

Curriculum Vitae

Bernhard Rengs

Personal Details

Name: Dr. Bernhard William Henri Rengs

Birth: 9.7.1976 in Vienna, Austria

Personal status: Married to Daniela Rengs, since 2009
Father of Andrea C. Rengs (daughter), born 02.09.2009
Father of Michael H. Rengs (son), born 22.05.2011

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Education

2000 Graduation: master's degree (Mag.rer.soc.oec) in social sciences and economics 'Wirtschaftsinformatik' (economics and computer sciences) at the Vienna University of Technology and University of Vienna; specialization areas 'Applied Game Theory' and 'Artificial Intelligence'. Thesis title: "Ökonomische Paradoxa aus spieltheoretischer Sicht" ("Gametheoretic approaches to Economic Paradoxa")

2002-2008 Further graduate-level studies in computer sciences (software engineering & internet computing) at the Vienna University of Technology

2007 Doctor's degree (Dr.rer.soc.oec.) in social sciences and economics ('Wirtschaftsinformatik') with honors at the Vienna University of Technology. Thesis title: 'Visualisierung dynamischer makroökonomischer Modelle' ('Visualization of dynamic macroeconomic models')

Research Experience

2001 – 2003 Project Assistant at the Institute of Economics and Economic Computer Sciences (VWL und Wirtschaftsinformatik), Vienna University of Technology (part time)

2003 Assistant Professor at the Institute of Economics and Economic Computer Sciences (VWL und Wirtschaftsinformatik), Vienna University of Technology

2004 – 2014 Assistant Professor at the Institute for Mathematical Methods in Economics, Research Group Economics, Vienna University of Technology

2014 - Postdoc Researcher at the Vienna Institute of Demography, Austrian Academy of Sciences

Research Interests

- Computational Social Simulation
- Computational Economics
- Agent Based Computational Simulation
- Population Economics
- Applied Game Theory
- Information Visualization

Scientific Contributions and Publications

- Wäckerle M., Rengs B. and Radax W. (2014), 'An Agent-Based Model of Institutional Life-Cycles', *Games* 5 (3): 160-187
- Naqvi S.A.A., Rengs B. and Wäckerle M. (2014), 'Analyzing Energy Policies in a Stock-Flow Consistent Agent-Based Macroeconomic Model', presented at ISEE 2014: Biannual Conference of the International Society for Ecological Economics - Wellbeing and Equity within Planetary Boundaries, Reykjavik, Iceland, 13.08.-15.08.
- Rengs B., Wäckerle M. (2014), 'A computational agent-based simulation of an artificial monetary union for dynamic comparative institutional analysis', forthcoming in proceedings of the 'IEEE Symposium on Computational Intelligence for Financial Engineering & Economics 2014'
- Rengs B., Wäckerle M. (2013), 'Agent based modelling of monetary unions between artificial economies', Paper presented at EAEPE Annual International Conference 2013, Paris, France.
- Hanappi H., Rengs B., Wäckerle M. (2013), 'Simulating a small monetary union between artificial economies from the bottom up', Paper presented at WEHIA 2013 - the annual 'Workshop on the Economic Science with Heterogeneous Interacting Agents', June 20-22, 2013, Reykjavik University, Iceland.
- Prskawetz, A., Freund I., Rengs B. (2013), 'Special issue: The Economics of Ageing, Selected Papers from the 2012 Annual Meeting of the Austrian Economic Association' - Editorial, *Empirica* 40/3
- Radax W., Rengs B. (2010), 'Timing matters: Lessons from the CA literature on updating,' presented at the Third World Congress of Social Simulation, Kassel, September 6-9, 2010, also available at arxiv.org
- Radax W., Rengs B. (2010), 'Prospects and Pitfalls of Statistical Testing: Insights from Replicating the Demographic Prisoner's Dilemma', *Journal of Artificial Societies and Social Simulation*, Vol. 13, Issue 4, Oct. 2010
- Radax W., Rengs B. (2009), 'Replication of the Demographic Prisoner's Dilemma', presented on the 2009 European Social Simulation Association Conference (Plenary Paper) in Surrey, GB
- Hanappi H., Radax W., Rengs B., Wäckerle M. (2009), 'Modelling Global Institutional Networks,' presented at EAEPE Annual International Conference 2009, Amsterdam, The Netherlands).
- Wäckerle, M., Radax W., Rengs B. (2009), 'An agent-based approach to institutional change', presented at EAEPE Annual International Conference 2009, Amsterdam, The Netherlands).

- Böhm B., Rengs B. (2009), 'Urbane Ökonomie und Altern' in 'Ageing Society. Altern in der Stadt, Aktuelle Trends und ihre Bedeutung für die strategische Stadtentwicklung', Facultas Verlag
- Hanappi H., Rengs B. (2008), 'On the Eve of Global Financial Collapse. Explanations, necessity, and policy conclusions', presented at EAEPE Annual International Conference 2008, Rome - Italy).
- Wäckerle M., Rengs B. (2007), 'Habitus and the Evolution of Educational Institutions – Knowledge Accumulation in the Long-Run', presented at EAEPE Annual International Conference 2007, Porto - Portugal.
- Hanappi H., Rengs B., Gombotz D. (2007), Exploring University Design - The prototype microsimulation model U-SIM-7, presented at 1st General Conference of the International Microsimulation Association, Vienna – Austria
- Rengs B. (2006), PhD Thesis: 'Visualisierung dynamischer makroökonomischer Modelle', Vienna University of Technology.
- Wäckerle M., Hanappi H., Rengs B. (2005), 'Advanced Democracy Design' –short paper, presented at 'IADIS International Conference on e-Society 2005', in Qawra - Malta.
- Hanappi H., Rengs B., Unterluggauer A. (2004), Forschungsprojekt-Endbericht: 'Gesamtwirtschaftliche Metamodellierung: Komplexe Dynamiken und deren Visualisierung', funded by the Jubiläumsfonds of the OeNB.
- Rengs B., Unterluggauer A. (2003), 'Visual Representation of Economic Systems - Clustering and Emergence of Institutions', presented at EAEPE Annual International Conference 2003, Maastricht - Belgium.
- Rengs B. (2000), Master Thesis: 'Ökonomische Paradoxa aus spieltheoretischer Sicht', Vienna University of Technology

Non/Semi-Scientific Publications

- Vesely E., Rengs B. (2013), 'Bedarfserhebung zur Kinderbetreuungssituation der Angehörigen der TU Wien 2012', TU Wien
- Prskawetz A., Rengs B. (2012), 'Mathematik in der Ökonomie', Schriftenreihe zur Didaktik der Mathematik der Österreichischen Mathematischen Gesellschaft, 98-107.
- Radax W., Rengs B. (2010), 'Anwendungen von Multiagentensimulationen in der Kooperationstheorie.' IWK-Mitteilungen 65(1-2): Themenheft 'Forschen in der Von-Neumann-Galaxis.'

Projects

- 2013-2015: participation in the 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 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 Barcelona)
- 2011-2013: participation in the 'OeNB Jubiläumsfonds' project (14261): 'Wirtschaftliche Perspektiven Europas als Teil der Weltwirtschaft auf Basis von Simulationsszenarien'
- 2010-2011: participation in the FP7 (Call FP7-ICT-2011-7) project proposal writing 'Public Online LOD-based Innovation policy And GOVERNance Agora' (proposal submitted)

- 2010: participation in the FP7 (Call FP7-SSH-2010-1) project proposal writing 'Exploring innovative historical and economical perspectives to reform the financial system: groundbreaking economic approaches to the design and governance of finance for society' (not accepted)
- 2009: participation in the research project proposal writing for COST project (Cost action IS0902) 'Systemic Risks, Financial Crisis and Credit - the roots, dynamics and consequences of the Subprime Crisis' (accepted), Participation in Workshops held in the course of the COST project
- 2007-2008: major participation in the project: 'Ageing Society' conducted at the TU Wien, subproject of the interuniversity Research Project 'Altern in der Stadt') by WU-Wien, TU-Wien, KMU Forschung Austria and ARC Vienna
- 2001-2010: multiple minor participations in the aquisition of new research projects and running research projects conducted at the Institute for Mathematical Methods in Economics, TU Wien, as well as the Department for Gender and Diversity in Organizations, WU Wien
- 2001-2004: major participation in the 'OeNB Jubiläumsfonds' project: 'Gesamtwirtschaftliche Metamodellierung: Komplexe Dynamiken und deren Visualisierung' conducted at TU Wien

Teaching

Since 2003 I held the following lectures and seminars at the Vienna University of Technology (ranging from introductions to economics to special topics including computational economics, computational social science, experimental economics and socioeconomics):

- **Computational Social Science** 2VU, [compulsory, master, taught in English], TU Wien (ST12, ST13, ST14, ST15)
- **Computational Economics** 2SE, [elective, master, taught in English], TU Wien (WT08, WT09, ST11, WT12, WT13, ST15)
- **Grundlagen der Mikroökonomie** 2VO, [compulsory, bachelor], TU Wien (ST14)
- **Grundlagen der Mikroökonomie** 2UE, [compulsory, bachelor], TU Wien (ST12, ST13, ST14)
- **Spiel- und Auktionstheorie** 2SE, [elective, bachelor], TU Wien (WT12, ST13, ST14)
- **Advanced Economics Project** 4PR, [elective, master, taught in English], TU Wien (ST12, ST14)
- **Bachelorarbeit für Informatik und Wirtschaftsinformatik**, [semi-elective, bachelor], 5PR (10ECTS), TU Wien (WT11, ST12, WT12, ST13, WT13, ST14)
- **Praktikum aus Advanced Economics** 4PR, [elective, master], TU Wien (ST07, ST08, ST09, ST10, ST11, ST12)
- **Ökonomische Simulationen** 2PR, [elective, bachelor], TU Wien (ST07, ST08, ST09, ST11)
- **Projektpraktikum** 4PR, [semi-elective, bachelor], TU Wien (WT06, WT07, WT08, WT09, WT10, ST11)
- **Grundlagen der Volkswirtschaftslehre** 2UE, [compulsory, bachelor], TU Wien (ST07, ST08, ST09, ST10, ST11)
- **Seminar mit Bachelorarbeit** 4SE, [semi-elective, bachelor], TU Wien (WT06, ST07, WT07, ST08, WT08, ST09, WT09, ST10, WT10, ST11)
- **Information Economics** 2PS, [compulsory, master, taught in English [starting 2010]], TU Wien (WT05, ST07, ST08, ST09, ST10, ST11)
- **Neuere Methoden formaler Modellierung** 2SE, [elective, master], TU Wien (ST05, ST06, WT06, WT07)

- **Interdisziplinäres Praktikum** 5PR, [elective, master], TU Wien (ST04, ST05, ST06)
- **Praktikum aus angewandter Spieltheorie** 3PR, [elective, master], TU Wien (ST04)
- **Sozioökonomische Theorie** 2PS, [elective, bachelor], TU Wien (ST04, ST05)
- **Experimental Economics** 2PS, [elective, bachelor], TU Wien (ST04, ST05, ST06, WT06, WT07, WT08, WT09, ST11)
- **Experimentelle Ökonomie** 1VO, [elective, master], TU Wien (ST04)
- **Wirtschaftswissenschaften für Informatiker** 1UE, [compulsory, bachelor], TU Wien (WT04)
- **Wirtschaftswissenschaften Übungen** 2UE, [compulsory, bachelor], TU Wien (WT03, ST04, WT04, ST05, WT05, ST06)

In the last academic year (2012/2013) two of my courses were selected for student evaluation by the deans of studies. **Computational Social Simulation** got the overall rating of **1.0** (1 best, 5 worst) and **Grundlagen der Mikroökonomie** (Principles of Microeconomics) was rated **1.57** (1 best, 5 worst).

In July 2013 I organized and taught an intense BEST summer course (40 hours) on games, game theory, social/economic experiments and computational social simulation: Game ON: From Theory to Practice! for selected students (30 selected from 338 applications) from a number of European Technical Universities [Prof. Mehlmann taught the part on game theory].

From 2003-2013 I advised 50+ bachelor thesis and supported 15+ master thesis (assistance only sometimes credited to me) and provided extensive support for 4 doctoral students (Wolfgang Radax [f], Manuel Wäckerle [f], Tobias Haberler [o], Wolfgang Köpf [o]).

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.

Other scientific work

- 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
- 2009 Awarded the Volterra Replication Prize by the ESSA (European Social Simulation Association), for the 'Replication of the Demographic Prisoner's Dilemma' (joint work with Wolfgang Radax)
- Referee for Journal of Artificial Societies and Social Simulation

Miscellaneous

- 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
- 2004-2014 Permanent member of the committee for studies in Business Informatics (Wirtschaftsinformatik) of TU Wien ("Mittelbau"-Vertreter)
- 2003-2014 IT-coordinator, sys- and webadmin of the Research Group Economics/IMME
- 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 organizational and finding committees of the TU Wien (Studienkommission, Fakultätsrat, Berufungskommissionen)