QUANTITATIVE RESEARCH 10//04//2023 4 MIN READ

G-Research March 2023 grant winners

Each month, we provide up to £2,000 in grant money to early career researchers in quantitative disciplines.

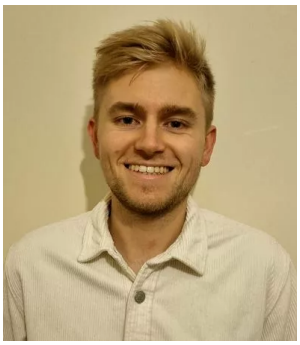
Our aim is to support and assist PhD students and postdocs conducting research, particularly with costs that may be difficult to get funding for elsewhere, for example, travel for those who are caring for children, or expenses for volunteer work related to research.

Learn more about our grant programme, including how you can apply and the work we support.

Read on to hear from our latest winners, their research and how our grants will aid their work.

March grant winners

Yoann Launay (University of Cambridge)



"I am a PhD student at the Hawking Centre for Theoretical Cosmology, in the Department of Applied Mathematics and Theoretical Physics, at the University of Cambridge.

"I work on the cosmology of the early universe, which means finding the best mathematical description of the first infinitesimal instants of the universe, considering it as a dynamic system, and assessing the predictions of this model against real astrophysical data.

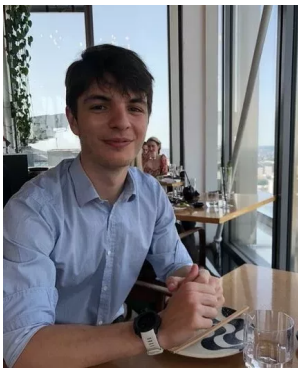
"My goal is to make predictions about the future of quantum perturbations from an Inflation model by using a numerical simulation of gravity, an unprecedented method. My project comes with intensive numerical simulations, data set processing and even video-rendering for public science purposes; the G-Research grant will allow me to buy a professional laptop to take my research from abstract equations to concrete realisations."

Aleksandar Arandjelovic (TU Wien and Macquarie University)

"I am a PhD student jointly between TU Wien and Macquarie University. My research focuses on mathematical foundation of deep learning for quantitative finance. I work at the intersection of probability theory and machine learning with a current focus on variance reduction methods for option pricing, intractable stochastic control problems, as well as hedging and portfolio optimisation under price impact.

"The G-Research grant will support me in presenting my work at international conferences in the US and UK."

Federico Barbero (University of Oxford)

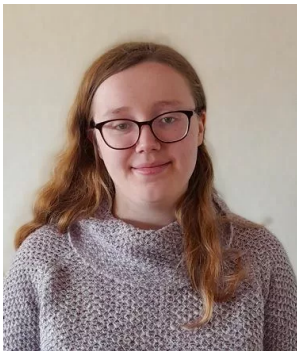


“I am a PhD student at the University of Oxford working on Geometric Deep Learning — a modern approach to machine learning that proposes to study deep learning models from first principles of symmetry and invariance. I am currently particularly interested in the interplay between Graph Neural Networks, Transformers, Graph Theory, and Geometry.

“I also help with the teaching of a graduate course on Geometric Deep Learning at Oxford and produce content on YouTube on some of the covered topics.

“The generous early career grant from G-Research will help me attend academic conferences and allow me to purchase better equipment to produce higher quality educational videos.”

Ellen Jolley (UCL)



“I am a final year PhD student in Mathematics at UCL, under the supervision of Professor Frank T Smith FRS.

“My work has focused on mathematical modelling of fluid-particle interactions, particularly applied to aircraft icing, and has been undertaken in partnership with AeroTex UK, an engineering consultancy firm with worldwide expertise on icing.

“The G-Research grant will enable me to attend the International Congress on Industrial and Applied Mathematics (ICIAM) in Tokyo, one of the largest international conferences on applied mathematics.

“The grant will also allow me to present my recent advances on mathematical models of aircraft icing, and possible extensions of my models to solid bodies in blood flow, with applications such as drug delivery.”

Tobias Wand (University of Münster)

“My research is focused on the field of Econophysics, which uses insights, techniques and methodologies from theoretical physics on socio-economic data to analyse such systems.

“The main topic of my PhD thesis is the analysis of financial time series. My first project about this was a combination of physicists’

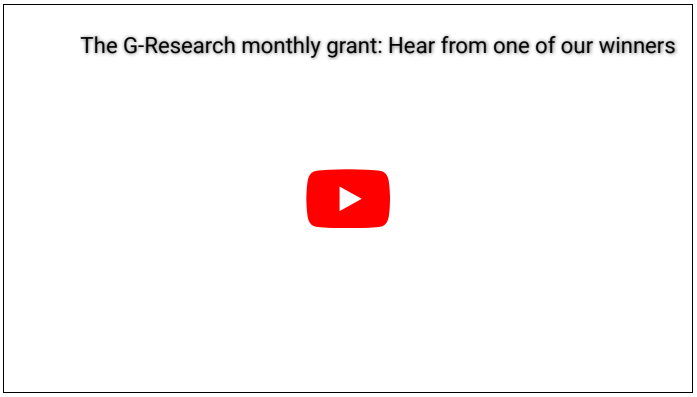
knowledge about random matrix theory and the explanatory power of Explainable AI (XAI), to better understand different states of the S&P 500 market.

“The G-Research grant allows me to visit the Econophysics Colloquium in Italy, to discuss my ideas with the leading researchers and pioneers of this young, interdisciplinary field and to learn from their expertise.”

Congratulations to our grant winners.

Learn more about our monthly grant and how you can apply.

Hear from one of our previous winners



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