Martin Šmíd

Institute of Information Theory and Automation of the CAS, Pod Vodárenskou věží 4, Praha 8. CZ 182-08, smid@utia.cas.cz

Education

2004 – Ph.D. from Charles University, Prague

- in Econometrics and Operations Research
- dissertation: On Approximation of Stochastic Programming Problems

1997 – M.Sc. from Charles University, Prague

- in Econometrics

Research interests

decision-making under uncertainty
stochastic models
multistage stochastic optimization
epidemic modelling

Employment History

2002 – now: Institute of Information Theory and Automation of the Czech Academy of Sciences

- research fellow
- department of Econometrics

2006 – now: Charles University, Prague

- teaching assistant at the Faculty of Social Sciences (2006- 8)
- researcher at the Faculty of Mathematics and Physics (2022-now)
- PhD thesis supervisor (two graduates so far)

2001 – 2005: University of Economics, Prague, Jindřichův Hradec

- teaching assistant (Optimization methods, Mathematical economics)
- teacher (Statistics)

1992 – 1998: Notia, Inc, Prague

- programmer-analyst

Recent Research

COVID-19 pandemics (Šmíd 2022)
microstructure models of limit order markets (Šmíd 2016, Šmíd 2012)
multistage decision models (Zapletal et al. 2020, Kopa and Šmíd 2023)

Skills

Econometrics, mathematical modelling, probability theory, C++ programming

Other interests

Klezmer music, poetry, prose (all actively)

Funding

2006 – 2008: Mathematical modelling of the microstructure of financial markets with the non-synchronous trading
- principal researcher
- assessed as excellent by Czech Science Foundation

2010 – 2012: Rational decision making at markets with asynchronous trading: theory and empirical evidence
- principal researcher
- assessed as excellent by Czech Science Foundation

2013 – 2015: Research team for the modelling of economic and financial processes at VSB-TU Ostrava (funded by EU)
- head of the project partner's team

2015 – 2017: Dynamic modelling of mortgage portfolio risk
- principal researcher

2016 – 2018: Dynamic decision-making of a steel producer under emission control
- principal researcher

2019 – 2021: Arbitrage on limit order markets with boundedly rational agents
- principal researcher

2020 – 2021: City for People, not for Virus
- joint project of four institutions, 15 members team
- principal researcher

ten other projects
- member of a research team

Membership

2008 – 2012: The Grant Agency of the AS CR, Prague
- vice-chair of the Council for Humanities and Social Sciences

2012 – 2022: Faculty of Mathematics and Physics, Charles University
- member of the Doctoral Council of Financial and Insurance Mathematics Programme

2015 – now: Kybernetika
- associated editor

2017 – 2021: Czech Science Foundation
- member of the Panel for Economic Sciences, Macroeconomics, Microeconomics, Econometrics, Quantitative Methods in Economics

2020 – now: Model antiCOVID-19 for Czech Republic
- member of the initiative

2022 – now: National Institute for Pandemic Management (advisory body of Ministry of Health)
- member of the Analytical Group

Selected Publications

KOPA Miloš and ŠMÍD Martin. Contractivity of Bellman operator in risk averse dynamic programming with infinite horizon. Operations Research Letters 2023; 51(2)

ŠMÍD Martin et al. Protection by Vaccines and Previous Infection Against the Omicron Variant of Severe Acute Respiratory Syndrome Coronavirus 2. *Journal of Infectious Diseases* 2022

ZAPLETAL Framtišek, ŠMÍD Martin, and KOPA Miloš. Multistage emissions management of a steel company. *Annals of Operations Research* 2020; 292(2)

ŠMÍD Martin. Estimation of zero-intelligence models by L1 data, Quantitative Finance 2016; 16(9)

ŠMÍD Martin. Probabilistic properties of the continuous double auction. *Kybernetika,* 2012; 48(1)

ŠMÍD Martin. The expected loss in the discretization of multistage stochastic programming problems - estimation and convergence rate. *Annals of Operations Research* 2009; 165(1)