



TECHNISCHE UNIVERSITÄT  
CHEMNITZ

# Institut für Physik

## Physikalisches Kolloquium

- Online-Veranstaltung -



**Mittwoch, 07.07.2021, um 11:15 Uhr**

**Prof. Dr. Michèle Tertilt**

Universität Mannheim

Professur für Makro- und Entwicklungsökonomie

## **An economic model of the Covid-19 pandemic with young and old agents: Behavior, testing and policies**

The talk investigates the importance of the age composition in the Covid-19 pandemic. We augment a standard SIR epidemiological model with individual choices on work and non-work social distancing. Infected individuals are initially uncertain unless they are tested. We find that older individuals socially distance themselves substantially in equilibrium. An optimal lockdown then confines the young more. The strictness and economic costs of the optimal lockdown depend on whether or not individuals can telework. Testing and quarantines save lives, even if conducted just on the young. When some testing is available, the optimal lockdown is much lighter and the gross domestic product rises even compared with a no-policy benchmark.

