

# JORGE YSLAS ALTAMIRANO

@ jorge.yslas1@gmail.com

+45 20729017

2 Grayson St, L1 8AD

Liverpool, UK

jorgeyslas.com

in linkedin.com/in/jorgeyslas

github.com/jorgeyslas

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## ACADEMIC POSITIONS

### University of Liverpool

Lecturer in Actuarial Mathematics

January 2022 – Present

Liverpool, UK

### University of Bern

Postdoctoral Researcher

March 2021 – December 2021

Bern, Switzerland

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## EDUCATION

### PhD in Insurance and Economics

University of Copenhagen

Thesis: Point process convergence of random walks and the estimation of multivariate heavy-tailed distributions

Supervisors: Thomas Mikosch and Mogens Bladt

August 2017 – September 2020

Copenhagen, Denmark

### MSc in Actuarial Mathematics

University of Copenhagen

Thesis: Heavy-tailed phase-type distributions

Supervisor: Mogens Bladt

GPA: 12/12

September 2015 – June 2017

Copenhagen, Denmark

### BSc in Actuarial Science

UNAM

Awarded as one of the three best grade point averages of the 2008–2011 class

GPA: 9.8/10

August 2008 – June 2011

Mexico City, Mexico

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## PROFESSIONAL EXPERIENCE

### Allianz Global Corporate and Specialty SE

Actuarial analyst

October 2020 – February 2021

Munich, Germany

### SURA Mexico

Financial risk analyst

May 2014 – July 2015

Mexico City, Mexico

### Willis Towers Watson

Actuarial analyst

May 2011 – April 2014

Mexico City, Mexico

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## TEACHING EXPERIENCE

### Course responsible (2 courses)

University of Liverpool

- Financial and actuarial modelling in R (2 times - Notes)

January 2022 – Present

Liverpool, UK

### Teaching assistant (3 courses)

University of Copenhagen

- Econometrics 2: Statistical Analysis of Econometric Time Series (2 times)
- Basic Non-Life Insurance Mathematics

September 2017 – November 2019

Copenhagen, Denmark

### Course responsible (2 courses)

UNAM

- Actuarial Mathematics for Life Insurance II
- Insurance Theory

August 2014 – June 2015

Mexico City, Mexico

## Teaching assistant (9 courses)

August 2011 – June 2015

UNAM

Mexico City, Mexico

- Probability II
- Stochastic Processes
- Actuarial Mathematics for Non-Life Insurance (2 times)
- Actuarial Mathematics for Life Insurance I (3 times)
- Actuarial Mathematics for Life Insurance II
- Insurance Theory

## CERTIFICATIONS AND OTHER STUDIES

UNAM

October 2014

Diploma course in Solvency II

Mexico City, Mexico

UNAM

October 2013

Diploma course in Corporate and Stock Market Finance

Mexico City, Mexico

Society of Actuaries (SOA)

August 2012

Exam MFE – Models for Financial Economics

Society of Actuaries (SOA)

December 2011

Exam FM – Financial Mathematics

Society of Actuaries (SOA)

July 2011

Exam P – Probability

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## RESEARCH PAPERS

### Research interest

My research interests include extreme value theory, applied probability, actuarial modeling, and statistical theory and applications.

### Preprints

- Bladt, M., Müller, A., & Yslas, J. (2021+). *matrixdist: An R package for statistical analysis of matrix distributions*. Preprint. arXiv:2101.07987
- Yslas, J. (2021+). *Fitting phase-type frailty models*. Preprint. arXiv:2103.13142

### Peer-reviewed

- Bladt, M., & Yslas, J. (2023). Robust claim frequency modeling through phase-type mixture-of-experts regression. *Insurance: Mathematics and Economics*, 111, 1-22. doi:10.1016/j.insmatheco.2023.02.008, ssrn.4310567
- Bladt, M., & Yslas, J. (2023). *Phase-type mixture-of-experts regression for loss severities*. *Scandinavian Actuarial Journal*, 2023:4, 303-329. doi:10.1080/03461238.2022.2097019, arXiv:2111.00581
- Albrecher, H., Bladt, M., Bladt, M., & Yslas, J. (2023). *Continuous scaled phase-type distributions*. *Stochastic Models*, 39:2, 293-322. doi:10.1080/15326349.2022.2089683, arXiv:2103.02457
- Albrecher, H., Bladt, M., Bladt, M., & Yslas, J. (2022). *Mortality modeling and regression with matrix distributions*. *Insurance: Mathematics and Economics*, 107, 68-87. doi:10.1016/j.insmatheco.2022.08.001, arXiv:2011.03219
- Bladt, M., & Yslas, J. (2022). *Heavy-tailed phase-type distributions: A unified approach*. *Extremes*, 25, 529-565. doi:10.1007/s10687-022-00436-8, arXiv:2107.09023
- Albrecher, H., Bladt, M., & Yslas, J. (2022). *Fitting inhomogeneous phase-type distributions to data: The univariate and the multivariate case*. *Scandinavian Journal of Statistics*, 49(1), 44-77. doi:10.1111/sjos.12505, arXiv:2006.13003
- Heiny, J., Mikosch, T., & Yslas, J. (2021). *Point process convergence for the off-diagonal entries of sample covariance matrices*. *Annals of Applied Probability* 31(2), 538-560. doi:10.1214/20-AAP1597, arXiv:2002.07771
- Mikosch, T., & Yslas, J. (2020). *Gumbel and Fréchet convergence of the maxima of independent random walks*. *Advances in Applied Probability*, 52(1), 213-236. doi:10.1017/apr.2019.57, arXiv:1904.04607

### In professional journals

- Alyafie, A., Constantinescu, C., & Yslas, J. (2023). *An analysis of the current Saudi Arabian no-claim discount system and its adaptability for novice women drivers*. CAS E-Forum, Spring (May). E-forum. Winner manuscript of the 2023 CAS Ratemaking Call Paper Program

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## RESEARCH VISITS

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- Department of Mathematical Sciences of the University of Copenhagen, Denmark. June 2023. Host: Martin Bladt
  - Department of Mathematical Sciences of the University of Copenhagen, Denmark. August 2022. Host: Christian Furrer
  - Department of Actuarial Science at the HEC Faculty of the University Lausanne, Switzerland. November 2019 – February 2020. Host: Hansjörg Albrecher
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## PRESENTATIONS

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- *Heavy-tailed phase-type distributions*. XJTLU-UoL-XJTU Joint Workshop. Suzhou, China. January 2024
  - *Bivariate phase-type distributions for experience rating in disability insurance*. 26th International Congress on Insurance: Mathematics and Economics (IME). Edinburgh, Scotland. July 2023
  - *Point process convergence of random walks*. Stochastics Seminar. University of Liverpool. February 2023
  - *Point process convergence of random walks*. Financial & Actuarial Series Seminar. Xi'an Jiaotong-Liverpool University. February 2023
  - *Robust claim frequency modeling through phase-type mixture-of-experts regression*. 2023 PARTY. Valencia, Spain. February 2023
  - *Phase-type mixture-of-experts regression for loss severities*. European Actuarial Journal Conference 2022. Tartu, Estonia. August 2022
  - *Phase-type regression models*. Seminar in Insurance and Economics. University of Copenhagen. August 2022
  - *Phase-type mixture-of-experts regression for loss severities*. 25th International Congress on Insurance: Mathematics and Economics (IME). July 2022
  - *Phase-type regression models*. IMSV Institute Seminar. University of Bern. December 2021
  - *Heavy-tailed phase-type distributions: A unified approach*. Regular Variation and Related Themes. Dubrovnik, Croatia. November 2021
  - *Continuous scaled phase-type distributions*. Bernoulli-IMS 10th World Congress in Probability and Statistics. July 2021
  - *Continuous scaled phase-type distributions*. 24th International Congress on Insurance: Mathematics and Economics (IME). July 2021
  - *Inhomogeneous phase-type distributions: Fitting and applications to survival analysis*. Post/Doctoral Seminar in Mathematical Finance. ETH Zurich. March 2021
  - *Point process convergence of random walks and the estimation of multivariate heavy-tailed distributions*. PhD defense. Copenhagen, Denmark. September 2020
  - *Fitting inhomogeneous phase-type distributions to data*. Workshop on Advances in Applied Probability. Copenhagen, Denmark. September 2020
  - *Fitting inhomogeneous phase-type distributions to data*. Bernoulli-IMS One World Symposium 2020. August 2020
  - *Fitting inhomogeneous phase-type distributions to data*. Online International Conference in Actuarial Science, Data Science and Finance. April 2020
  - *Gumbel and Fréchet convergence of the maxima of independent random walks*. 11th International Conference on Extreme Value Analysis. Zagreb, Croatia. July 2019. Honorary mention: Excellent young researcher paper in the category "Theory"
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## CONFERENCES

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- Heavy Tails in Machine Learning. London, UK. April 2024
- Extreme Value Analysis 2021. June 2021
- Lausanne-Lyon University Meeting 2020. Lyon, France. January 2020
- Data Science Summer School. Palaiseau, France. June 2019
- Workshop on New Developments in Econometrics and Time Series. Copenhagen, Denmark. September 2018
- Self-Similarity, Long-Range Dependence and Extremes. Oaxaca, Mexico. June 2018
- Statistics in Complex Systems. Copenhagen, Denmark. April 2018
- CIMAT III Summer School in Probability and Statistics. Guanajuato, Mexico. July 2010

## SUPERVISION

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### Doctoral students

- *Asrar Alyafie* in the project "Car insurance for women in Saudi Arabia" supervised jointly with Corina Constantinescu. March 2022 – Present

## ADMINISTRATIVE ROLES

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### University of Liverpool

Program director of the Mathematics and Economics BSc

June 2022 – Present

Liverpool, UK

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## REVIEWER

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Applied Probability Journals

Statistics

ASTIN Bulletin

Statistics and Risk Modeling

Bernoulli

Statistical Inference for Stochastic Processes

## LANGUAGE PROFICIENCY

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**English:** Full professional proficiency

**Spanish:** Native speaker

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## SOFTWARE KNOWLEDGE

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C/C++

R

LaTeX

Matlab

Python

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## SOFTWARE DEVELOPMENT

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Co-developer of the *matrixdist* R/C++ package, for the efficient use of matrix distributions in applied probability and statistics. Available in CRAN