitch & C. Messenger. <i>MNRAS</i> 501:970. [arXiv:2003.02919]	
AWARDS AND SCHOLARSHIPS	DAAD Study Scholarship (German Academic Exchange Service) Kerr Bursary (University of Glasgow) Lang Scholarship (University of Glasgow) Undergraduate Summer Bursary (Royal Astronomical Society) Dean’s List (Hong Kong University of Science and Technology) Astronomy 1 Prize (University of Glasgow) Matthew A Muir Bursary (University of Glasgow) South East Asia Study Abroad Scholarship (University of Glasgow)	2021 - 2022 2020 2019 2018 2018 2017 2017 2017 - 2018
SERVICE	Referee for <i>ApJ</i> , <i>PNAS</i> “Middle of Scotland Science Festival” organiser	2022 - 2018

¹part-time

SELECTED TALKS	<i>Frequency and polarisation dependent propagation of gravitational waves</i>	
	Physical Cosmology Group (Ludwig Maximilian University of Munich)	2022
	Max Planck Institute for Gravitational Physics, Potsdam	2022
	<i>The scatter in the galaxy–halo connection</i>	
	Machine Learning Group (Baryon Pasters Collaboration)	2022
	Cosmology and Artificial Intelligence Group (Ludwig Maximilian University of Munich)	2021
	Emmy Noether Group (Ludwig Maximilian University of Munich)	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>	
	Cosmology Group, University of Oxford	2019

SKILLS

Coding & data analysis

- Python, Julia, Mathematica, C, C++, MPI parallel programming
- Markov chain Monte Carlo & nested sampling diagnostics, decision tree models, neural networks, Gaussian processes, hierarchical Bayesian models
- Galaxy clustering statistics, numerical integration, automatic differentiation

Languages

- English, Czech, Slovak, French (intermediate), German (beginner)