

The Center for Healthcare Operations Improvement and Research (**CHOIR**) at the University of Twente announces the 35th talk in the **ORAHS International Seminar Series**.

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

On **14 April 2026, at 16:00 (CEST)**, Dr. Jim Duggan (University of Galway, Ireland) will talk about “A *qualitative system dynamics model to support pandemic preparedness*”.

Please save the date and register for this seminar here:

<https://events.teams.microsoft.com/event/7553df83-7e1d-466a-989d-1ad8328bf5c5@723246a1-c3f5-43c5-acdc-43adb404ac4d>

*Abstract:* Pandemic preparedness is a multi-stakeholder process with significant dynamic complexity, and system dynamics is well-positioned to support this process. One of the observable effects of pandemics on health systems is the resulting imbalances between supply and demand, as successive waves of infection can quickly overwhelm regular care services. Qualitative system dynamics modelling - systems archetypes - can play a valuable role in understanding these dynamics. In particular, the systems archetype out of control is relevant, as it provides a framework to capture control actions to mitigate the challenge; system reactions to these control actions; and solution archetypes that can be used to mitigate the system reaction. This talk presents an out-of-control archetype for pandemic planning and response. This qualitative model is informed by research literature, and by feedback gained within the RAPIDE European Research Project. The model outputs will contribute to the model building process to design and implement a management flight simulator to support multi-stakeholder pandemic simulation exercises.

*Bio:* Jim Duggan is a Personal Professor in Computer Science at the University of Galway, and his research interests centre on the application of system dynamics modelling and data science to support public health policy. He has collaborated with the Health Protection Surveillance Centre at the Health Service Executive on modelling for seasonal influenza and was a member of the Irish Epidemiological Modelling Advisory Group as part of Ireland's COVID-19 response. He is a member of the World Health Organization's Collaboratory Technical Advisory Group, which advises the **Collaboratory**, a laboratory of Pandemic and Epidemic Intelligence, hosted in the WHO Berlin.

More information about our speaker can be found here:

<https://research.universityofgalway.ie/en/persons/james-duggan/>

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