

## CONTACT



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## EDUCATION

### Stanford University

PhD in Statistics

Thesis: *Testing in critically-spiked Wigner ensembles*

2017–2022

### The University of Melbourne

MSc

*Statistics and Stochastic Processes*

2015–2016

BSc

*Pure Mathematics*  
2012–2014

## TECHNICAL SKILLS

- Extensive experience with statistical computation using software **R**, **Julia**, **Mathematica** and **MATLAB**, and database management using **SQL**.
- Practical knowledge of general programming languages including **Python** and **Java**.
- Proficiency in **LaTeX** typesetting language.

## AWARDS

- **Dwight Prize in Mathematics and Statistics:** highest results in Statistics and Stochastic Processes in the Master of Science.
- **Maurice Belz Scholarship in Statistics:** academic merit among students pursuing a research project in Statistics and Stochastic Processes.
- **Wyselaskie Scholarship in Mathematics:** highest average grade among students enrolled in the Master of Science (Mathematics and Statistics).
- **Inaugural Walter and Eliza Hall Institute UROP scholarship.**

# Damian Pavlyshyn

# Statistician

## WORK EXPERIENCE

### Stanford University, Stanford, USA

2017–2022

Highest-ranked statistics program worldwide

### PhD candidate in statistics

2017–2022

- Conducted research in theoretical statistics. My thesis topic was statistical testing in random matrix theory with a particular focus on high-dimensional models and covariance estimation.
- Worked on multidisciplinary projects in applied statistics, collaborating with researchers from diverse fields including genetics and history. Performed analysis in R and produced graphics for publication using ggplot2.
- Created and maintain the Julia package `RandomMatrixDistributions.jl`, which is registered in the Julia package library and features GitLab CI: ([github.com/damian-t-p/RandomMatrixDistributions.jl](https://github.com/damian-t-p/RandomMatrixDistributions.jl)).

### Consultant: Stanford Statistical Consulting Service

2018–2021

- Provided advice in experimental design, data analysis and model fitting for Stanford researchers and affiliates working in applied fields such as sociology and biomedical data science.

### Course instructor and teaching assistant

2017–2022

- Was the principal instructor for a class (STATS32: Introduction to R for undergraduates) about data analysis using the tidyverse R packages on the basis of a curriculum that I developed ([damian-t-p.github.io/STATS32-2020/](https://damian-t-p.github.io/STATS32-2020/)).
- Worked as a teaching assistant for statistics and ML classes from undergraduate to PhD level.
- Received 2019 Departmental Teaching Assistant Award for excellence in teaching.

### G-Research, London, UK

2019

Quantitative financial research and technology company

### Quantitative research intern

- Integrated, cleaned and analysed a newly-acquired, extremely large financial dataset.
- Developed, implemented and evaluated inferential and predictive models for this new dataset using Python packages including pandas and sk-learn.

### Walter and Eliza Hall Institute of Medical Research, Melbourne, Australia

2013–2014

Biomedical research institute associated with the University of Melbourne

### Undergraduate Research Opportunities student

- Provided statistical and computational support for an immunology lab.
- Developed software in MATLAB and Java that was used to analyse results published in J Marchingo et. al., “Antigen affinity, costimulation, and cytokine inputs sum linearly to amplify T cell expansion.” In: *Science* 28 (2014), pp. 1123–27.

### The University of Melbourne, Melbourne, Australia

2013–2017

Group of Eight research university in Australia

### Residential mathematics tutor: International House

2016–2017

- Developed and implemented a curriculum of revision and extension tutorials that complemented the undergraduate mathematics courses of the University of Melbourne.

### Teaching assistant

2015–2017

- Ran tutorials and computer lab sessions for undergraduates in mathematics and statistics.

## PUBLICATIONS

- I. M. Johnstone, Y. Klochov, A. Onatski, and D. Pavlyshyn. “Spin Glass to Paramagnetic Transition in Spherical Sherrington-Kirkpatrick Model with Ferromagnetic Interaction.” (2021). arXiv: 2104.07629.
- I. M. Johnstone, Y. Klochov, A. Onatski, and D. Pavlyshyn. “An Edge CLT for the Log Determinant of Gaussian Ensembles.” (2020). arXiv: 2011.13723.
- D. Pavlyshyn, I. Johnstone and R. Saller. “Lead Pollution and the Roman Economy.” In: *Journal of Roman Archaeology* 33 (2020), pp. 354–364.
- A. Kan, D. Pavlyshyn, J. Markham, M. R. Dowling, et. al. “Stochastic measurement models for quantifying lymphocyte response using flow cytometry.” In: *PLoS one* 11.1 (2016).