Dear colleagues,

The Center for Healthcare Operations Improvement and Research (**CHOIR**) at the University of Twente announces the 28th talk in the **ORAHS International Seminar Series**.

The ORAHS International Seminars are usually planned monthly via MS Teams in the late afternoon (Europe), morning (US), or evening (Asia/Pacific) and are part of the EURO Online Seminar Series.

On **13 May 2025,** at **16:00 (CEST)**, Dr. **Anne Zander** (University of Twente, The Netherlands) will talk about "*Collaborative Capacity Allocation and Patient Steering: Hospital Planning in a Pandemic*".

Please save the date and register for this seminar here:
https://events.teams.microsoft.com/event/73cc2b68-1bcc-4742-a4fe-63338e205d77@723246a1-c3f5-43c5-acdc-43adb404ac4d

*Abstract*: Pandemics significantly strain healthcare systems, affecting both infectious and regular care. During the COVID-19 pandemic, hospitals faced severe challenges, including uncertainty concerning the number of infectious patients needing hospitalization and too little regional cooperation. This led to inefficient usage of healthcare capacity. To better prepare for future pandemics, we propose central regional decision-making about opening and closing (regular care) hospital rooms for infectious patients and assigning new infectious patients to regional hospitals. Since the relabeling of rooms takes some lead time, we make decisions with a stochastic look-ahead approach using stochastic programming with sample average approximation based on predictions of the number of occupied infectious beds and infectious patients needing hospitalization. The look-ahead approach produces high-quality decisions by measuring the impact of current decisions on future costs, such as costs for bed shortages, unutilized beds for infectious patients, and opening and closing rooms. Our simulation study applied to a COVID-19 scenario in the Netherlands demonstrates that the stochastic look-ahead approach outperforms a deterministic approach as well as other heuristic decision rules such as hospitals acting individually and implementing a pandemic unit, i.e., one hospital is designated to take all regional infectious patients until full.

*Bio:* Dr. **Anne Zander** is an Assistant Professor in the Stochastic Operations Research group at the Department of Applied Mathematics at the University of Twente and a member of CHOIR (Center for Healthcare Operations Improvement & Research). Her research focuses on Sequential Decision-Making, applying methods such as Stochastic Programming and Reinforcement Learning to healthcare logistics challenges. She is involved in several national (ZonMw) and international (European Horizon, Interreg) research projects related to capacity allocation and patient steering, e.g., in a cross-border context or during infectious outbreaks. In addition, she co-initiated a Strategic Research Initiative within 4TU. AMI (joint initiative of the mathematics departments of the four technical universities in the Netherlands) to set up a Dutch mathematical community for Sequential Decision-Making. In 2021, Dr. Zander earned her PhD from the Karlsruhe Institute of Technology, Germany, where she also completed her studies in Mathematics.

More information about Anne Zander can be found here:
https://people.utwente.nl/a.b.zander
For more information about our seminar presentations, please follow this link:
https://www.utwente.nl/en/choir/research/ORAHS-International-Seminar-Series/

We look forward to seeing you soon and often in the ORAHS International Seminar Series.

CHOIR Group
University of Twente