



Mathematics & Mathematics Education Seminar



4 MARCH 2026

WEDNESDAY

2.15 to 3.15 pm



MATH LAB 1 (NIE7-B1-01)

Insights into AI-Supported Solving of Mathematical Modelling Tasks by Secondary School Students – Prompt Techniques and the Role Of Trust with ChatGPT

Although Gallart et al. (2025) and Noster et al. (2024) have investigated the use of ChatGPT by prospective teachers, the use of ChatGPT by learners, particularly in mathematics, remains unexplored. Students use ChatGPT extensively both as a tool for completing assignments and as a source of knowledge, raising concerns about their interaction with the tool. To explore this question, our study focuses on how 10 learners in grades 9 and 10 explore ChatGPT, how they structure their prompts, and what actions they take during the mathematical modelling process. The study design was specifically chosen to allow students to interact with ChatGPT in order to gain insights into their usage and prompt behaviour. In addition to recording all chat histories and solutions on paper, interviews were also conducted. Interesting results on prompt techniques and the relationship of trust with ChatGPT from the learners' perspective, among others, will be presented.

Speaker's Biography

Prof. Rita Borrromeo Ferri studied Mathematics and Geography, received her 1st and 2nd State Exam to be a full teacher for primary and secondary schools. Since 2011 Rita is a full Professor of mathematics education at University of Kassel and was a Visiting Professor at University of Hamburg from 2007 to 2011. In 2004 she got her doctoral degree (Dr. phil.) and in 2010 her Habilitation in Mathematics Education at University of Hamburg. She worked as a Guest Professor at Teachers College of Columbia University in New York City in 2013 and 2014 and is Scientific Consultant there since 2018. In 2010 Rita got a Teaching Award from the University of Hamburg and in 2018 she won together with Prof. Andreas Meister again a Teaching Award from the Ministry of Science and Education of the State of Hesse for the University Seminar "Modelling Days". In 2016 and in 2021 she was awarded from the Stifterverband and the Daimler Benz Foundation for the project MINTERFACE and doKuMINTa – both are STEAM-projects for learners and University students. Furthermore, in 2022 Rita is awarded as a STEM-Ambassador from the German national STEM-Association. Rita was Vice-Chair of ICTMA-14 in Hamburg and gave an invited Regular Lecture at the ICME 12 in Seoul and held a plenary at ICTMA 14 in Hongkong. Her research areas are Mathematical Modelling in school and teacher education, Interdisciplinary Mathematics and STEM Education, Education for Sustainable Development (ESD) through Modelling. Rita is the Co-founder, leader and speaker of the STEM-Hub at University of Kassel.



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