



Wittgenstein Centre

FOR DEMOGRAPHY AND  
GLOBAL HUMAN CAPITAL



ÖAW



The seminar will be held online via  
Zoom

## WIC Online Colloquium

### On the Momentum of Pseudo-Stable Populations

Monday, May 9th, 2022  
117.00 - 18.00 (CET)

Please click [here](#) to register online.  
Login information will be sent to registered  
participants shortly before the presentation.

#### Roland Rau

Max-Planck-Institute for Demographic Research

Stable population theory remains the standard model for the analytical study of population dynamics. It assumes a closed female population with time-invariant but age-specific fertility and mortality. We begin with a quick refresher about the transient and long-term effects of these assumptions (e.g., the intrinsic rate of growth and the age structure) as well as the classic case of population momentum.

Pseudo-stable populations relax the strict fertility assumption: It allows fertility to decline at a constant rate. We show analytically and via simulations how births, population size, population momentum and other characteristics develop in this scenario with varying fertility transition speeds.

#### About the presenter

Roland Rau is Professor of Demography at the University of Rostock and Senior Research Scientist at the Max Planck Institute for Demographic Research. His main research interests are at the intersection of demography, epidemiology and statistics. He fell in love with demography about 25 years ago when he attended his first demography course which focused on population dynamics and stable population theory. The love for mathematical demography is still there but Roland devotes too little time on it. Roland hopes that his current collaboration with Gustav Feichtinger will change this for the better.

The Wittgenstein Centre is a collaboration among the Austrian Academy of Sciences (OeAW), the International Institute for Applied Systems Analysis (IIASA) and the University of Vienna.

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