

Prof. Dr. Jutta Geldermann



Prof. Dr. Jutta Geldermann is Full Professor and Chair Holder of Business Administration and Production Management at the University of Duisburg-Essen, Faculty of Engineering. After her diploma degree in industrial engineering and management, obtaining her doctorate and postdoctoral lecturing qualification at the University of Karlsruhe (now KIT - Karlsruhe Institute of Technology), she was Full Professor and Chair Holder of Production and Logistics at the Georg-August-University of Göttingen from 2006 to 2018. From 2009 to 2018, she served as a board member of the Energy Research Center of Lower Saxony (efzn). She was the chairperson of the German Academic Association for Business Research (VHB) from 2023 to 2024.

She has conceived and conducted over 50 research projects aimed at improving resource and energy efficiency, funded by industry, the German Research Foundation (DFG), the Volkswagen Foundation, the European Union (EU), and various ministries. Currently, she is President of the German Association of Operations Research - GOR (German Association of Operations

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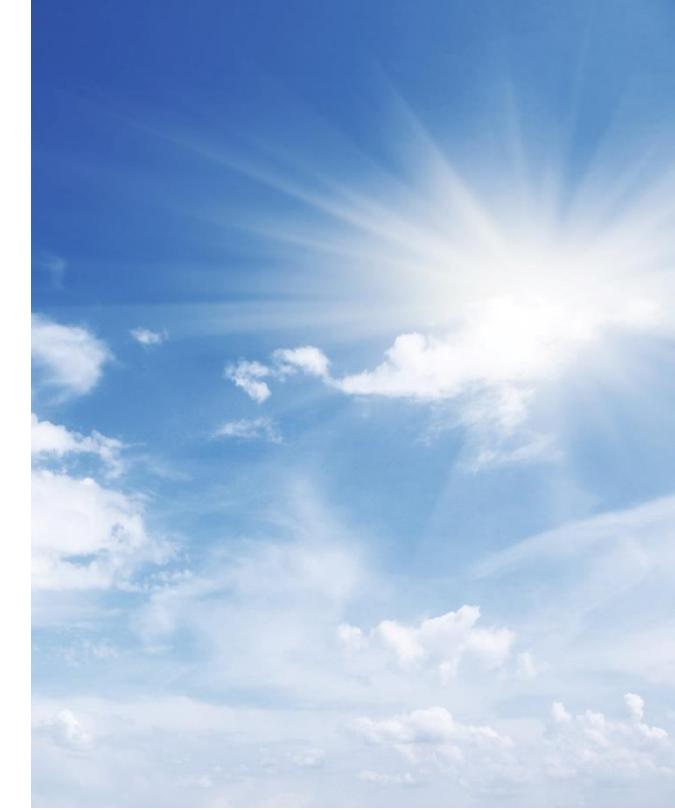
Chair of Business Administration and Production Management

Universität Duisburg-Essen
Faculty of Engineering/Institute of Industrial Engineering
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Teaching

Our lectures, seminars, practical talks, and excursions are primarily for students of industrial engineering and management but also open to students of engineering sciences in general. Bachelor's and Master's theses are supervised as part of our ongoing research projects or in cooperation with industry partners.

Our students learn methods for decision-making in production management. Operations Research (OR) techniques include mathematical models, algorithms, and data analysis, and are applied to case studies from various industrial sectors.

Bachelor:

- Operations Research for Industrial Engineering and Management
- Sustainable Production Management
- Bachelor Seminar

Master:

- Supply Chain Management (POM 1)
- Plant and Equipment Planning (POM 2)
- Master Seminar

Academic Services

From 2025 to 2026, Prof. Dr. Geldermann serves as the honorary chairperson of the **German Society for Operations Research (GOR e.V.)** and is supported by Jonas Wesseling as the board assistant.

Contact: jonas.wesseling@uni-due.de

Research

Our research projects focus on planning and decision-making models to improve resource and energy efficiency in individual companies and across value chains. We use Operations Research methods - especially multi-criteria decision support - and life cycle assessment (LCA) to evaluate sustainability.

Selected research projects

EMSARZEM - Usage of Waste Incineration Slag as a Raw Material for Cement Production

Slag from waste incineration contains valuable metals such as copper, as well as minerals that have so far only been partially utilized. Project partners have investigated how especially the fine fractions of slag can be better processed to recover metals and minerals as high-quality secondary raw materials. This approach helps to conserve natural resources like sand and limestone, reduce CO₂ emissions, and contribute to a sustainable circular economy. We assess the ecological and economic impacts of these innovative processing methods.

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HKM – Life Cycle Assessment for Hüttenwerke Krupp Mannesmann GmbH

All relevant emissions associated with the production of one ton of steel were recorded and assessed in a life cycle assessment according to ISO 14040 and 14067.

OR4Sustainability – Digital Learning Program „Operations Research for Sustainability: Energy, Mobility, Industry“

In collaboration with Ruhr University Bochum and RWTH Aachen, current challenges and solution approaches from our research projects have been prepared for use in teaching. The case studies on designing sustainable energy and mobility systems as well as for supply chain management are freely accessible on the ORCA.nrw online portal.

Contact: Isabel Wiemer
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SALAM 2 - Transboundary Strategies for Integrated Water Resources Management for Solving the Water Deficit Problem in the Middle East

Since freshwater resources in Palestine and Jordan are nearly depleted, project partners have developed concepts for water extraction, distribution, intermediate storage, and reuse. Our task was the techno-economic assessment of the various technical alternatives, evaluating aspects such as energy efficiency, cost-effectiveness, and impacts on wastewater management and groundwater protection.

SustEnergyPort - Simulation-Based Assessment of Measures to Increase Energy Sustainability in Port Operations

The operational processes of a Hamburg port terminal were systematically analyzed and evaluated regarding their energy potential, feasibility, and economic and ecological impacts.