

Jens Robben

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RESEARCH INTERESTS

In general: Actuarial Science, Data Science, Machine Learning, Applied Statistics

In particular: Life Insurance, Mortality Modeling, Climate Risk, Non-Life Insurance, Reserving

ACADEMIC POSITIONS

University of Amsterdam 2024 - Present

Postdoctoral researcher in Actuarial Science

KU Leuven 2025 - Present

Part-time lecturer in Actuarial Science

EDUCATION

KU Leuven 2020 - 2024

PhD candidate in Insurance

Supervisor: Katrien Antonio

University of Amsterdam September 2023

Visiting scholar

Host: Torsten Kleinow

KU Leuven 2019 - 2020

MSc in Actuarial and Financial Engineering - *Summa cum laude*

KU Leuven 2017 - 2019

MSc in Mathematics - *Summa cum laude*

KU Leuven 2014 - 2017

BSc in Mathematics - *Magna cum laude*

PUBLICATIONS

J. Robben, K. Antonio, & T. Kleinow (2025). [The short-term association between environmental variables and mortality: evidence from Europe](#). *Journal of the Royal Statistical Society Series A: Statistics in Society*.

J. Robben & K. Antonio (2024). [Catastrophe risk in a stochastic multi-population mortality model](#). *Journal of Risk and Insurance*, 91, 599–651.

J. Crevecoeur, J. Robben, & K. Antonio. (2022). [A hierarchical reserving model for reported non-life insurance claims](#). *Insurance: Mathematics and Economics*, 104, 158-184.

J. Robben, K. Antonio, & S. Devriendt. (2022). [Assessing the impact of the COVID-19 shock on a stochastic multi-population mortality model](#). *Risks*, 10(2), 26, 1-33.

WORKING PAPERS

J. Robben, K. Barigou, & T. Kleinow (2025). [Granular mortality modeling with temperature and epidemic shocks: a three-state regime-switching approach](#). arXiv preprint arXiv:2503.04568.

WORK IN PROGRESS

A machine learning approach to constructing a socio-economic heat vulnerability index using individual-level mortality data

with Andrew Cairns (Heriot-Watt University) and Torsten Kleinow (University of Amsterdam).

Associating socio-economic, demographic, and environmental factors with mortality improvements: a cause-of-death study in Europe

with Séverine Arnold (University of Lausanne) and Eman ElMeaddawy (University of Lausanne).

Demographic and socio-economic determinants of old-age mortality in Belgium and the Netherlands

with Torsten Kleinow (University of Amsterdam).

A penalized distributed lag non-linear Lee-Carter framework for regional weekly mortality forecasting

with Karim Barigou (UCLouvain).

A multi-peril framework for motor insurance claims: unraveling risk drivers of electrified vehicles

with Katrien Antonio (KU Leuven) and Dries Van Ceulebroeck (KU Leuven).

CONFERENCES & SEMINARS

2026	1st ASTIN Bulletin Conference (Zurich)*
2025	MLISTRAL 2 (Marseille)*, Climate Change and Insurance (Edinburgh), 28th International Congress on Insurance: Mathematics and Economics (Tartu), Actuarial, Finance, Risk and Insurance Congress (Kenya) [†] , Insurance Data Science Conference (London), Webinar for the International Actuarial Association - Life Section (online) [†] , Gompertz 200 (Amsterdam), Doctoral school seminar ULB (Brussels) [†]
2024	Longevity 19 (Amsterdam), Climate Change and Insurance (Vienna), Webinar for the International Actuarial Association - Life Section (online), 27th International Congress on Insurance: Mathematics and Economics (Chicago), Insurance Data Science Conference (Stockholm) [†] , Climate change seminar - Actuarial society of South Africa (online) [†] , KU Leuven, Bayes, and UvA PhD Workshop (Leuven)
2023	Longevity 18 (London), Modelling and Societal Impact of Longevity and Ageing Conference (Amsterdam), 26th International Congress on Insurance: Mathematics and Economics (Edinburgh), Perspectives on actuarial risks in talks of young researchers (Valencia) [†] , RCLR seminar (Amsterdam), Doctoral Seminar (Leuven)
2022	Insurance Data Science Conference (Milan), European Actuarial Journal Conference (Tartu), Doctoral Seminar (Leuven), Presentation at AG Insurance Campus (Brussels) [†]
2021	24th International Congress on Insurance: Mathematics and Economics (online)

(* indicates scheduled, [†] indicates by coauthors)

TEACHING EXPERIENCE

2025-	Loss Models (MSc, KU Leuven)	Lecturer
2025-	Advanced Life Insurance Mathematics (MSc, KU Leuven)	Lecturer
2024-	Life Insurance Mathematics (BSc, UvA)	TA for Katrien Antonio
2024-	Introduction Econometrics & Actuarial Science (BSc, UvA)	TA for Frank van Berkum
2024-	Introduction Data Science (BSc, UvA)	TA for Daniël Linders
2024-	Master's Theses in Actuarial Science (MSc, UvA)	Daily supervisor
2024-	Bachelor's Theses in Actuarial Science (BSc, UvA)	Daily supervisor
2024	Advanced Life Insurance Mathematics (MSc, KU Leuven)	Guest lecturer
2020-2024	Loss Models (MSc, KU Leuven)	TA for Katrien Antonio
2020-2024	Master's Theses in Actuarial and Financial Engineering (MSc, KU Leuven)	Daily supervisor
2024	Modelling and Quantifying Mortality and Longevity Risk (35th International Summer School of the Swiss Association of Actuaries)	Lecturer

GRANTS & AWARDS

- 2025 IAALS Research Grant with Andrew Cairns and Torsten Kleinow (PI, **€18,000**)
 "A Machine Learning Approach to Constructing a Socio-Economic Heat Vulnerability Index Using Individual-Level Mortality Data"
- 2025 Finalist for the Netspar PhD Theses Award
- 2020 AFI Master Thesis Award (KU Leuven, **€500**)

PROFESSIONAL SERVICE

- Referee Insurance: Mathematics and Economics
 Astin Bulletin
 Scandinavian Actuarial Journal
 Annals of Actuarial Science
 European Actuarial Journal
- Summer School Teaching team member, 35th International Summer School on Modelling and quantifying mortality and longevity risk, Swiss Association of Actuaries, University of Lausanne (2024)
- Fellow/Member Research Centre for Longevity Risk, University of Amsterdam (2024-)
 Leuven Research Centre for Insurance and Financial Risk Analysis (2020-2024)

POLICY REPORTS

K. Antonio, S. Devriendt, J. Robben, & D. Sznajder. (2020). Assessing the impact of COVID-19 on the IA|BE 2020 mortality projections: a scenario analysis. *Published by the Institute of Actuaries in Belgium*.

K. Antonio, S. Devriendt, & J. Robben. (2020). [The IA|BE 2020 mortality projection model for the Belgian population](#). *Published by the Institute of Actuaries in Belgium*.

SKILLS

Software: R, \LaTeX , Python

Language: Dutch (native), English (fluent), French (basic)

BIO

Birth: September 7, 1996

Citizenship: Belgian

Hobbies: Running, Hiking

REFERENCES

Katrien Antonio

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KU Leuven & Universiteit van Amsterdam

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