

CONTACT & INTERESTS

Research interests: soil erosion | land degradation | sustainable agriculture | soil mapping | soil conservation | aggregate stability | soil compaction | soil health

Languages: German, English, Italian, Spanish

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EMPLOYMENT

02/2024 – present **BorrelliLab**
Department of Science, University Roma Tre, Italy
 EU-Projects: AI4SoilHEalth & Soil-O-Live

07/2022 – 02/2024 **Team Earth Observation**
Thuenen Institute of Farm Economics, Braunschweig, Germany
 Postdoc - Focus: National Soil Erosion Modelling

Institute for Landscape Ecology and Geoinformation Science
Department of Geography, Kiel University, Germany
 Postdoc - Focus: Harvest Erosion and Digital Soil Mapping

07/2016 – 07/2022 **Institute for Landscape Ecology and Geoinformation Science**
Department of Geography, Kiel University, Germany
 PhD Candidate/Research Assistant
 Focus: Soil Erosion and Digital Soil Mapping

04/2016 – 08/2016 **Institute for Physical Geography und Landscape Ecology**
University of Hanover, Germany
 Research Assistant – Focus: Soil Erosion Modelling

EDUCATION

07/2016 – 06/2022 **PhD in Physical Geography**
 Kiel University, Germany
 Doctor Thesis: „Integrating soil compaction effects into process-based water erosion modelling. Addressing the role of tramlines for sediment and water transport in agricultural landscapes.”

10/2012 – 03/2016 **Master of Science in Landscape Sciences**
 University of Hanover, Germany
 Master Thesis: „Actual Soil Erosion Risk in Germany. Estimating water and wind erosion risk using physical and empirical modelling approaches. “

10/2009 – 09/2012 **Bachelor of Science in Physical Geography**
 University of Hanover, Germany
 Bachelor Thesis: „Soil erosion risk in northwestern Switzerland and the adaptation of agricultural management on at-risk areas. An Investigation on 80 plots in the Canton of Basel-Landschaft.“

PUBLICATIONS

- Saggau, P.**, F. Busche, J. Brunotte, R. Duttmann and M. Kuhwald (2024): Effects of contour farming and tillage on soil erosion processes in a hummocky watershed. A process-based model approach highlighting the role of tramline tracks. In: Soil & Tillage Research DOI: <https://doi.org/10.1016/j.still.2024.106144>
- Saggau, P.**, Kuhwald, M. and R. Duttmann (2023): Effects of contour farming and tillage on soil erosion processes in a hummocky watershed. A process-based model approach highlighting the role of tramline tracks. In: CATENA. DOI: <https://doi.org/10.1016/j.catena.2023.107126>
- Haas, C., Horn, R., **Saggau, P.** and R. Duttmann (2022): Viscoelasticity and shear resistance at the aggregate-scale of structured and organic carbon-free chernozems. In: Pedosphere. DOI: [10.1016/j.pedsph.2022.07.003](https://doi.org/10.1016/j.pedsph.2022.07.003)
- Saggau, P.** (2022) Integrating soil compaction effects into process-based water erosion modelling: Addressing the role of tramlines for sediment and water transport in agricultural landscapes. Dissertation, Kiel University. https://macau.uni-kiel.de/receive/macau_mods_00002849
- Kuhwald, M., Busche, F., **Saggau, P.** and R. Duttmann (2022): Is soil loss due to crop harvesting the most disregarded soil erosion process? A review of harvest erosion. In: Soil & Tillage. DOI: [10.1016/j.still.2021.105213](https://doi.org/10.1016/j.still.2021.105213)
- Saggau, P.**, Kuhwald, M., Hamer, W. B. and R. Duttmann (2022): Are compacted tramlines underestimated features in soil erosion modelling? A catchment-scale analysis using a process-based soil erosion model. In: Land Degradation and Development. DOI: [10.1002/ldr.4161](https://doi.org/10.1002/ldr.4161)
- Rendón, P., Steinhoff-Knopp, B., **Saggau, P.** and B. Burkhard (2020): Assessment of the relationships between agroecosystem condition and soil erosion regulating ecosystem service in Northern Germany. In: PLoS ONE 15 (12), p. 1-28. DOI: [10.1371/journal.pone.0234288](https://doi.org/10.1371/journal.pone.0234288).
- Kuhwald, M., Hamer, W. B., **Saggau, P.** and R. Duttmann (2020): Advances in dynamic modelling of landscape processes: the example of soil compaction. In: GEOÖKO 41 (1-2), p. 95–114.
- Dreibrodt, S., R. Hofmann, G. Sipos, L. Schwark, M. Videiko, L. Shatilo, S. Martini, **P. Saggau**, R. Duttmann, H. R. Bork, W. Kirleis, J. Müller: Climate driven Holocene erosion in central Ukraine. Submitted on: December 03, 2019. In: Geomorphology. DOI: [10.31223/osf.io/zjk7u](https://doi.org/10.31223/osf.io/zjk7u)
- Saggau, P.**, Kuhwald, M. and R. Duttmann (2019): Integrating Soil Compaction Impacts of Tramlines into Soil Erosion Modelling: A Field-Scale Approach. In: Soil Systems 2019, 3(3), p. 51. DOI: [10.3390/soilsystems3030051](https://doi.org/10.3390/soilsystems3030051).
- Dal Corso, M., Hamer, W., Hofmann, R., Ohlrau, R., Shatilo, L., Knitter, D., Dreibrodt, S., **Saggau, P.**, Feeser, I., Knapp, H., Benecke, N., Müller, J. and W. Kirleis (2019): Modelling landscape transformation at the Chalcolithic Tripolye mega-site of Maidanetske (Ukraine): Wood demand and availability. The Holocene. DOI: [10.1177/0959683619857229](https://doi.org/10.1177/0959683619857229).
- Saggau, P.**, Bug, J., Gocht, A. and K. Kruse (2017): Aktuelle Bodenerosionsgefährdung durch Wind und Wasser in Deutschland. In: Bodenschutz 4, 17, S. 120-125.

TEACHING EXPERIENCE

Lecture ¹	Degree	Period and Number ²
Geographic Information Systems I (Exercise, 1 cred.)	[B.Sc., Edu]	WT 2021/22 x 2 WT 2017/18 x 1 WT 2016/17 x 1
Physical Geography II (Seminar and Exercise, 2 cred.)	[B.Sc., Edu]	ST 2021 x 6 ST 2020 x 4 ST 2019 x 2 ST 2018 x 3 ST 2017 x 1
Physical Geography II (Field Trips, 0.5 cred.)	[B.Sc., Edu]	ST 2022 x 8 ST 2021 x 6 ST 2020 x 6 ST 2018 x 4 ST 2017 x 3
Landscape ecological analysis of soil degradation processes (Study project, 4 cred.)	[B.Sc.]	ST 2023 x 1
Soil erosion risk assessments: An investigation at different spatial scales (Study project, 4 cred.)	[B.Sc.]	WT 2020/21 x 1
Soil Conservation in agricultural landscapes (Study project, 4 cred.)	[M.Sc.]	WT 2019/20 x 1
Landscape ecological analysis of soil erosion processes in agricultural landscapes (Study Project, 4 cred.)	[B.Sc.]	WT 2019/20 x 1 WT 2017/18 x 1
Soil Conservation in Practice (Study project, 4 cred.)	[B.Sc.]	WT 2018/19 x 1
Analysis and Spatial Modelling of Environmental Processes (Study project, 4 cred.)	[M.Sc.]	WT 2018/19 x 1
Modelling Landscape Processes (Seminar and Exercise, 2 cred.)	[M.Sc.]	ST 2017 x 1
Excursion Ukraine (14 days Field Trip, 4 cred.)	[M.Sc.]	WT 2017/18 x 1
Spatial Data Handling (Exercise in English language, 1 cred.)	[M.Sc.]	WT 2017/18 x 2 WT 2016/17 x 2

¹Translated name and type of lecture (1 Credit Point equals 1 hour of active teaching per week during each term)

² Number of lecture courses per term (WT = Winter term, ST = Summer Term)