

# Curriculum Vitae

## Bernhard Rengs

### Personal Details

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### Education

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2007 Ph.D. (Dr.rer.soc.oec.) with honors in Social Sciences and Economics  
Specialization: Economics and Computer Science ('Wirtschaftsinformatik') at  
Technische Universität Wien  
Thesis title: *Visualisierung dynamischer makroökonomischer Modelle*  
(*Visualization of dynamic macroeconomic models*)

2002 – 2008 Further master-level courses in Computer Science (Software Engineering &  
Internet Computing) at Technische Universität Wien

2000 Master Degree (Mag.rer.soc.oec) in Social Sciences and Economics  
Economics and Computer Science ('Wirtschaftsinformatik') at Technische  
Universität Wien and University of Vienna  
Specialization areas: Applied Game Theory and Artificial Intelligence  
Thesis title: *Ökonomische Paradoxa aus spieltheoretischer Sicht*  
(*Gametheoretic approaches to Economic Paradoxa*)

### Scientific Work Experience

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2021 - Postdoctoral researcher (Academy Scientist) at the Vienna Institute of  
Demography, Austrian Academy of Sciences

2021 Researcher at the Institute of Demography, University of Vienna

2018 – 2021 Lecturer at Technische Universität Wien (part time)

2014 – 2020 Postdoctoral researcher at the Vienna Institute of Demography, Austrian  
Academy of Sciences

2016, 2018 Lecturer at Vienna University of Economics and Business (part time)

2015 – 2017 Lecturer at Technische Universität Wien (part time)

2004 – 2014	Assistant Professor at the Institute for Mathematical Methods in Economics, Research Group Economics, Technische Universität Wien
2003	Assistant Professor at the Institute of Economics and Economic Computer Sciences (VWL und Wirtschaftsinformatik), Technische Universität Wien
2001 – 2003	Project Assistant at the Institute of Economics and Economic Computer Sciences (VWL und Wirtschaftsinformatik), Technische Universität Wien (part time)

### Research Interests

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- Computational Social Simulation
- Agent-Based Computational Simulation
- Agent-Based Computational Demography
- Migration, Forced Migration
- Information Visualization

### Major Scientific Research Projects

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2021	participation in the Austrian FWF research project (P31171): ‘Later fertility in Europe’
2018 – 2022	participation in the Volkswagenstiftung / WU Wien research project: ‘Society after money – a simulation’ (‘Die Gesellschaft nach dem Geld - Eine Simulation’)
2020 – 2021	participation in the Federal Ministry for Social Affairs, Health, Care and Consumer Protection / WU Wien research project: ‘COVID-19 and Migration: Accessibility, Cooperation and Socioeconomic Challenges of Migrants and Refugees in Austria’ (‘COVID-19 und Migrationshintergrund: Erreichbarkeit, Umgang mit Maßnahmen und sozioökonomische Herausforderungen von Migrant/inn/en und Geflüchteten’)
2019 – 2021	participation in the AMS Österreich / WU Wien research project: ‘Women’s Integration Survey: Inklusion, Teilhabe und Enablement geflüchteter Frauen in Österreich’
2017 – 2019	participation in the WU Wien research project: ‘Refugee Health and Integration Survey: Mental health and health access of refugees in Austria.’ funded by the Federal Ministry of Education, Science and Research, the Federal Ministry of Labour, Social Affairs, Health and Consumer Protection, the Fonds Soziales Wien, and the Common Health Goals of the “Rahmen-Pharmavertrag”, a cooperation between the Austrian pharmaceutical industry and the Austrian social insurance
2016 – 2018	participation in the ERC-FP7 research project (613247): ‘Ageing Europe: An application of National Transfer Accounts (NTA) for explaining and projecting trends in public finances

- 2014 – 2016 participation in the ERC-FP7 research project (320116): ‘Families and Societies’
- 2013 – 2016 participation in the ‘OeNB Jubiläumsfonds’ project (15299): ‘Eine Untersuchung von institutionellen Komponenten der Banken-Makro Vernetzung’
- 2013 – 2014 participation in the ERC-FP7 research project (290647): ‘WWWforEurope — Welfare, Wealth and Work for Europe’ (Area 2) in Collaboration with WU-Wien (Vienna University of Economics and Business) and UAB Barcelona (Universitat Autònoma de Barcelona)
- 2011 – 2013 participation in the ‘OeNB Jubiläumsfonds’ project (14261): ‘Wirtschaftliche Perspektiven Europas als Teil der Weltwirtschaft auf Basis von Simulationsszenarien’
- 2009 participation in the EU COST project (Cost action IS0902) ‘Systemic Risks, Financial Crisis and Credit - the roots, dynamics and consequences of the Subprime Crisis’, proposal writing, organization of and participation in workshops held in the course of the COST project
- 2007 – 2008 participation in the project: ‘Ageing Society’ at the TU Wien, subproject of the interuniversity Research Project ‘Altern in der Stadt’ conducted by WU-Wien, TU Wien, KMU Forschung Austria and ARC Vienna
- 2001 – 2004 participation in the ‘OeNB Jubiläumsfonds’ project (8656): ‘Gesamtwirtschaftliche Metamodellierung: Komplexe Dynamiken und deren Visualisierung’ (Macroeconomic Metamodeling: Complex Dynamics and Visualisation)

## Teaching

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- 2018 – 2021 TU Wien: introductory and elective specialization courses in computational social simulation – mainly on agent-based computational simulation
- 2018 – 2019 TU Wien: bachelor-level compulsory introductory course in micro-economics
- 2018 European Doctoral School of Demography (University of Southern Denmark in Odense, Denmark): intensive PhD course in agent-based modelling
- 2016 – 2019 WU Wien: master-level elective practical course in agent-based modelling
- 2015 – 2017 TU Wien: master-level compulsory introductory and elective specialization courses in computational social simulation – mainly on agent-based computational simulation
- 2015 MPDIR Rostock: Advanced ABM course in a post-doctoral school on agent-based modelling and simulation
- 2013 TU Wien: planned, organized and taught the BEST summer school on game theory and computational social simulation

- 2005 – 2014 TU Wien: multiple bachelor and master-level compulsory and elective, introductory and specialization courses in computational social simulation and computational economics
- 2003 – 2014 TU Wien: multiple bachelor and master-level compulsory and elective, introductory and specialization courses in economics (economics, microeconomics, behavioural economics, socio-economics) and applied game theory

From 2003-2021 I advised and co-advised more than 50 bachelor thesis and supported more than 20 master thesis and furthermore provided extensive support and mentoring for multiple PhD students at Technische Universität Wien and Vienna University of Economics and Business (Wolfgang Radax, Manuel Wäckerle, Tobias Haberler [u], Wolfgang Köpf [u], Lena Gerdes [u]).

In 2011, I was awarded the Teacher's Award of the Faculty of Informatics and the computer science student's union for outstanding teaching performance for the course 'Information Economics', held in the academic year 2010/2011.

### **Achievements and Prizes**

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- 2019 Kurt Rothschild Price for communication of scientific economics 2019 (together with Judith Kohlenberger and Isabella Buber-Ennser)
- 2015 Best paper award at SIMUL 2015 conference (joint work with Wim De Mulder, Geert Molenberghs, Thomas Fent, Geert Verbeke)
- 2011 Teacher's Award of the Faculty of Informatics and the computer science student's union for outstanding teaching performance for the course Information Economics, held in the academic year 2010/2011
- 2009 Volterra Replication Prize by the ESSA (European Social Simulation Association), for the 'Replication of the Demographic Prisoner's Dilemma' (joint work with Wolfgang Radax)

### **Scientific Community Services**

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- 2018 – 2019 Guest Editor of the Empirica – Journal of European Economics - 2018 Special Conference Issue
- 2018 Head of the local organizational committee of the NOeG 2018 conference held at TU Wien
- 2017 – 2018 Scientific committee member of the NOeG 2018 conference
- 2013 Scientific committee member of the EAEPE 2013 conference held in Paris, France
- 2012 – 2013 Guest Editor of the Empirica – Journal of European Economics - 2012 Special Conference Issue
- 2012 Scientific committee member of the EAEPE 2012 conference held at Cracow, Poland
- 2012 Co-Head of the local organizational committee of the NOeG 2012 conference held at TU Vienna

2012	Scientific committee member of the NOeG 2012 conference held at TU Vienna
2011	Head of the local organizational committee of the Schumpeter 2011 (+EAEPE 2011) conference held at Tech Gate Vienna (TU Vienna)
2011	Scientific committee member of the EAEPE 2011 conference  Reviewer for 'Journal of Artificial Societies and Social Simulation' and 'Demographic Research'

### Miscellaneous activities

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2015 – 2021	IT-coordinator (lead, strategic decisions and scientific computing) of the Vienna Institute of Demography, Austrian Academy of Sciences
2003 – 2021	IT-coordinator, sys- and webadmin of the Research Unit Economics, Institute of Statistics and Mathematical Methods in Economics, TU Wien
2015 – 2019	External member of the curricular for studies in Business Informatics (Wirtschaftsinformatik) and Data Science, curricular track coordinator for the Economic Modeling track of Business Informatics curriculum at TU Wien
2004 – 2014	Permanent member of the curricular committee in Business Informatics (Wirtschaftsinformatik) at TU Wien ('Mittelbau'-Vertreter)
2010 – 2011	Member of the curricular sub-committee for studies in Business Informatics (Wirtschaftsinformatik) of TU Wien
2006	Local organizer of the NOeG 2006 conference held TU Wien
2004	Local co-organizer of the 'Jahrestagung 2004 des Ausschusses für Evolutorische Ökonomik des Vereins für Socialpolitik'
1998 – 2001	Permanent student union representative in various permanent organizational committees and finding committees of the TU Wien (Studienkommission, Fakultätsrat, Berufungskommissionen)

### Technical skills

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- *Standard Software [very experienced]:* Microsoft Office (Word, Excel, Powerpoint, Access, Publisher, Visio, Project); openOffice/LibreOffice; Adobe Creative Suite (Illustrator, Indesign, Photoshop, Dreamweaver, Acrobat); Inkscape and other standard software
- *Scientific Software:* R, RStudio, Stata, SPSS, limesurvey, + multiple specialized software packages
- *Client / Server Computer Network Administration (deployment/setup, configuration and administration) [very experienced]:* 25+ years of experience with Windows (Windows 3, 3.1 + MSDOS 3.3/5/6, 95, 98, 2000, XP, Vista, 7, 8, 10) standalone & client operating systems; 20+ years of experience with Linux client & server operating systems (Redhat & Fedora, Suse & openSuse, Debian) – LAMP, Sendmail/Postfix & multiple other server daemons; 15+ years of experience with Windows Server (2003, 2008, 2012, 2016, 2019) operating systems including IIS, MSSQL, AD & MS Exchange Server (2007, 2013); Limited Experience with Mac family client operating systems MacOS 9 & MacOS X
- *Software Development / Computer Languages:* NetLogo; R; PHP (very experienced); VisualBasic & VBA for Applications (e.g. Access) (very experienced, but outdated); Unix-Shell Scripting; Perl; C (outdated); Javascript (experienced); Java; Pascal, Turbo Pascal &

Delphi (all experienced, but outdated); SQL/Databases - MSSQL, MySQL, MariaDB (experienced, but outdated); Document description languages: HTML, LaTeX, XML

- *Client / Server Hardware (planning, selection & acquisition, assembling, configuration & administration) [very experienced]* Common PC Hardware (Multi-CPU, Small Clusters), Computer Networks (Cabling, Router, VPN & Firewall Configuration, etc.)

Due to my training and decade-long work experience gained in many different professional positions (in universities, scientific research institutions and in non-scientific companies) as scientist, head of IT, lecturer, instructor, teacher, mentor, software developer, designer, client / server support and administration, I have a very strong grasp of computers, computer science, IT systems and their application especially in scientific working environments.