

# Stefan Wrzaczek

## Curriculum Vitae

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### Affiliation

International Institute for Applied Systems Analysis (IIASA), Economic Frontiers  
Schlossplatz 1, 2361 Laxenburg

### Further affiliation

Wittgenstein Centre (IIASA, OeAW, University of Vienna)

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### Educational attainment

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| 2016      | Habilitation (venia docendi) in “ <i>Operations Research</i> ”, completion: December 20, 2016 (Priv.doz.)<br>Institute of Statistics and Mathematical Methods in Economics (Vienna University of Technology) |
| 2004-2005 | PhD study in Technical Sciences (Technical Mathematics) at the Vienna University of Technology, completion: July 4, 2005 (Dr. techn.)  |
| 1999-2004 | Study of Technical Mathematics (Mathematical Economics) at the Vienna University of Technology, completion: Jan. 26, 2004 (Dipl.-Ing.)   |

### Previous and current position

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| Since 05/2021 | Research scholar at International Institute for Applied Systems Analysis (IIASA) |
| 2016          | Research associate at Vienna Institute of Demography (VID/ÖAW)                   |
| 2013-2015     | Research associate and project leader at the University of Vienna                |
| 2011-2012     | Research associate at Vienna Institute of Demography (VID/ÖAW)                   |
| 2005-2012     | Research associate at the Vienna University of Technology                        |

### Research Fields

Optimal control theory, differential game theory, environmental economics and disruptive changes, population dynamics

### Key contributions:

- Development of innovative transformation from two-stage optimal control models with random transition into vintage optimal control models (Wrzaczek et al. 2020)

- Characterization of a Skiba threshold in an optimal control model with finite time horizon (Seidl et al. 2016)
- Development of vintage-structured capital accumulation differential game (Wrzaczek and Kort, 2012)
- Development of overlapping generations differential game (Wrzaczek et al. 2014, Wrzaczek 2021)
- Dynamical representation of the market entry problem in a duopolistic capital accumulation scenario together with assessing market scenarios implying different market structures (Kort and Wrzaczek 2015)

## Scientific Achievements

### Awards and scholarships

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| 2005 | Austrian Society of Operations Research (OeGOR) – Bank Austria Creditanstalt Award for Operations Research 2005 for the Dissertation “A Multi-Period Allocation Mechanism for Network Resources”                                       |
| 2004 | Best Paper Award for “Multi-Period Auctions for Network Resources” (together with P. Reichl and S. Bessler), 11 <sup>th</sup> International Telecommunications Network Strategy and Planning Symposium, Networks 2004, Vienna, Austria |

### Grants

- Changing market structures in intertemporal optimization:  
Stand-alone FWF-project (P 25275-G11, 2013-2015): 215.494,44 €
- Life-cycle behaviour in the face of large shocks to health:  
Stand-alone FWF-project (P 30665-G27, 2018-2020): 384.383,16 €

### Organisational tasks

- Austrian Society of Operations Research (OeGOR),  
Co-Leader of the OeGOR-working group ‘Optimal Control and Dynamic Games’
- Member of Program committee 31<sup>th</sup> European Conference on Operational Research (EURO 2021), July 11-14, 2021, Athens, Greece.
- Member of Program committee 29<sup>th</sup> European Conference on Operational Research (EURO 2018), July 8-11, 2018, Valencia, Spain.
- Co-organizer of 1<sup>st</sup> and 2<sup>nd</sup> Workshop ‘Mathematical models on Resilience and disruptive changes’, Laxenburg, Austria.
- Member of the organization committee of the 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> Viennese vintage workshop (Heterogeneous Dynamic Models of Economic and Population Systems), Vienna.
- Organizer of streams and sessions of the 27<sup>th</sup>, 28<sup>th</sup>, 30<sup>th</sup>, 32<sup>nd</sup> and 33<sup>rd</sup> European Conference on Operational Research (2015 Glasgow, 2016 Poznan, 2019 Dublin, 2022 Helsinki, 2024 Copenhagen)
- Organizer of various sessions on ‘Dynamic Games’, ‘Health Economics’ and ‘Epidemics and Covid-19: optimal control approaches’ at the 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> Viennese Conference on Optimal Control and Dynamic Games, Vienna.