Nicole Robiro

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Research Fields

Primary: Applied Microeconomics, Development Economics, Environmental Economics
Secondary: Agricultural Economics, Public Policy, Health Economics
Methods and data: Impact evaluation, causal inference, remote sensing and geospatial data

Education

Goethe University Frankfurt Frankfurt, Germany
Ph.D. in Economics 2020 – expected June 2027

- Dissertation: *Remote Sensing Applications in Agriculture and Health Economics*
- Supervisors: Prof. Matthias Schündeln, Ph.D.

Goethe University Frankfurt Frankfurt, Germany
M.Sc. in International Economics and Economic Policy 2017 – 2019

- Thesis: The Impact of Development Projects on Forest Loss in Africa: Evidence from Remote Sensing Data (with Prof. Matthias Schündeln, Ph.D.)

Universidade Católica Portuguesa Lisbon, Portugal
Academic stay abroad 2015 – 2016

Goethe University Frankfurt Frankfurt, Germany
B.Sc. in Economics and Business Administration 2013 – 2017

Academic Position

Goethe University Frankfurt, Chair of Development Economics Frankfurt, Germany
Research and Teaching Associate Sep 2021 – present

- Research on agricultural productivity, health and social unrest in Sub-Saharan Africa and South Asia using satellite and other novel geospatial data.
- Teaching and supervision at Ph.D., master's and bachelor's level (see Teaching).
- Organisation of research workshops and Ph.D. conferences (see Service).

Job Market Paper

"The Productivity Effects of Irrigation Aid: Evidence from Border Difference-in-Differences in Sub-Saharan Africa." *(August, 2026)*

Abstract: This paper examines the microlevel effectiveness of irrigation-focused development aid in sub-Saharan Africa between 2005 and 2020 using georeferenced project data and high-resolution remote sensing. Employing a localized difference-in-differences strategy near country borders, the study finds evidence that irrigation aid raises the production value of cash crops, while staple crop yields remain largely unresponsive. This pattern indicates that the gains

are concentrated in market-oriented production rather than extending broadly across crop categories. The study contributes to the literature on foreign aid and agricultural development by introducing a high-resolution empirical framework that leverages border matching and grid-level data to identify local treatment effects. This approach provides an alternative identification strategy to commonly used instrumental-variable and shift-share designs, expanding the scope for evaluating geographically targeted development interventions.

PUBLICATION IN REFEREED JOURNALS

"Predictable Patterns of Protest: The Impact of Agricultural Cycles on Social Unrest in Kenya" (with S. Seelos). *Food Policy*, 2026, doi.org/10.1016/j.foodpol.2026.103136.

Abstract: This paper investigates how the agricultural cycle influences protest behavior in Kenya from 2000 to 2019. We use satellite data to identify the crop cycle at the ward level in Kenya and combine it with geocoded protest records. We find that protest activity does not decline during the harvest period but increases with a temporal lag. A dynamic difference-in-differences specification shows that protest activity gradually rises in the two to three months following harvest, peaking around the onset of the subsequent agricultural cycle.

WORKING PAPERS

"Can Financing Protected Areas Save Forest Cover and Biodiversity? Results from a Geospatial Matching Approach" (with Y. Eilers, J. Kluve, J. Schielein, M. Wong)

Abstract: We examine whether financing protected areas (PAs) reduces forest cover loss. Using a unique georeferenced database of 398 PAs in Latin America between 2000 and 2020, we apply a geospatial matching approach combined with difference-in-differences. We match 500-ha cells within PAs to non-protected cells based on key covariates, country, and pre-treatment forest-cover trends. On average, financing protected areas preserves 8% more tree cover than comparable non-protected areas over an average project period of ten years.

"Prenatal Exposure and the Pandemic: Assessing the Effects of COVID-19-Driven Air Quality Improvements in India" (with N. Galinski).

Abstract: We examine the effects of prenatal PM2.5 exposure on fetal mortality using georeferenced DHS data linked to satellite pollution estimates for India (2015–2020). We combine a thermal-inversion instrumental variable approach with a cohort event study exploiting the COVID-19 lockdown-induced pollution decline. Preliminary results indicate that lockdown-exposed cohorts show no significant health improvements, potentially reflecting offsetting effects of income losses, disrupted healthcare, and COVID-19 infections.

POLICY REPORTS

Reports and policy briefs for KfW Development Bank.

- Policy Brief: Impact Evaluation - Water Sector: Initial Results from the Simiyu Climate Resilience Project in Tanzania (with S. Lange, L. Lenz and S. Prediger), October 2025
- Policy Brief: Willingness to Pay for Water Supply Project in Tanzania (with S. Lange, L. Lenz and S. Prediger), October 2025
- 2-Pager: Beware of Doppelgängers! Synthetic Control Methods in Causal Impact Evaluation

(with S. Lange), June 2025

– Pre-Study Report: Impact Evaluation of the Rural Water Supply Component of the Simiyu Climate Resilience Project in Tanzania (with J. Kluve, L. Lenz and S. Prediger), January, 2025

CONFERENCE PRESENTATIONS AND INVITED TALKS

German Development Economics Conference, Kiel Institute for the World Economy	2026
Ph.D. Conference in Economics, University of Warwick	2026
FHM+ Workshop in Development Economics, University of Stuttgart	2025
GDE Ph.D. Workshop, Kiel Institute for the World Economy	2025
Doctorissimes, Paris School of Economics	2025
GODAD Workshop on Global Development, University of Göttingen	2025
FHM+ Workshop in Development Economics, University of Mannheim	2024
German Development Economics Conference (GDEC), University of Hannover	2024
FHM+ Workshop in Development Economics, Goethe University Frankfurt	2023
Bonn-Frankfurt-Mannheim Ph.D. Conference, Goethe University Frankfurt	2023
Frankfurt-Mannheim Ph.D. Conference, Goethe University Frankfurt	2022
FHM+ Workshop in Development Economics, University of Heidelberg	2022

TEACHING EXPERIENCE

Goethe University Frankfurt Frankfurt, Germany

– *Teaching Assistant*, Development Microeconomics (Ph.D. level) 2023 – 2026

– *Co-Instructor*, Seminar Research Methods (B.Sc level) 2024

Thesis Supervision 2021 – present

– Supervised 15 bachelor's theses and 4 master's theses

PROFESSIONAL EXPERIENCE

KfW Development Bank Frankfurt, Germany

Consultant, Financial Cooperation Evaluation Department Sep 2023 – Present

– Managed impact evaluations in the water sector in Tanzania, including the design and coordination of on-site fieldwork.

– Conducted geospatial matching analysis of the effects of KfW-financed protected areas on forest cover and biodiversity in Latin America.

– Drafted policy briefs and analytical reports for senior management and government partners.

GIZ (German Agency for International Cooperation) Eschborn, Germany

Student Assistant, Competence Centre Digital Society Feb 2021 – Jul 2021

– Built an internal evidence database in Excel and Power BI and acted as technical contact for its rollout and extension.

– Reviewed evidence-based methods and workflows across GIZ operations.

GIZ (German Agency for International Cooperation) Eschborn, Germany

Intern, Competence Centre Digital Society Jul 2020 – Jan 2021

– Contributed to the evaluation of an e-registry project for health care centres in Malawi.

– Advised on an activity monitoring tool for the special initiative "A World Without Hunger".
– Investigated remote sensing data for the estimation of regional crop yields.

Deutsche Bundesbank (German Central Bank) Frankfurt, Germany
Intern, Financial Stability Department Jan 2020 – Apr 2020

– Analysed risk indicators for the non-bank financial sector in Matlab and Stata and automated recurring estimation routines.

KfW Development Bank Frankfurt, Germany
Student Assistant, Financial Cooperation Evaluation Department Jan 2018 – Dec 2019

– Synthesised evaluation evidence (health and education) to assess overall effectiveness.
– Analysed blended finance and project performance against the fragility index.

FIELDWORK

Water sector, Tanzania 2024

– Supported field implementation of the household survey: supervised enumerator teams on site, ran checks on incoming interviews, and verified questionnaires items.

PROFESSIONAL SERVICE AND ACTIVITIES

Conference Organisation
Lead Organiser, Frankfurt-Mannheim-Heidelberg Workshop 2023
Co-Organiser, Bonn-Frankfurt-Mannheim Ph.D. Conference 2023
Lead Organiser, Frankfurt-Mannheim Ph.D. Conference 2022

Erasmus Student Network (ESN), Frankfurt
Vice President and Local Representative 2016 – 2017
Treasurer 2014 – 2015

SKILLS AND CERTIFICATIONS

Software: Stata (Expert), QGIS (Expert), LaTeX(Expert), Python (Advanced), R (Advanced), Matlab (Intermediate), Google Earth Engine (Intermediate), Power BI (Intermediate), VBA (Intermediate)
Languages: German (native), English (C1), Polish (C1), Spanish (B2), French (A2), Portuguese (A2), Kiswahili (A2)

REFERENCES

Prof. Matthias Schündeln, Ph.D
Chair of Development Economics
Goethe University Frankfurt
schuendeln@wiwi.uni-frankfurt.de

Prof. Dr. Reyn van Ewijk
Chair of Statistics and Econometrics
Johannes Gutenberg Universität Mainz
vanewijk@uni-mainz.de

Dr. Simon Lange
KfW Development Bank
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Prof. Dr. Manuel Linsenmeier
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