

Governance Board on Joint Postgraduate Education between UNU Resource Nexus and Dresden University of Technology

2025 Annual Report



UNU
Resource
Nexus



**Dresden
University of
Technology**

Contents

Glossary 3

1 Background..... 4

2 Governance Board on Joint Postgraduate Education 5

3 Postgraduate academic programmes 6

 3.1 Doctoral programmes..... 6

 3.2 Collaborative Masters programme 9

 3.3 Postgraduate representatives 10

Acknowledgements 11

Annex A. Doctoral researchers and graduates 12

 A.1 Doctoral researchers in 2025 12

 A.2 Doctoral graduates in 2025 14

 A.3 Doctoral graduates before 2025 15

Annex B. Masters students 16

 B.1 Masters students in 2025 16

 B.2 Masters thesis completions in 2025 16

 B.2 Masters thesis completions before 2025 16

Annex C. Publications 19

 2025 19

 2024 20

 2023 21

 2022 22

 2021 23

 2020 23

 2019 24

 2018 25

Annex D. Terms of Reference for Doctoral Researcher Representatives 27

Glossary

Term	Definition
Doctoral Board	The formal standing committee of a participating faculty responsible for overseeing doctoral studies within the faculty in accordance with their respective regulations, rules and procedures (“Promotionsausschuss”).
JJDRP	The Joint Junior Doctoral Researcher Programme in a Nexus Approach to the Sustainable Management of Environmental Resources between UNU and TU Dresden (2026 onwards).
JJRP	Joint Junior Researchers Programme on Advancing a Nexus Approach to the Sustainable Management of Environmental Resources between UNU and TU Dresden (2020-2025, replaced by JJDRP and JJMRP in 2026).
JJMRP	The Joint Junior Masters Researcher Programme in a Nexus Approach to the Sustainable Management of Environmental Resources between UNU and TU Dresden (2026 onwards).
Joint PhD	The Joint Doctor of Philosophy Degree in a Nexus Approach to the Sustainable Management of Environmental Resources between UNU and the TU Dresden Faculty of Environmental Sciences (2014 onwards).
Participant	A doctoral researcher or a Masters student who is enrolled in one of the collaborative programmes - Joint PhD, JJDRP or JJMRP.
Participating faculty	Any faculty of TU Dresden that hosts a doctoral researcher or a Masters student enrolled in one of the programmes - Joint PhD, JJDRP or JJMRP.
Supplemental agreement	The supplemental agreement on collaboration in postgraduate education between UNU Resource Nexus and TU Dresden.
TU Dresden	Dresden University of Technology
UNU	United Nations University
UNU Resource Nexus	UNU Institute for Integrated Management of Material Fluxes and of Resources (formerly known as UNU-FLORES)

1 Background

Since 2015, United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU Resource Nexus, known before 2026 as UNU-FLORES) and TU Dresden have jointly supervised doctoral researchers at the intersection of science, policy, and the sustainable management of environmental resources. A supplemental agreement, signed in 2014 and renewed in 2019, specified the governance of the Joint Doctor of Philosophy (PhD) in Integrated Management of Water, Soil and Waste. In 2020, the Joint Junior Researcher Programme (JJRP) was established for joint co-supervision by TU Dresden and UNU RESOURCE NEXUS of doctoral candidates and Masters students enrolled TU Dresden.

This long-standing collaboration is now consolidated in a single document, the *Supplemental Agreement between UNU and TU Dresden on Collaboration in Postgraduate Education*, to be signed 2026. The purpose of the agreement is to implement a joint academic framework that enables participants to undertake research under the co-supervision of both institutions, in accordance with their respective regulations, rules, academic requirements, and quality assurance. It builds upon and supplements the existing institutional cooperation between UNU and TU Dresden, with the objective of promoting academic excellence, interdisciplinary research, and the advancement of policy-relevant knowledge in support of the sustainable and integrated management of environmental resources.

Three collaborative postgraduate academic programmes are specified:

- Joint PhD in a Nexus Approach to the Sustainable Management of Environmental Resources ([Joint PhD](#));
- Joint Junior Doctoral Researcher Programme in a Nexus Approach to the Sustainable Management of Environmental Resources ([JJDRP](#));
- Joint Junior Master Research Programme in a Nexus Approach to the Sustainable Management of Environmental Resources ([JJMRP](#)).

The new supplemental agreement establishes the Governance Board for Joint Postgraduate Education (GBJPE) and specifies that the GBJPE will provide an annual report on the activities of the programmes to the UNU Resource Nexus Director and the TU Dresden Vice Rector responsible for research. The GBJPE will convene an annual general meeting for presentation of the annual report and for the discussion and decision of strategic matters.

Even though the supplemental agreement was only signed in 2026, preparations for the transition started in 2025. Therefore, this annual report presents activities in 2025, for presentation at the 2026 annual general meeting, to be held on 20 July 2026. As this is the first annual report, it includes this background section on the history of the collaboration, along with summary statistics and information about the doctoral researchers and Masters students before 2025.

2 Governance Board on Joint Postgraduate Education

Even though the supplemental agreement will only be signed in 2026, preparations for the transition started in 2025. Accordingly, the table below lists designated members of the Governance Board for the reporting period.

Representing	Reference	Role	Name
UNU Resource Nexus	Article 4, 4.1 a)	Chairperson, Primary academic representative	Prof. Dr. Serena Coetzee
	Article 4, 4.1 b)	Alternate academic representative	Prof. Dr. Daniel Karthe
	Article 4, 4.1 d)	Administrator (observer status)	Ms. Dinara Dikhanbayeva
Doctoral cohort and Masters students	Article 4, 4.1 c)	Primary postgraduate representative*	Ms. Luisa Ferolla Spyer Prates (January – June 2025) Mr. Vaibhav Aggarwal (July 2025 – June 2026)
	Article 4, 4.1 c)	Alternate postgraduate representative*	Mr. Vaibhav Aggarwal (February 2025 – June 2025) Ms. Ghada Amin (July 2025 –)
TU Dresden Faculty of Business and Economics	Article 4, 4.2 a)	Primary academic representative	Prof. Dr. Dominik Möst
	Article 4, 4.2 b)	Alternate academic representative	No alternate
	Article 4, 4.2 c)	Administrator (observer status)	Ms. Daniela Neubert
TU Dresden Faculty of Civil Engineering	Article 4, 4.2 a)	Primary academic representative	Prof. Dr.-Ing. habil. Ivo Herle
	Article 4, 4.2 b)	Alternate academic representative	Prof. Dr.-Ing. Jürgen Stamm
	Article 4, 4.2 c)	Administrator (observer status)	Ms. Kathleen Rehfeld
TU Dresden Faculty of Environmental Sciences	Article 4, 4.2 a)	Primary academic representative	Prof. Dr.-Ing. Alexandra Weitkamp
	Article 4, 4.2 b)	Alternate academic representative	Prof. Dr. rer. nat. habil. Steffen Fischer
	Article 4, 4.2 c)	Administrator (observer status)	Ms. Mandy Arndt
TU Dresden “Friedrich List” Faculty of Transport and Traffic Sciences	Article 4, 4.2 a)	Primary academic representative	Prof. Dr. rer. pol. Ostap Okhrin
	Article 4, 4.2 b)	Alternate academic representative	Prof. Dr. rer. pol. Georg Hirte
	Article 4, 4.2 c)	Administrator (observer status)	Ms. Ines Woditschka

* The names of doctoral researcher representatives are included in the table. From July 2026 onwards, they will also represent Master’s students.

3 Postgraduate academic programmes

3.1 Doctoral programmes

The sections below provide summary statistics of the 2025 cohort of doctoral researchers, 2025 graduates and graduates before 2025. Full details of doctoral researchers are included in Annex A; a list of publications is provided in Annex C.

3.1.2 Doctoral researchers in 2025

33	49%	25	91%	20
Doctoral researchers	Women	Countries	Global South	Publications
Programme / Faculty			Number of doctoral researchers	
Joint PhD: Faculty of Environmental Sciences			23	
JJRP: Faculty of Business and Economics			6	
JJRP: Faculty of Civil Engineering			3	
JJRP: “Friedrich List” Faculty of Transport and Traffic Sciences			1	
TOTAL			33	

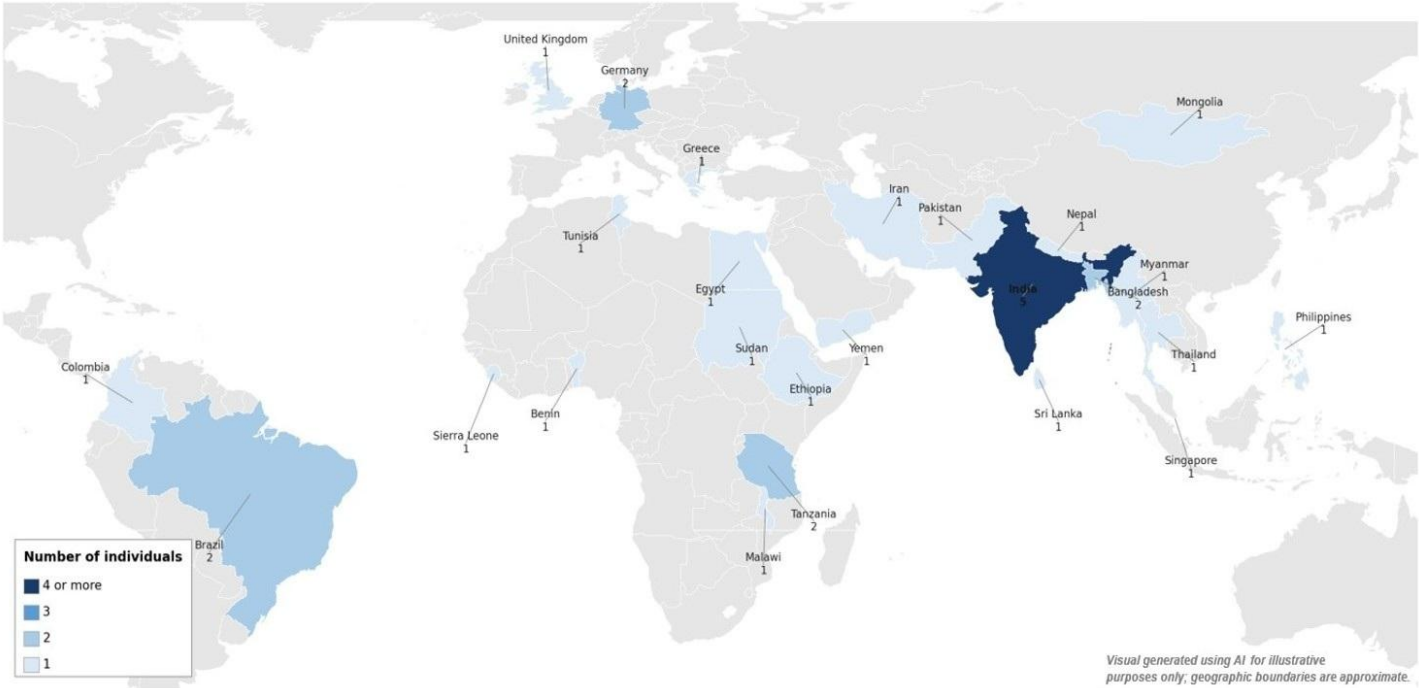


Fig. 1 The countries of origin of doctoral researchers in the 2025 cohort

3.1.3 Doctoral graduates in 2025

Two graduates from the Joint PhD in the Faculty of Environmental Sciences completed their research-focused doctorates in 2025, addressing sustainability challenges in environmental and socio-ecological systems.

The first graduate, **Kamol Gomes (Bangladesh)**, conducted research on “Sustainability of wastewater management: A socio-ecological system (SES) approach for the textile industry in Bangladesh.” His work focuses on improving wastewater governance and environmental performance in one of Bangladesh’s most resource-intensive industrial sectors, using a socio-ecological systems perspective.

The second graduate, **Ramoudane Orou Sannou (Benin)**, worked on “Social Dimension of Sustainability in Agricultural Systems.” His research explores the human and social factors influencing sustainability outcomes in agricultural systems, with a particular emphasis on inclusive and resilient rural development.

Both graduates contribute to advancing sustainability science through applied, context-specific research in the Global South, with a shared focus on strengthening environmental management and socio-ecological resilience in critical production systems.

3.1.4 Doctoral graduates before 2025

12 Doctoral graduates	42% Women	8 Countries	75% Global South	73 Publications
Programme / Faculty			Number of doctoral researchers	
Joint PhD: Faculty of Environmental Sciences			12	
JJRP: Faculty of Business and Economics			0	
JJRP: Faculty of Civil Engineering			0	
JJRP: “Friedrich List” Faculty of Transport and Traffic Sciences			0	
TOTAL			12	

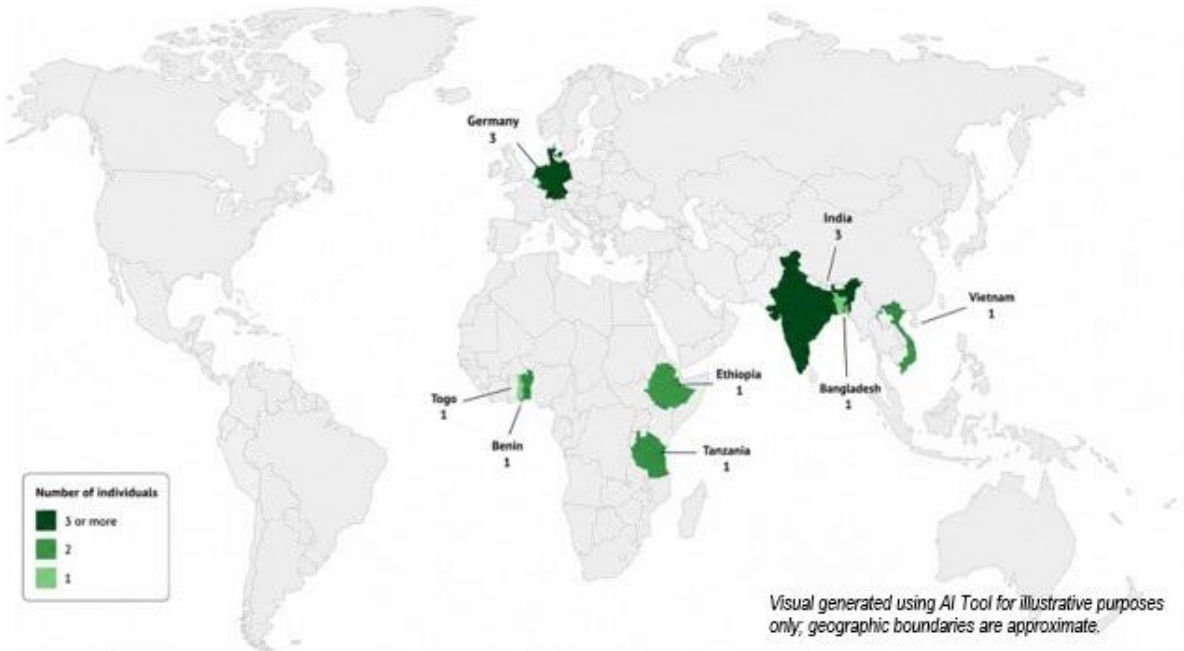


Fig. 2 The countries of origin of doctoral graduates

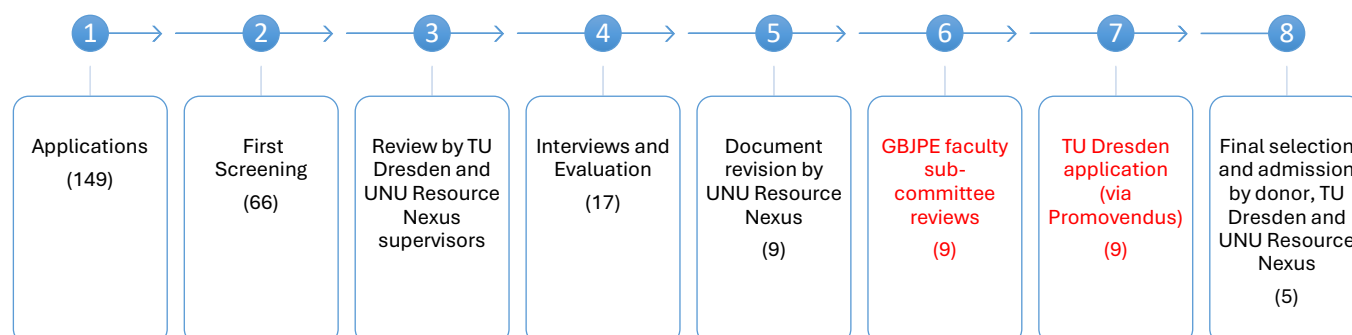
3.1.5 Doctoral programme developments

The revised curriculum for the Joint PhD was approved by UNU and TU Dresden at the end of 2025. These are published in the UNU Rules for Postgraduate Education at UNU Resource Nexus, available [here](#). In 2026, current doctoral researchers and Masters students will have the option of transitioning to the new programmes. Subsequently, only the new programmes will be available. The tables below summarise the programmes between until 2025 and going forward. The language of study and assessment in all programmes is English.

Joint PhD (2015-2025)	JJRP (2020-2025)
A doctoral programme offered jointly by UNU and the Faculty of Environmental Sciences at TU Dresden.	The doctoral programme allows doctoral researchers enrolled at any TU Dresden faculty to pursue their dissertation under co-supervision of UNU Resource Nexus and TU Dresden.
Degree awarded: Joint PhD in the Integrated Management of Soil, Water and Waste	Degree awarded: TU Dresden doctoral degree awarded by the respective faculty.
Certificate: Joint PhD degree certificate in English (with German translation), jointly signed by the Rectors of UNU and TU Dresden, the Director of UNU Resource Nexus, and the Dean of the Faculty of Environmental Sciences, bearing the seals of both universities.	Certificates: TU Dresden doctoral certificate and a UNU Fellow Certificate
Curriculum: Minimum 210 credit points (35 course credits and 175 dissertation credits, including the dissertation)	Curriculum: None
Participating faculties: Faculty of Environmental Sciences	Participating faculties to date: Faculty of Business and Economics; Faculty of Civil Engineering; "Friedrich List" Faculty of Transport and Traffic Sciences
Joint PhD (2026 onwards)	JJDRP (2026 onwards)
A doctoral programme offered jointly by UNU and the Faculty of Environmental Sciences at TU Dresden.	The JJDRP enables doctoral researchers enrolled at any TU Dresden faculty to pursue their dissertation under joint UNU Resource Nexus and TU Dresden supervision, complemented by a structured Resource Nexus curriculum.
Degree awarded: Joint PhD in in a Nexus Approach to the Sustainable Management of Environmental Resources	Degree awarded: TU Dresden doctoral degree awarded by the respective faculty.
Certificate: Joint PhD degree certificate in English (with German translation), jointly signed by the Rectors of UNU and TU Dresden, the Director of UNU Resource Nexus, and the Dean of the Faculty of Environmental Sciences, bearing the seals of both universities.	Certificates: TU Dresden doctoral certificate and a UNU Certificate in a Nexus Approach to the Sustainable Management of Environmental Resources.
Curriculum: Minimum 210 credits over seven semesters (25-credit Resource Nexus coursework + 185 credits for the dissertation).	Curriculum: 25-credit Resource Nexus curriculum, delivered concurrently with the doctoral research.
Participating faculties: Faculty of Environmental Sciences	Participating faculties to date: Faculty of Business and Economics; Faculty of Environmental Sciences; Faculty of Civil Engineering; "Friedrich List" Faculty of Transport and Traffic Sciences

UNU Resource Nexus

The recruitment and selection process was refined in 2025. Steps 6 and 7 (in red) were added to ensure that doctoral researchers are accepted by all partners before final selection by the donor and prior to their arrival in Dresden.



Additionally, in December 2025, the institute received Promovendus access to doctoral candidates enrolled in the Joint PhD and JJRP programmes. This arrangement will significantly support efficient and streamlined coordination between the two institutions, particularly in relation to planned programme changes (JJRP to JJDRP), supervision teams, changes in research topics, as well as other relevant administrative and academic procedures.

To date, doctoral researchers in the Joint PhD signed a student contract, while those in the JJRP signed an Undertaking. With the new UNU Rules for Postgraduate Education at UNU Resource Nexus, the same contract will be used for all doctoral researchers. In 2026, the contract will be developed and phased in as part of the transition to the new programmes.

Faculty of Business and Economics

None

Faculty of Civil Engineering

None

Faculty of Environmental Sciences

The Faculty of Environmental Sciences will enact new doctoral regulations in 2026. There will be a transition period for doctoral candidates. All candidates wishing to complete their doctorate under the old regulations: to ensure the Doctoral Board (Promotionsausschuss) can process applications before the deadline expires, applications to initiate the procedure must be submitted to the Doctoral Office by the end of 2026. Background: applications must first be reviewed by the relevant specialist committees before being considered by the Doctoral Board.

“Friedrich List” Faculty of Transport and Traffic Sciences

None

3.2 Collaborative Masters programme

Until 2025, the JJRP enabled Masters students enrolled at TU Dresden to conduct their thesis research under the joint supervision of UNU Resource Nexus and TU Dresden academic staff, contributing directly to the Resource Nexus research agenda. The Masters programme, including the Masters thesis, is fully governed by TU Dresden rules and regulations. Upon successful completion of the Masters thesis, UNU Resource Nexus

issues a UNU Masters Fellowship Certificate in accordance with its regulations. In 2026, the JJRP will be continued as the JJMRP to better differentiate it from the JJDRP.

In 2025, the institute supported **four master's students, who successfully completed** and defended their Master's theses, two in 2025 and two in 2026. Since its inception and before 2025, the institute has supported **21 Master's students** in total.

Full details of Master's students are included in Annex B. Publications co-authored with Master's students are included in Annex C.

3.3 Postgraduate representatives

To date, doctoral researcher representatives were elected according to the Terms of Reference for doctoral researcher representatives, included in Annex D.

From July 2026 onwards, they will also represent Masters students, as specified in Article 4, 6. of the supplemental agreement: postgraduate representatives represent the interests of the doctoral candidates and Masters students enrolled in the collaborative programmes, serving as the collective voice for participants. For this purpose, the Terms of Reference will be revised.

At any given time, there shall be two postgraduate representatives—a primary representative and an alternate representative. The primary representative shall act as the first point of contact and attend meetings of the GBJPE on behalf of the participants, while the alternate representative shall attend in the absence of the primary representative.

Each representative shall serve a term of one year. Representatives are eligible for reappointment; however, they may not serve consecutive terms. The postgraduate representatives appointed by UNU Resource Nexus represent the interests of doctoral candidates and Masters students enrolled in the programmes – Joint PhD, JJDRP and JJMRP.

Acknowledgements

We gratefully acknowledge all donors for their generous support for doctoral researchers, which made their studies possible.



Deutscher Akademischer Austauschdienst
German Academic Exchange Service



Federal Ministry
of Research, Technology
and Space



STAATSMINISTERIUM
FÜR WISSENSCHAFT
KULTUR UND TOURISMUS



IMMOBILIEN
KONZEPTE GMBH



Klima
Konform



We sincerely thank supervisors from external partner institutions for their valuable time and academic guidance of the doctoral researchers.

Annex A. Doctoral researchers and graduates

A.1 Doctoral researchers in 2025

Prog	Last name, first name	Gender	Country	UNU contract start date	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Faculty of Business and Economics							
JJRP	AGGARWAL, Vaibhav	Male	India	2024-04	Matthias Walz*	Edeltraud Guenther	A Resource Nexus Approach to the Restructure of Financial Instruments (RENFIN) for Agriculture in India
JJRP	AMIN, Ghada	Female	Egypt	2024-04	Nora Adam*	Remmer Sassen	The Role of Stakeholders in Corporate Biodiversity Management in the Middle East and North Africa (MENA) Region - Contributions to the Resource Nexus Approach
JJRP	DZIUMLA, Juliane	Female	Germany	2022-09	Daniel Karthe*	Edeltraud Guenther	Environmental Assessment of Vertical Farming from a Resource Nexus Perspective
JJRP	ENKHBAT, Batchimeg	Female	Mongolia	2025-04	Edeltraud Guenther	Artem Korzhenevych	A Resource Nexus Perspective on Sustainable Public Procurement: The Case of Mongolia
JJRP	HATZFELD, Tobias	Male	Germany	2021-04	Kaveh Madani*	Edeltraud Guenther	Construction Strategies for material-minimised carbon reinforced concrete structures
Joint PhD	SCHNEIDER, Christian	Male	United Kingdom	2021-04	Edeltraud Guenther	Dominik Möst	Barriers to the Adaptation and Implementation of Innovations relating to environmental resources (water-waste-soil-energy) in Sub-Sahara Africa – the case of Germany
Faculty of Civil Engineering							
JJRP	BARACE, Carlo Angelo	Male	Philippines	2024-10	Daniel Karthe	Jürgen Stamm	A Resource Nexus-Integrated Index for Measuring and Guiding Urban Flood Resilience
JJRP	DE PAULA SALGADO, Isabela	Female	Brazil	2020-05	Edeltraud Guenther	Viktor Mechtcherine; Manfred Curbach	Analysis and Evaluation of the Sustainability and Resilience of Reinforcement Measures with Novel Mineral-bonded Composites
JJRP	SHARMA, Shashwat	Male	Nepal	2025-04	Daniel Karthe	Jürgen Stamm	Enhancing water security with nature-based solutions for resilient and water-smart cities
Faculty of Environmental Sciences							
Joint PhD	AL_QUBATI, Abdulhakeem	Male	Yemen	2021-11	Lulu Zhang	Matthias Forkel	Urban and Peri-urban Agriculture (UPA) and Climate Change: Impacts, Mitigation, and Adaptation

Prog	Last name, first name	Gender	Country	UNU contract start date	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Joint PhD	ASHRAF, Waseem	Male	Pakistan	2024-01	Edeltraud Guenther	Christina Dornack; Viktor Mechtcherine	Analysis and Evaluation of the Sustainability Nexus of Reinforcement Measures with New Composite Materials
Joint PhD	BINTE MD SALLEH, Atiqah Fairuz	Female	Singapore	2022-07	Daniel Karthe	Martina Artmann	Vertical Farming for Urban Food Security: Social Acceptance of a Resource Nexus Solution (VerFarming Social)
Joint PhD	CHAIKLANG, Preeyaphat	Female	Thailand	2023-04	Daniel Karthe	Lukas Giessen	Incorporating the Resource Nexus and Actor-centred analysis into Mangrove Management in Thailand
Joint PhD	CHIDODO, Simon	Male	Tanzania	2022-02	Lulu Zhang	Karl-Heinz Feger	Multifunctional Use of Agricultural Landscapes Under Climate Change Conditions
Joint PhD	FERNANDO, Warnakulasooriya Neelappage Shanali Minoshi	Female	Sri Lanka	2021-10	Edeltraud Guenther	Karl-Heinz Feger	Integrating the Resource Nexus in Payments for Watershed Ecosystem Services
Joint PhD	FEROLLA SPYER PRATES, Luisa	Female	Brazil	2021-10	Daniel Karthe	Christina Dornack	Managing the Transition to Electric Mobility – A Resource Nexus Approach to End-of-Life Batteries in the Global South
Joint PhD	GEORGIU, Isabella	Female	Greece	2020-09	Serena Caucci*	Peter Krebs	Water Reuse through Nexus Perspective: Assessing the Sustainability and Opportunities of Urban Systems under Public-Private Partnership
Joint PhD	GOMES, Kamol	Male	Bangladesh	2020-07	Edeltraud Guenther	Judith Miggelbrink	Sustainability of Wastewater Management: A Socio-ecological System (SES) Approach for Textile Industry in Bangladesh
Joint PhD	GUZMAN, Jairo	Male	Colombia	2021-11	Serena Caucci	Daniel Karthe	Socioeconomic Sustainability and Resilience in Urban and Peri-urban Agriculture (UPA)
Joint PhD	HAMMAMI, Hela	Female	Tunisia	2024-04	Saroj Chapagain	Niels Schütze	Optimizing Water Management Strategies: A Resource Nexus Approach to Impactful Water-Food Sustainability in Water-scarce Areas (NEAR-Nexus Impact Irrigation)
Joint PhD	LOGHMANI KHOUZANI, Seyed Taha	Male	Iran, Islamic Rep.	2022-01	Kaveh Madani; Barbara Willaarts	Edeltraud Guenther	Role of Participation in Achieving Sustainable and Resilient Agri-food Systems in the Face of Emerging External Shocks: A Coupled Citizen Science and Nature-based Solutions Approach (CS-NbS)
Joint PhD	MAKWINJA, Yamikani	Male	Malawi	2023-04	Patrick O'Farrell	Edeltraud Guenther; Jude Ndzifon Kimengsi	Resource Nexus Perspectives of Land Cover Change in Southern Africa: Drivers and Implications for Regional Nature-Positive Sustainable Development
Joint PhD	MKUMBUKIY, Ally	Male	Tanzania	2023-04	Kaveh Madani	Edeltraud Guenther	Resilience and Resource Nexus in Food Systems: Case of Tea and Wheat Subsectors in Tanzania
Joint PhD	NYEIN, Lwin	Female	Myanmar	2023-04	Daniel Karthe	Lukas Giessen	Mangrove Restoration Solutions based on Resource Nexus and Community Interaction in Myanmar

Prog	Last name, first name	Gender	Country	UNU contract start date	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Joint PhD	OROU SANNOU, Ramoudane	Male	Benin	2021-04	Sabrina Kirschke	Edeltraud Guenther	Social Dimension of Sustainability in Agricultural Systems
Joint PhD	RAJA, Aishwarya	Female	India	2022-12	Serena Caucci	Lukas Giessen	Future Food Production Under Climate Change Scenarios: Exploring the Resource Nexus of Water, Food and Biodiversity
Joint PhD	RANJAN, Rajeev	Male	India	2024-10	Alexey Alekseenko	Robert Knippschild	Sustainability Transformations in Post-mining Closures: Just Transition and Regional Resource Nexus Perspectives in Jharkhand, India
JJRP	REZA, Alavy	Female	Bangladesh	2024-10	Daniel Karthe	Marc Wolfram	Nexus Dilemmas on Urban-industrial Decarbonization Pathways: Analytical Perspectives and Future Place-based Strategies
Joint PhD	SARAVANAN, Aatralarasi	Female	India	2023-02	Daniel Karthe	Niels Schütze; Christian Bernhofer	Climate Change and Water Availability in Data Scarce Region – Advancing the Nexus of Water, Soil and Atmosphere through Remote Sensing and Modelling
Joint PhD	SESAY, Sampha	Male	Sierra Leone	2025-04	Serena Coetzee	Martin Behnisch	Understanding the Resource Nexus between Urban Sprawl, Landscape Fragmentation, and Habitat Network Connectivity
Joint PhD	SULIEMAN, Rayyan	Female	Sudan	2023-10	Daniel Karthe	Martin Behnisch; Martina Artmann	Resource Nexus Perspectives on Healthy Urban Human-Nature Partnerships and their Role in Sustainability Transformation
Joint PhD	TESSEMA, Workinesh Takele	Female	Ethiopia	2025-04	Daniel Karthe	Jochen Schanze; Susann Wagenknecht	Transdisciplinary Knowledge Integration for Sustainable Transformation in Regional Water Management: A Nexus Perspective
Faculty of Transport and Traffic Sciences							
JJRP	KUMAR, Prashant	Male	India	2023-04	Saroj Chapagain**	Georg Hirte	Extended Cost-Benefit Analysis for Sustainable Green Transformation Programmes of Small and Medium Enterprises in South Asian Developing Countries

*Supervisor not reflected in Promovendus

** Advisor, not officially appointed as supervisor in the Faculty

A.2 Doctoral graduates in 2025

Prog	Last name, first name	Gender	Country	Defense date	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Faculty of Environmental Sciences							

Joint PhD	GOMES, Kamol	Male	Bangladesh	2025-01	Edeltraud Guenther	Judith Miggelbrink	Sustainability of Wastewater Management: A Socio-ecological System (SES) Approach for Textile Industry in Bangladesh
Joint PhD	OROU SANNOU, Ramoudane	Male	Benin	2025-08	Sabrina Kirschke	Edeltraud Guenther	Social Dimension of Sustainability in Agricultural Systems

A.3 Doctoral graduates before 2025

Prog	Last name, first name	Gender	Country	Defense date	UNU Resource Nexus supervisor	TU Desden supervisor	Research topic
Faculty of Environmental Sciences							
Joint PhD	CHANDRASEKHAR, Parvathy	Female	India	2020-06	Kai Schwaerzel	Karl-Heinz Feger	Predicting land-use induced soil pore space changes and their hydrological impacts
Joint PhD	GADEJISSO-TOSSOU, Agossou	Male	Togo	2019-12	Tamara Avellan	Niels Schuetzte	The Impact of Soil Variability on Crop Water Productivity and Food Security of Irrigated Agriculture in West-Africa
Joint PhD	GEBRECHORKOS, Solomon Hailu	Male	Ethiopia	2018-08	Stephan Huelsmann	Christian Bernhofer	Assessing and Synthesizing Climate-Related Data for Integrated Water-Soil Management in East Africa
Joint PhD	JAMPANI, Mahesh	Male	India	2019-05	Stephan Huelsmann	Rudolf Liedl	Integrated evaluation of wastewater irrigation for sustainable agriculture and groundwater development
Joint PhD	KREISELMEIER, Janis	Male	Germany	2020-06	Kai Schwaerzel	Karl-Heinz Feger	Temporal changes in the soil pore size distribution and variability of soil hydraulic properties under long-term conventional and conservation tillage
Joint PhD	MUELLER, Andrea	Female	Germany	2022-12	Tamara Avellan	Jochen Schanze	Risk and sustainability assessment (RSA) framework for 'water scarcity – water reuse' situations
Joint PhD	NGUYEN, Thuy	Female	Vietnam	2020-09	Hiroshan Hettiarachchi	Peter Krebs	Optimisation of Water Quality Monitoring Network Design Considering Compliance Criterion and Trade-offs between Monitoring Information and Costs
Joint PhD	PATRA, Sridhar	Male	India	2019-09	Kai Schwaerzel	Karl-Heinz Feger	Impact of soil and crop management practices on soil water and carbon dynamics
Joint PhD	REETSCH, Anika	Female	Germany	2022-01	Kai Schwaerzel	Karl-Heinz Feger; Christina Dornack Gerald Kapp	Integration of Organic Waste into the Biomass Production of Smallholder Farming Systems in Kagera-Region, Tanzania
Joint PhD	TWISA, Sekela	Female	Tanzania	2021-02	Mathew Kurian	Manfred Buchroithner	Source Sustainability of Rural Water Supply in East Africa: Applications of Geo-Information Technologies

Annex B. Masters students

B.1 Masters students in 2025

Programme	Faculty	Last name, first name	Gender	Country	Start date	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Master's Programme in Business Administration	Faculty of Business and Economics	DANY, Victoria	Female	Germany	2025-03	Juliane Dziumla	Samanthi Dijkstra-Silva	The Role of Vertical Farming in Sustainability Management of Agricultural Enterprises: Strategies to Enhance Resilience to Climate Change
International Master's Programme in Ecosystem Services	Faculty of Environmental Sciences	TRINH THI, Mai Phuong	Female	Vietnam	2025-09	Juliane Dziumla	Nina Hagemann	Unlocking urban food systems innovation: Assessing Challenges, Opportunities and Strategic Pathways in Dresden
International Master's Programme in Ecosystem Services	Faculty of Environmental Sciences	TJANDRAPUTRI, Paulina	Female	Indonesia	2025-03	Alexey Alekseenko	Ulan Kasymov	A Nexus Approach of feasibility of post-mining agriculture in coal transitioning regions, with an initial overarching research question "How do environmental conditions, policy frameworks, and stakeholder perspectives shape the feasibility of post-mining agriculture in Lusatia, Germany, and East Kalimantan, Indonesia?"
International Master's Programme in Ecosystem Services	Faculty of Environmental Sciences	SHAMILOVA, Turkan	Female	Azerbaijan	2025-05	Juliane Dziumla	Remmer Sassen	Potential of Vertical Farming in Africa: opportunities and challenges

B.2 Masters thesis completions in 2025

Programme	Faculty	Last name, first name	Gender	Country	End	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Master's Programme in Business Administration	Faculty of Business and Economics	DANY, Victoria	Female	Germany	2025-03	Juliane Dziumla	Samanthi Dijkstra-Silva	The Role of Vertical Farming in Sustainability Management of Agricultural Enterprises: Strategies to Enhance Resilience to Climate Change
International Master's Programme in Ecosystem Services	Faculty of Environmental Sciences	SHAMILOVA, Turkan	Female	Azerbaijan	2025-05	Juliane Dziumla	Remmer Sassen	Potential of Vertical Farming in Africa: opportunities and challenges

B.2 Masters thesis completions before 2025

Programme	Faculty	Last name, first name	Gender	Country	End	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	AHMED, Amjad	Male	Sudan	2021-08	Serena Caucci	Peter Krebs; Mareike Braeckvelt	Comparison of wastewater reuse technologies from a sustainability perspective
International Master's Programme in Ecosystem Services	Faculty of Environmental Sciences	ALAM, Mahbulul	Male	Bangladesh	2022-11	Lulu Zhang	Remmer Sassen	Supply Chain in the Agri-Food Sector under Climate Change: a literature review
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	BIGHAM GHAZANI, Armin	Male	Iran, Islamic Rep.	2021-08	Sabrina Kirschke	Jürgen Pretzsch	Reconceptualizing the Analytical Framework of Hydro-Hegemony: an in-depth case study of transboundary water interaction in the Euphrates-Tigris Basin
International Master's Programme in Ecosystem Services	Faculty of Environmental Sciences	CARRAZANA ROSALES, Gustavo Andres	Male	Chile	2025-01	Jairo Guzman	Nina Hagemann	Constructing a Composite Index to assess the contribution of Urban and Peri-urban Agriculture to Urban Sustainability: a case study in Bogotá, Colombia
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	DANSO ABEAM, Prince	Male	Ghana	2023-12	Christian Schneider	Niels Schütze	Assessing the impact of annual flooding on the socio-economic activities: a case study of Anwiakwanta in the Bekwai Municipality, Ghana
Environmental Engineering	Faculty of Environmental Sciences	FALDA, Marco	Male	Italy	2024-09	Serena Caucci	Daniel Karthe	Global Changes in Natural Resources Management for Biodiversity Conservation in Agri-Food Systems in Colombia
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	HAMESTER, Meike	Female	Germany	2020-06	Sabrina Kirschke	Peter Krebs; Joerg Seegert	Planning decentralized water management in the Río San Juan sub-basin, Taxco, México – an analysis of stakeholder participation
Spatial Development and Natural Resource Management (M.Sc.)	Faculty of Environmental Sciences	JAVADOVA, Fatima	Female	Azerbaijan	2023-12	Serena Caucci	Peter Krebs	Assessing the social impacts of water reuse in industries through an S-LCA
Biology	Faculty of Biology	KILLINGER, Mabel	Female	Germany	2021-06	Sabrina Kirschke	Jürgen Weber	The Effects of Participation on Forest-related Measures in dealing with Nitrogen Pollution
Economics (M.Sc.)	Faculty of Business and Economics	KLEWICZ, Sebastian	Male	Germany	2024-09	Juliane Dzumla	Dominik Möst	Travelling by plane to the conference or everything online
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	LOGHMANI KHOUZANI, Seyed Taha	Male	Iran, Islamic Rep.	2020-09	Sabrina Kirschke	Rudolf Liedl	Governance aspects affecting subsidence phenomena in Mahyar valley, Esfahan, Iran: how is policy coherence affecting emerging subsidence phenomena?
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	MARTINS, Maria Isabel	Female	Brazil	2021-08	Sabrina Kirschke	Jürgen Pretzsch	Water Governance in Brazil: analysis of policy and decision-making processes on river basin organizations

Programme	Faculty	Last name, first name	Gender	Country	End	UNU Resource Nexus supervisor	TU Dresden supervisor	Research topic
Public and International Economics (M.Sc.)	Faculty of Business and Economics	RAUSCHER, Josseline	Female	Germany	2023-06	Lulu Zhang	Remmer Sassen	Stakeholder Resilience in the Agri-food Supply Chain under Climate Change
Spatial Development and Natural Resource Management (M.Sc.)	Faculty of Environmental Sciences	RISTAU, Sebastian	Male	Germany	2020-12	Lulu Zhang	Michael Zech	Assessing the impacts of land-use and climate change on baseflow in the Jinghe watershed, Northwest China
Business Administration (M.Sc.)	Faculty of Business and Economics	SALMEN, Soenke	Male	Germany	2023-10	Matthias Waltz	Christoph Scope	Agricultural Supply Chain Resilience in terms of climate change: regional adaptation measures
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	SCHMID, Veronika	Female	Germany	2023-10	Serena Caucci	Peter Krebs	Tunisia water quality perspective from farmer's community under water reuse practices
Industrial Engineering and Management	Faculty of Business and Economics	SCHMIDT, Paula	Female	Germany	2024-05	Tobias Hatzfeld	Christoph Scope	Comparative Life Cycle Assessment of Retrofitting Solutions using Carbon Reinforced Concrete
Industrial Engineering and Management	Faculty of Business and Economics	SCHOEN, Robert	Male	Germany	2023-07	Edeltraud Guenther	Christoph Scope	On the development of efficient re-usage methods for by-products inside companies – the case of whey and sunflower press cake
International Master's Programme in Ecosystem Services	Faculty of Environmental Sciences	THIEM, Florian	Male	Germany	2021-02	Lulu Zhang	Karl-Heinz Feger	Effects of forestation on water ecosystem services in the Miyun Reservoir: a systematic review
Industrial Engineering and Management	Faculty of Business and Economics	THIEME, Luisa	Female	Germany	2023-04	Lulu Zhang	Edeltraud Guenther	Climate resilience of agri-food supply chain: empirical studies
Hydro Science and Engineering (M.Sc.)	Faculty of Environmental Sciences	WANDELBERG ER, Lisa	Female	Germany	2021-08	Sabrina Kirschke	Jürgen Pretzsch	Reconceptualizing the Analytical Framework of Hydro-Hegemony: an in-depth case study of transboundary water interaction in the Euphrates-Tigris Basin

Annex C. Publications

2025

- Baumgarten, J., **Schneider, C. P.**, & Möst, D. (2025). Hydrogen Economy Index – A comparative assessment of the political and economic perspective in the MENA region for a clean hydrogen economy. *International Journal of Hydrogen Energy*, 101, 1503–1517.
- Caucci, S., **Guzman-Molina, J.**, **Al-Qubati, A.**, & Schellens, M. K. (2025). Vulnerability reduction in post-conflict areas through the Resource Nexus approach (Water–Soil-Food-Atmosphere) to sustainable food production systems: A case study in Colombia. *Environmental Earth Sciences*, 84(1), Article 42. <https://doi.org/10.1007/s12665-024-12018-x>
- Chidodo, S.**, Zhang, L., & Feger, K.-H. (2025). How spatial soil information affects hydrological modelling in more complex topography with diverse land uses, East Usambara Mountains, Tanzania.
- Chidodo, S.**, Zhang, L., Zarei, A., & Feger, K.-H. (2025). Remote sensing-based assessment of four decades of land use/land cover change in the Sigi River Watershed, East Usambara Mountains, Tanzania. *Frontiers in Remote Sensing*, 6, Article 1594331. <https://doi.org/10.3389/frsen.2025.1594331>
- de Paula Salgado, I.**, Conrad, F., Signorini, C., Ihlenfeldt, S., & Mechtcherine, V. (2025). Integrating life cycle assessment (LCA) and machine learning for sustainable designs: A case study on protective layers made of mineral-bonded fiber-reinforced composites. *International Journal of Life Cycle Assessment*, 30(11), 2403–2422.
- de Paula Salgado, I.**, Günther, E., & Mechtcherine, V. (2025). Integrated sustainability and resilience assessments of concrete infrastructures subjected to hazards: A systematic literature review. *Sustainable and Resilient Infrastructure*, 10(5), 450–471.
- Dubois, E., **Loghmani-Khouzani, T.**, Ottaviani, S., et al. (2025). Are water-related nature-based solutions (NbS) assessed for their full multi-benefit potential? A review from an urban perspective. *Sustainability Nexus Forum*, 33, Article 22. <https://doi.org/10.1007/s00550-025-00581-1>
- Dziomla, J.**, Guenther, E., Karthe, D., & Dijkstra-Silva, S. (2025). Sustainability assessment for novel approaches in the agri-food industry: The example of vertical farming. *Journal of Cleaner Production*, 495, Article 145036. <https://doi.org/10.1016/j.jclepro.2025.145036>
- Fernando, S. M.**, Zhang, L., Feger, K.-H., et al. (2025). Assessing the impact of soil data resolution on streamflow prediction with SWAT in a mesoscale headwater basin of Sri Lanka. *Journal of Hydrology: Regional Studies*. <https://doi.org/10.1016/j.ejrh.2025.102683>
- Gomes, K.**, Morris, J. C., Miggelbrink, J., Günther, E. M., & Caucci, S. (2025). Resource Nexus for decision-making: An industry-community synergistic approach for textile wastewater management. *Local Environment*, 30(2), 231–252.
- Guzman-Molina, J.**, Carrazana-Rosales, G., Karthe, D., Rodriguez, W., & Caucci, S. (2025). Sustainability composite indicator for the assessment of resilient urban agriculture and urban development in Bogotá, Colombia. *Environmental and Sustainability Indicators*, 27, Article 100837. <https://doi.org/10.1016/j.indic.2025.100837>

- Makwinja, Y. H.**, Kimengsi, J. N., O'Farrell, P. J., & Guenther, E. (2025). A global systematic review of Resource Nexus and nature-positive sustainable development: An invitation to a new research agenda. *Sustainable Environment*, 11(1), Article 2554480. <https://doi.org/10.1080/27658511.2025.2554480>
- Makwinja, Y. H.**, O'Farrell, P. J., Kimengsi, J. N., & Guenther, E. (2025). Land cover shifts strain resource nexus in southern Africa: Evidence from Malawi. *Frontiers in Environmental Science*, 13, Article 1665279. <https://doi.org/10.3389/fenvs.2025.1665279>
- Mkumbukiy, A.**, Loghmani-Khouzani, T., Madani, K., & Guenther, E. (2025). Agrifood systems' resilience for sustainable food security amid geopolitical tensions: A systematic literature review. *Frontiers in Sustainable Food Systems*, 9, Article 1546851. <https://doi.org/10.3389/fsufs.2025.1546851>
- Nyein, L. T.**, Karthe, D., Giessen, L., Babel, M. S., & Schusser, C. (2025). Mangrove degradation, conservation, and restoration in Myanmar: A sustainability nexus assessment based on systematic literature review and the DPSIR framework. *Forest and Society*, 9(1), 164–185. <https://doi.org/10.24259/fs.v9i1.35303>
- Prates, L. F. S.**, Schneider, C. P., Dornack, C., Günther, E., Möst, D., & Karthe, D. (2025). Achieving the SDGs through a Resource Nexus approach: Lessons from the African e-mobility transition. *Discover Sustainability*, 6(1), Article 496.
- Pyarali, K.**, Zhang, L., & Forkel, M. (2025). Assessment of selected climate indicators across the Elbe River Basin to analyse changes in climate extremes and their effects. *Earth Systems and Environment*. Advance online publication.
- Sannou, R. O., **Schneider, C. P.**, Walz, M., & Günther, E. M. (2025). Organizational innovations and access to sustainable finance in agriculture: The case of Shea farmers in Ghana. *International Journal of Agricultural Sustainability*, 23(1), Article 2469284.
- Saravanan, A.**, Karthe, D., Ramalingam, S., & Schütze, N. (2025). Evaluation of remote-sensing- and reanalysis-based precipitation products for agro-hydrological studies in the semi-arid tropics of Tamil Nadu. *Hydrology and Earth System Sciences*, 29, 4847–4870. <https://doi.org/10.5194/hess-29-4847-2025>
- Suliman, R.**, Artmann, M., Karthe, D., & Behnisch, M. (2025). Can the Resource Nexus guide improvements in urban planetary health? Insights from a literature review. *Resources, Environment and Sustainability*, 20, Article 100224. <https://doi.org/10.1016/j.resenv.2025.100224>

2024

- Al-Qubati, A.**, Zhang, L., & Forkel, M. (2024). Urban and peri-urban agriculture under climate change: A review on carbon emissions and sequestration. *Sustainable Cities and Society*, 115, Article 105830. <https://doi.org/10.1016/j.scs.2024.105830>
- Chaiklang, P.**, Karthe, D., Babel, M., Giessen, L., & Schusser, C. (2024). Reviewing changes in mangrove land use over the decades in Thailand: Current responses and challenges. *Trees, Forests and People*, 17, Article 100630. <https://doi.org/10.1016/j.tfp.2024.100630>
- Loghmani-Khouzani, S. T.**, Dany, V., Seifert, N., Madani, K., & Guenther, E. (2024). Can citizen science in water-related nature-based solutions deliver transformative participation in agri-food systems? A review. *Agricultural Systems*, 220, Article 104052. <https://doi.org/10.1016/j.agry.2024.104052>
- Misleh, D., **Dziomla, J.**, Garza, M. De La, & Günther, E. M. (2024). Sustainability against the logics of the state: Political and institutional barriers in the Chilean infrastructure sector. *Environmental Innovation and Societal Transitions*, 51, Article 100842.

- Schneider, C. P.** (2024). Innovative German technology in sub-Saharan Africa: Where is it used? *International Journal of Technology Management and Sustainable Development*, 22(3), 245–273.
- Schneider, C. P.**, Günther, E. M., & Möst, D. (2024). International technology transfer to Africa in light of the SDGs: What do we know about the barriers? *Journal of International Development*, 36(4), 2129–2151.
- Davies, T., **Loghmani-Khouzani, T.**, & Fath, B. D. (2024). “Solutions” are not the answer. *Frontiers in Sustainability*, 5, Article 1509972.
- Gomes, K.**, Caucci, S., Morris, J., Günther, E., & Miggelbrink, J. (2024). Sustainability transformation in the textile industry—the case of wastewater management. *Business Strategy and Development*, 7(1), Article e324.

2023

- Al-Qubati, A.**, Zhang, L., & Pyarali, K. (2023). Climatic drought impacts on key ecosystem services of a low mountain region in Germany. *Environmental Monitoring and Assessment*, 195(7), Article 800. <https://doi.org/10.1007/s10661-023-11397-1>
- Georgiou, I.**, Caucci, S., Morris, J. C., Günther, E. M., & Krebs, P. (2023). Assessing the potential of water reuse uptake through a private–public partnership: A practitioner's perspective. *Circular Economy and Sustainability*, 3(1), 199–220.
- Prates, L.**, Karthe, D., Zhang, L., Wang, L., O'Connor, J., Lee, H., & Dornack, C. (2023). Sustainability for all? The challenges of predicting and managing the potential risks of end-of-life electric vehicles and their batteries in the Global South. *Environmental Earth Sciences*, 82(6), Article 143. <https://doi.org/10.1007/s12665-023-10806-5>
- Zufle, S., & **Schneider, C. P.** (2023). Technology transfer through business-to-business partnerships: Lessons from sales partnerships between German manufacturers and African distributors. In 2023 IST-Africa Conference (IST-Africa 2023).
- Hahn, A., Kirschke, S., Caucci, S., **Müller, A.**, Benavides, L., & Avellán, T. (2023). Perceptions of transdisciplinary research – a comparative case study from Latin America. *Current Research in Environmental Sustainability*, 5, Article 100207.
- Kirschke, S., Bennett, C., Ghazani, A. B., Kirschke, D., Lee, Y., **Loghmani Khouzani, S. T.**, & Nath, S. (2023). Design impacts of citizen science: A comparative analysis of water monitoring projects. *Frontiers in Environmental Science*, 11, Article 1186238.
- Müller, A. B.**, Bennett, C., Avellán, T., & Schanze, J. (2023). Testing the integrated risk and sustainability assessment (RSA) framework for ‘water scarcity – water reuse’ situations: The case of Cerrillos de Tamaya, Chile. *Current Research in Environmental Sustainability*, 5, Article 100203.
- Orou Sannou, R.**, Kirschke, S., & Günther, E. (2023). Integrating the social perspective into the sustainability assessment of agri-food systems: A review of indicators. *Sustainable Production and Consumption*, 39, 175–190.
- Kirschke, S., Avellán, T., Benavides, L., Caucci, S., Hahn, A., **Müller, A.**, & Rubio Giraldo, C. B. (2023). Results-based management of wicked problems? Indicators and comparative evidence from Latin America. *Environmental Policy and Governance*, 33(1), 3–16.

2022

- Gomes, K.**, Günther, E. M., Morris, J. C., Miggelbrink, J., & Caucci, S. (2022). Resource nexus oriented decision making along the textile value chain: The case of wastewater management. *Current Research in Environmental Sustainability*, 4, Article 100153.
- Hatzfeld, T.**, Backes, J. G., Guenther, E., & Traverso, M. (2022). Modeling circularity as functionality over use-time to reflect on circularity indicator challenges and identify new indicators for the circular economy. *Journal of Cleaner Production*, 379, Article 134797. <https://doi.org/10.1016/j.jclepro.2022.134797>
- Hatzfeld, T.**, Backes, J. G., Scope, C., Günther, E. M., & Traverso, M. (2022). Environmental assessment of carbon reinforced concrete recycling options. In *fib Symposium* (pp. 891–900).
- Hatzfeld, T.**, Schlüter, D., Scope, C., Krois, K., Guenther, E., Etzold, B., & Curbach, M. (2022). Rethinking residential energy storage: GHG minimization potential of a carbon reinforced concrete facade with function integrated supercapacitors. *Building and Environment*, 224, Article 109520. <https://doi.org/10.1016/j.buildenv.2022.109520>
- Sannou, R. O.**, Bako, I., Moumouni, I., Baco, M. N., & Olagoke, A. O. (2022). Participatory management of tropical dry forests in Benin: Case study from the “Trois Rivières” forest, Borgou region. In *Research anthology on ecosystem conservation and preserving biodiversity* (pp. 1734–1753). IGI Global.
- Kirschke, S., Bennett, C., Bigham Ghazani, A., Franke, C., Kirschke, D., Lee, Y., **Loghmani Khouzani, S. T.**, & Nath, S. (2022). Citizen science projects in freshwater monitoring: From individual design to clusters? *Journal of Environmental Management*, 309, Article 114714.
- Ganbat, G., **Lee, H.**, Karthe, D., Jo, H.-W., & Jadamba, B. (2022). Assessment of COVID-19 impacts on air quality in Ulaanbaatar, Mongolia, based on terrestrial and Sentinel-5P TROPOMI data. *Aerosol and Air Quality Research*, 22(10), Article 220196.
- Avellán, T., Hahn, A., Kirschke, S., **Müller, A.**, Benavides, L., & Caucci, S. (2022). Co-generating knowledge in nexus research for sustainable wastewater treatment. *Resources*, 11(10), Article 93.
- Backes, J. G., Del Rosario, P., Petrosa, D., Traverso, M., **Hatzfeld, T.**, & Günther, E. (2022). Building sector issues in about 100 years: End-of-life scenarios of carbon-reinforced concrete presented in the context of a life cycle assessment, focusing the carbon footprint. *Processes*, 10(9), Article 1791.
- Müller, A. B.**, Avellán, T., & Schanze, J. (2022). Translating the ‘water scarcity – water reuse’ situation into an information system for decision-making. *Sustainability Science*, 17(1), 9–25.
- Loghmani Khouzani, S. T.**, Kirschke, S., Yousefi, A., & Liedl, R. (2022). The effect of policy incoherence on the emergence of groundwater-related subsidence phenomena: A case study from Iran. *Water International*, 47(2), 181–204.
- Cha, S., Jo, H.-W., Kim, M., Song, C., **Lee, H.**, Park, E., Lim, J., Schepaschenko, D., Shvidenko, A., & Lee, W.-K. (2022). Application of deep learning algorithm for estimating stand volume in South Korea. *Journal of Applied Remote Sensing*, 16(2), Article 024503.
- Karthe, D., **Lee, H.**, & Ganbat, G. (2022). Fragmented infrastructure systems in Ulaanbaatar, Mongolia: Assessment from an environmental resource nexus and public health perspective. *Sustainable Development Goals Series, Part F2710*, 15–34.

2021

- Morris, J. C., Georgiou, I., Günther, E. M., & **Caucci, S.** (2021). Barriers in implementation of wastewater reuse: Identifying the way forward in closing the loop. *Circular Economy and Sustainability*, 1(1), 413–433.
- Julich, S., **Kreiselmeier, J.**, Scheibler, S., Petzold, R., Schwärzel, K., & Feger, K.-H. (2021). Hydraulic properties of forest soils with stagnic conditions. *Forests*, 12(8), Article 1113.
- Reetsch, A.**, Schwärzel, K., Kapp, G., Dornack, C., Masisi, J., Alichard, L., Robert, H., Byamungu, G., Rocha, J. L., Stephene, S., Frederick, B., & Feger, K.-H. (2021). Data set of smallholder farm households in banana-coffee-based farming systems containing data on farm households, agricultural production and use of organic farm waste. *Data in Brief*, 35, Article 106833.
- Gadedjisso-Tossou, A.**, Adjegan, K. I. I., & Kablan, A. K. M. (2021). Rainfall and temperature trend analysis by Mann–Kendall test and significance for rainfed cereal yields in Northern Togo. *Sci*, 3(1), Article 17.

2020

- Hülsmann, S., & **Jampani, M.** (2020). The nexus approach as a tool for resources management in resilient cities and multifunctional land-use systems. *A Nexus Approach for Sustainable Development: Integrated Resources Management in Resilient Cities and Multifunctional Land-use Systems*, 1–13.
- Twisa, S.**, Mwabumba, M., Kurian, M., & Buchroithner, M. F. (2020). Impact of land-use/land-cover change on drinking water ecosystem services in Wami river basin, Tanzania. *Resources*, 9(4), Article 37.
- Reetsch, A.**, Kimaro, D., Feger, K.-H., & Schwärzel, K. (2020). Traditional and adapted composting practices applied in smallholder banana-coffee- based farming systems: Case studies from Kagera and Morogoro regions, Tanzania. *Organic Waste Composting through Nexus Thinking: Practices, Policies, and Trends*, 165–184.
- Twisa, S.**, Kazumba, S., Kurian, M., & Buchroithner, M. F. (2020). Evaluating and predicting the effects of land use changes on hydrology in Wami river basin, Tanzania. *Hydrology*, 7(1), Article 17.
- Reetsch, A.**, Feger, K.-H., Schwärzel, K., Dornack, C., & Kapp, G. (2020). Organic farm waste management in degraded banana-coffee-based farming systems in NW Tanzania. *Agricultural Systems*, 185, Article 102915.
- Müller, A. B., Avellán, T., & Schanze, J. (2020). Risk and sustainability assessment framework for decision support in 'water scarcity – water reuse' situations. *Journal of Hydrology*, 591, Article 125424.
- Reetsch, A.**, Schwärzel, K., Dornack, C., Stephene, S., & Feger, K.-H. (2020). Optimising nutrient cycles to improve food security in smallholder farming families—a case study from banana-coffee-based farming in the Kagera region, NW Tanzania. *Sustainability (Switzerland)*, 12(21), 1–34.

- Hülsmann, S., & **Jampani, M.** (2020). A nexus approach for sustainable development: Integrated resources management in resilient cities and multifunctional land-use systems. *A Nexus Approach for Sustainable Development: Integrated Resources Management in Resilient Cities and Multifunctional Land-use Systems*, 1–270.
- Singh, D., Patel, N., **Patra, S.**, Singh, N., Roy, T., Caucci, S., & Hettiarachchi, H. (2020). Efficacy of drip irrigation in controlling heavy-metal accumulation in soil and crop. *Journal of Environmental Engineering and Science*, 16(3), 109–121.
- Gebrechorkos, S. H.**, Hülsmann, S., & Bernhofer, C. (2020). Analysis of climate variability and droughts in East Africa using high-resolution climate data products. *Global and Planetary Change*, 186, Article 103130.
- Kreiselmeier, J.**, **Chandrasekhar, P.**, Weninger, T., Schwen, A., Julich, S., Feger, K.-H., & Schwärzel, K. (2020). Temporal variations of the hydraulic conductivity characteristic under conventional and conservation tillage. *Geoderma*, 362, Article 114127.
- Jampani, M.**, Amerasinghe, P., Liedl, R., Locher-Krause, K., & Hülsmann, S. (2020). Multi-functionality and land use dynamics in a peri-urban environment influenced by wastewater irrigation. *Sustainable Cities and Society*, 62, Article 102305.
- Jampani, M.**, Liedl, R., Hülsmann, S., Sonkamble, S., & Amerasinghe, P. (2020). Hydrogeochemical and mixing processes controlling groundwater chemistry in a wastewater irrigated agricultural system of India. *Chemosphere*, 239, Article 124741.
- Laura, F., Tamara, A., **Müller, A.**, Hiroshan, H., Christina, D., & Serena, C. (2020). Selecting sustainable sewage sludge reuse options through a systematic assessment framework: Methodology and case study in Latin America. *Journal of Cleaner Production*, 242, Article 118389.
- Schlüter, S., Albrecht, L., Schwärzel, K., & **Kreiselmeier, J.** (2020). Long-term effects of conventional tillage and no-tillage on saturated and near-saturated hydraulic conductivity – can their prediction be improved by pore metrics obtained with X-ray CT?. *Geoderma*, 361, Article 114082.
- Nguyen, T. H.**, Helm, B., Hettiarachchi, H., Caucci, S., & Krebs, P. (2020). Quantifying the information content of a water quality monitoring network using principal component analysis: A case study of the Freiburger Mulde river basin, Germany. *Water (Switzerland)*, 12(2), Article 420.

2019

- Patra, S.**, Julich, S., Feger, K.-H., Jat, M. L., Jat, H., Sharma, P. C., & Schwärzel, K. (2019). Soil hydraulic response to conservation agriculture under irrigated intensive cereal-based cropping systems in a semiarid climate. *Soil and Tillage Research*, 192, 151–163.
- Alapati, U., **Jampani, M.**, & Sukhtankar, R. K. (2019). Geomorphic response of the river basin drainage in seismically active regions of India. *Environmental Earth Sciences*, 78(16), Article 532.
- Benavides, L., Avellán, T., Caucci, S., Hahn, A., Kirschke, S., & **Müller, A.** (2019). Assessing sustainability of wastewater management systems in a multi-scalar, transdisciplinary manner in Latin America. *Water (Switzerland)*, 11(2), Article 249.
- Twisa, S.**, & Buchroithner, M. F. (2019). Land-use and land-cover (LULC) change detection in Wami river basin, Tanzania. *Land*, 8(9), Article 136.

- Gebrechorkos, S. H.**, Bernhofer, C., & Hülsmann, S. (2019). Impacts of projected change in climate on water balance in basins of East Africa. *Science of the Total Environment*, 682, 160–170.
- Weninger, T., **Kreiselmeier, J.**, **Chandrasekhar, P.**, Julich, S., Feger, K.-H., Schwärzel, K., Bodner, G., & Schwen, A. (2019). Effects of tillage intensity on pore system and physical quality of silt-textured soils detected by multiple methods. *Soil Research*, 57(7), 703–711.
- Chandrasekhar, P.**, **Kreiselmeier, J.**, Schwen, A., Weninger, T., Julich, S., Feger, K.-H., & Schwärzel, K. (2019). SPorDyn: A python code for modeling the evolution of soil pore size distribution after tillage. *MethodsX*, 6, 2118–2126.
- Gebrechorkos, S. H.**, Hülsmann, S., & Bernhofer, C. (2019). Changes in temperature and precipitation extremes in Ethiopia, Kenya, and Tanzania. *International Journal of Climatology*, 39(1), 18–30.
- Gebrechorkos, S. H.**, Hülsmann, S., & Bernhofer, C. (2019). Statistically downscaled climate dataset for East Africa. *Scientific Data*, 6(1), Article 31.
- Chandrasekhar, P.**, **Kreiselmeier, J.**, Schwen, A., Weninger, T., Julich, S., Feger, K.-H., & Schwärzel, K. (2019). Modeling the evolution of soil structural pore space in agricultural soils following tillage. *Geoderma*, 353, 401–414.
- Twisa, S.**, & Buchroithner, M. F. (2019). Seasonal and annual rainfall variability and their impact on rural water supply services in the Wami river basin, Tanzania. *Water (Switzerland)*, 11(10), Article 2055.
- Sonkamble, S., Sahya, A., **Jampani, M.**, Ahmed, S., & Amerasinghe, P. (2019). Hydro-geophysical characterization and performance evaluation of natural wetlands in a semi-arid wastewater irrigated landscape. *Water Research*, 148, 176–187.
- Patra, S.**, Julich, S., Feger, K.-H., Jat, M. L., Sharma, P., & Schwärzel, K. (2019). Effect of conservation agriculture on stratification of soil organic matter under cereal-based cropping systems. *Archives of Agronomy and Soil Science*, 65(14), 2013–2028.
- Kreiselmeier, J.**, **Chandrasekhar, P.**, Weninger, T., Schwen, A., Julich, S., Feger, K.-H., & Schwärzel, K. (2019). Quantification of soil pore dynamics during a winter wheat cropping cycle under different tillage regimes. *Soil and Tillage Research*, 192, 222–232.
- Nguyen, T. H.**, Helm, B., Hettiarachchi, H., Caucchi, S., & Krebs, P. (2019). The selection of design methods for river water quality monitoring networks: A review. *Environmental Earth Sciences*, 78(3), Article 96.
- Gebrechorkos, S. H.**, Hülsmann, S., & Bernhofer, C. (2019). Long-term trends in rainfall and temperature using high-resolution climate datasets in East Africa. *Scientific Reports*, 9(1), Article 11376.

2018

- Kurian, M., Portney, K. E., Rappold, G., Hannibal, B., & **Gebrechorkos, S. H.** (2018). Governance of water-energy-food nexus: A social network analysis approach to understanding agency behaviour. *Managing Water, Soil and Waste Resources to Achieve Sustainable Development Goals: Monitoring and Implementation of Integrated Resources Management*, 125–147.

- Gadédjisso-Tossou, A.**, Avellán, T., & Schütze, N. (2018). Potential of deficit and supplemental irrigation under climate variability in northern Togo, West Africa. *Water (Switzerland)*, 10(12), Article 1803.
- Jampani, M.**, Huelsmann, S., Liedl, R., Sonkamble, S., Ahmed, S., & Amerasinghe, P. (2018). Spatio-temporal distribution and chemical characterization of groundwater quality of a wastewater irrigated system: A case study. *Science of the Total Environment*, 636, 1089–1098.
- Weninger, T., Bodner, G., **Kreiselmeier, J.**, **Chandrasekhar, P.**, Julich, S., Feger, K.-H., Schwärzel, K., & Schwen, A. (2018). Combination of measurement methods for a wide-range description of hydraulic soil properties. *Water (Switzerland)*, 10(8), Article 1021.
- Chandrasekhar, P.**, **Kreiselmeier, J.**, Schwen, A., Weninger, T., Julich, S., Feger, K.-H., & Schwärzel, K. (2018). Why we should include soil structural dynamics of agricultural soils in hydrological models. *Water (Switzerland)*, 10(12), Article 1862.
- Sonkamble, S., Wajihuddin, M., **Jampani, M.**, Sarah, S., Somvanshi, V., Ahmed, S., Amerasinghe, P., & Boisson, A. (2018). Natural treatment system models for wastewater management: A study from Hyderabad, India. *Water Science and Technology*, 77(2), 479–492.
- Mehta, H., Kumar, R., Dar, M. A., Juyal, G., **Patra, S.**, Dobhal, S., Rathore, A., Kaushal, R., & Mishra, P. (2018). Effect of geojute technique on density, diversity and carbon stock of plant species in landslide site of North West Himalaya. *Journal of Mountain Science*, 15(9), 1961–1971.

Annex D. Terms of Reference for Doctoral Researcher Representatives

Aim:

The doctoral researcher representatives serve as the representative voice for the doctoral researchers in the doctoral programmes at UNU Resource Nexus.

Term:

- A doctoral representative will serve for one year.
- At any given point in time, there will be two doctoral representatives:
 1. The main representative is the first point of contact for attending meetings and representing the doctoral researchers; and
 2. The alternative representative who steps in when the main representative is not available.
- Every six months, a new doctoral representative is selected. The newly elected representative moves into the position of main representative, while the main representative becomes the alternative representative. In this way, continuity is ensured.

Eligibility:

- The candidate must be in the programme for at least 9 months and have at least a year left on their contract.

Responsibilities:

- **Liaison between doctoral researchers and management**, ensuring concerns and needs of the cohort are effectively communicated in both directions.
 - This includes advocating for their rights, representing their interests in decision-making, and ensuring transparency on programme developments, funding, and academic guidelines.
 - This requires regular engagement with peers to collect feedback and sentiment.
- **Represent doctoral researchers at institutional fora and meetings**, such as the Management Meeting (MMs) and meetings of the JAC.
- **Facilitate communication and a sense of community among doctoral researchers**, e.g., by including them in communications on Teams, WhatsApp groups, arranging or supporting social events that are for doctoral researchers only.

Last update: 3 February 2025