

# ROSA VAN DEN ENDE

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I am a PhD candidate interested in using mathematics and economics for the greater good. Currently researching how to share responsibilities for externalities (e.g. carbon emissions) in a network or supply chain. With my background in theoretical physics and a highly interdisciplinary interest, I like to be the bridge between abstract concepts and how we could use them to solve the climate crisis.

*Keywords: environmental responsibility, network theory, game theory, climate policy, complex systems.*

## PROFESSIONAL EXPERIENCE

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- 09/2024 - **Teaching and Research Fellow (ATER)**  
*Université Paris 1 Panthéon-Sorbonne, Paris, France*  
Teaching Python to students of the BSc Mathematics and Informatics [in French]
- 09/2021-  
08/2024 **Doctoral Fellow in Applied Mathematics and Economics**  
*Centre d'Économie de la Sorbonne, Paris, France*  
*Institute for Mathematical Economics, Bielefeld, Germany*  
EU MSCA programme Economic Policy in Complex Environments ([EPOC](#)).
- 08-10 / 2022 **Visiting Scientist**  
*United Nations University, Institute for Environment and Human Security (UNU-EHS)*  
Developing a decision-making tool for climate adaptation.
- 2020 - 2021 **MSc Research Assistant**  
*Institute of Theoretical Physics, University of Amsterdam*  
Research project on foundational quantum mechanics.
- 2019 - 2020 **Consultant & Managing Director**  
*The Young Consultant* Non-profit consulting firm fully run by students.

## EDUCATION

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### Université Paris I Panthéon-Sorbonne & Universität Bielefeld

- joint *Doctorate*, Applied Mathematics and Economics (July 2025 (expected)).
  - Supervisors: AGNIESZKA RUSINOWSKA and MANUEL FÖRSTER .
  - Title: “Network-based measures of climate risks and liabilities”.

### University of Amsterdam

- *Master of Science*, Physics and Astronomy: **Theoretical Physics** (2021).
  - Courses in a.o. quantum (field) theory, string theory, condensed matter theory, general relativity.  
Extracurricular courses in philosophy and environmental science.
- *Bachelor of Science*, **Natural and Social Sciences** (*Bèta-gamma*) (2018).
  - Interdisciplinary programme, major in Physics.

## PUBLICATIONS / WORK IN PROGRESS

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- VAN DEN ENDE, R., MANDEL, A., RUSINOWSKA, A., “Network-based allocation of responsibility for GHG emissions” (2023). (*Accepted under minor revision at Social Choice and Welfare*) [HAL preprint](#).
- VAN DEN ENDE, R., LAPLACE MERMOUD, D. “Diffusion in dynamic networks with continuous inputs to allocate responsibility” (2025). [HAL preprint](#).
- VAN DEN ENDE, R. “Strategic responsibility and emissions” (*Work in progress*)
- MUKHERJEE A., GOTUR, S., AALBERTS, J., VAN DEN ENDE, R., MERTENS, L., VAN WEZEL, J. “Quantum state reduction of general initial states through spontaneous unitarity violation”. *Entropy* 2024, 26(2), 131. [doi](#)

## CONFERENCES AND SEMINARS (SELECTION)

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- [Complexity Economics Seminar](#), Institute for New Economic Thinking - Oxford, United Kingdom, January 31, 2024 (upon invitation)
- 22nd annual conference Society for the Advancement of Economic Theory ([SAET](#)) - Paris, France, July 17-21, 2023 (upon invitation)
- 29th International Conference on Computing in Economics and Finance ([CEF](#)) - Nice, France, July 03-06, 2023 (upon invitation)
- [NEGOCLIM](#): Modeling and Simulating Climate Negotiations - June 2023 Workshop - Paris, France, June 19, 2023 (upon invitation)
- Economic Policy in Complex Environments ([EPOC](#)), Milan, Italy, July 15-17, 2024
- 18th & 19th European Meeting on Game Theory 2024 ([SING](#)), Messine, Italy, June 26-28, 2023 & Besançon, France, July 8-10, 2024
- 2024 International Conference on Public Economic Theory (([PET](#))) - Lyon, France, June 10-12, 2024
- 26th Annual Coalition Theory Network Conference ([CTN](#)) - Bielefeld, Germany, May 15-16, 2023

## MISCELLANEOUS

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- Involved in the [NEGOCLIM](#) Project, Modeling and Simulating Climate Negotiations. Collaboration between Sorbonne Université and Université Paris 1 Panthéon-Sorbonne.
- Recipient Marie Skłodowska Curie Doctoral Scholarship, issued by EUH2020 (2021)
- Recipient of a conference grant of Association pour le Développement de la Recherche en Économie et Statistique (ADRES) (2025)
- Student representative of [EPOC](#)
- Co-organizer of the [International Doctoral Workshop](#), Venice, Italy, March 2024
- Logistic assistance of the [28th Coalition Theory Network](#) conference, Paris, May 2025
- Reviewer for *Physica D: Nonlinear Phenomena*
- Certifications:
  - *Machine Learning Specialization* issued by Stanford University (May 2024)
  - *Macroeconomics of Climate Change: Science, Economics, and Policies* issued by the International Monetary Fund (Dec 2023)
- **Languages:** Dutch (native), English (fluent), French (good, C1)
- **Programming:** Python (good), LaTeX (good)