Curriculum Vitae

Sander van der Hoog

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Contact Information

SimScience
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Personal Information

Date of Birth	April 9th, 1977
Place of Birth	Amsterdam, the Netherlands
Nationality	Dutch

Current positions

Aug 2019 – current
Head of Simulation
LucidMinds BV

May 2018 – current
Founder
SimScience: Simulation Modelling as a Service

Research interests

Sustainable Finance & Inclusive Growth • Agent-Based Housing Market Models • Monetary Policy and Macroprudential Regulation • Empirical Validation of Agent-Based Models • Quality Control of Research Data • Artificial Intelligence • Big Data Analytics • Neural Networks • Deep Learning • History of Economic Thought • Post-Keynesian Theory • Stock-Flow Consistent Models

Education & Academic Career

Oct 2016 – April 2018
Research Fellow in Computational Economics
Chair for Economic Theory and Computational Economics
Dept. of Business Administration and Economics, Bielefeld University

May 2015 – April 2018
Research Fellow
ISIGrowth Project: "Innovation-fuelled, Sustainable, Inclusive Growth"
Lead contractor: Scuola Superiore Sant'Anna di Studi Universitari e di Perfezionamento (Pisa, Italy)

March 2015 – 2018
Research Fellow
CONQUAIRE Project: "Continuous quality control for research data to ensure reproducibility: an institutional approach"
Lead contractor: Prof. Philipp Cimiano (CITEC, Bielefeld University, Germany)

Oct 2009 – Sept 16
Junior Professor in Computational Economics
Dept. of Business Administration and Economics, Bielefeld University

Sept 2006 – Aug 09
Post-doctoral Research Fellow
GREQAM, Université de la Méditerranée (Aix-en-Provence, France)
FP6 – IST FET Proactive Initiative "Simulating emergent properties in complex systems"
EURACE Project: An Agent-Based software platform for European economic policy design with heterogeneous interacting agents: New insights from a bottom up approach to economic modelling and simulation
Lead contractor: Università di Genova

2005 **PhD in Mathematical Economics**
PhD Thesis: **Microeconomic Disequilibrium Dynamics**
Center for Nonlinear Dynamics in Economics and Finance (CeNDEF)
Dept. of Quantitative Economics, University of Amsterdam
Supervisors: Prof. Dr. Claus H.N. Weddepohl, Prof. Dr. Cars H. Hommes

2000 – 04 **Teaching Assistant**
Dept. of Quantitative Economics, University of Amsterdam

2000 **MSc in Mathematical Economics & Econometrics**
Dept. of Quantitative Economics, University of Amsterdam
Master Thesis: Evolutionary Dynamics in Adaptive Belief Systems with Memory

Prizes, Grants and Awards

2004	**Prize of the Society for Computational Economics** for 'Best Student Paper in Computational Economics 2004' for the paper entitled: 'On Monetary Dynamics in an Exchange Economy with Cash-in-Advance Constraints'
2017	**Grant to organize a project workshop** from the Social Science Research Fund of the School of Economics, University of Kent

Languages

Dutch	Mother tongue
English	Full professional proficiency
German	Full professional proficiency
French	Limited working proficiency

Teaching

2009 – 16 (Bielefeld University)

PhD level:

- Reading Group on Economic Dynamics with Heterogeneous Agents
- Reading Group on DSGE and Agent-Based Modelling
- Reading Group on Heterogeneity and Inequality

MA level:

- Course on Agent-based Computational Economics
- Tutorial in Agent-based Modelling and Simulation
- Master-Seminar on Agent-based Modelling and Simulation
- Master-Seminar on Crisis Economics
- Master Colloquium

BA level:

- Course on Industrial Economics
- BA Seminar: Industrial Dynamics and Market Structure

2001 – 04 (University of Amsterdam)

- Equilibrium and Disequilibrium Theory
- Advanced Mathematics
- Mathematical Economics

Committees

- Oct. 2015 - April 2018: Member of the University Committee for the Investigation of Scientific Misconduct at Bielefeld University
- Oct. 2014 - Sept. 2015: Elected member of the faculty conference (Dept. of Business Administration and Economics)
- Oct. 2009 - Sept. 2016: Member of the Board of Promotions, Dept. of Business Administration and Economics
- Member of the Promotion Committees of: Patrick Li Xihao (2010), Simon Gemkow (2011), Marcin Wolski, Giuseppe Mastrangeli, Philipp Harting (2014), Juanxi Wang (2015), Pascal Aßmuth, Frederik Diermann (2016), Aad Ruiter (2018).

Refereeing

Journal of Economic Behavior & Organization • Journal of Economic Dynamics & Control • Journal of Economic Interaction & Coordination • Journal of Evolutionary Economics • International Journal of Innovation and Technology Management.

Editorship

Associate Editor for the International Journal of Microsimulation (IJM)

Project reviewing services

Expert reviewer for the Swiss Platform for Advanced Scientific Computing (PACS) and the Swiss National Supercomputing Centre (CSCS).

Scientific Boards

Member of the FLAME Development Board, University of Sheffield

Memberships of professional associations

- Int. Schumpeter Society: member, 2016
- Society for Computational Economics: member, 2005 – current
- IMW (Institut für Mathematische Wirtschaftsforschung): member, 2009 – 2018
- BiGSEM (Bielefeld Graduate School in Economics and Management): member, 2009 – 2018
- BGTS (Bielefeld Graduate School in Theoretical Sciences): member, 2012 – 2018
- YSI INET (Young Scholars Initiative): member, 2011 – current

Invited Presentations

2007	**Bridging Finance, Physics and Sociology** The EURACE Project Monaco
2008	**ETH Zurich, Chair of Complex Systems Design (Prof. Zweitzer)** Production and Finance in EURACE Zürich, Switzerland
2012	**FLAME User Meeting** A GUI for visualizing FLAME simulation output University of Sheffield
	ABM Workshop Minsky's Financial Instability Hypothesis - An Agent-Based Analysis Ruhr-Universität Bochum
2013	**CeNDEF at 15 Symposium** Bubbles, Crashes & the Financial Cycle Amsterdam The Netherlands
2014	**Bank of Canada** Eurace@Unibi Model and Bubbles, Crashes & the Financial Cycle Ottawa, Canada
2017	**European Central Bank, July** Macroprudential analysis using a macroeconomic agent-based model of the euro area Frankfurt, Germany
2018	**European Central Bank, February** Macroprudential analysis using a macroeconomic agent-based model of the euro area Frankfurt, Germany

Summer Schools

2001	**Summerschool on Hamiltonian Dynamics and Homoclinic Bifurcations** June 11-15 2001, University of Twente (MRI), The Netherlands
2004	**Advanced Summerschool and Workshop on Nonlinear Dynamical Systems in Economics** June 5-11 2004, Triëste and University of Udine, Italy
2004	**First Bonzenfreies Colloquium on Market Dynamics and Quantitative Economics** September 9-10 2004, Alessandria, Italy
2006	**CEEL Summer School on Agent-based Computational Economics** June 2-23 2006, Computable and Experimental Economics Laboratory, University of Trento, Italy
2007	**ABM-S4 ESHIA: Summer School on Agent Based Models for Spatial Systems in Social Sciences & Economic Science with Heterogeneous Interacting Agents** September 17-22 2007, La Londe les Maures, France
2008	**International Workshop on Challenges and Visions in the Social Sciences** August 18-23 2008, ETH Zurich, Switserland
2016	**BigDat2016: 2nd International Winter School on Big Data and Machine Learning** February 8-12, 2016, Deusto Rovira i Virgili University, Bilbao, Spain

Research Visits

2006	University of Milan, IT University of Ancona, IT University of Sheffield, UK University of Nice, FR
2007	University of Ancona, IT University of Rome, IT University of Bielefeld, DE University of Istanbul, TR
2008	University of Sheffield, UK University of Cagliari, IT University Oxford, STFC, UK
2009	University of Cagliari, IT University Oxford, STFC, UK University Genoa, IT University of Milan, IT University Oxford, STFC, UK University Genoa, IT
2016-2018	European Central Bank Regular visits to the Division on Macro-Financial linkages and Stress Test Modelling (DG-MF/STM) in the context of the collaborative research project on: "Macroprudential analysis using a macroeconomic agent-based model of the euro area".

Presentations at professional meetings

2003	**Workshop on Optimal Control, Dynamic Games and Nonlinear Dynamics** A spatial separation model of a credit economy Vienna, Austria
2003	**Workshop on Economics with Heterogeneous Interacting Agents** A spatial separation model of a credit economy Kiel, Germany
	9th Int. Conference on Computing in Economics and Finance A spatial separation model of a credit economy Seattle, US
2004	**10th Int. Conference on Computing in Economics and Finance** On Monetary Dynamics in an Exchange Economy with Cash-in-Advance Constraints Amsterdam, The Netherlands
	First Bonzenfreies Colloquium on Market Dynamics and Quantitative Economics Agent-based Computational Economics, A critical Appraisal Alessandria, Italy
2005	**Workshop on Economics with Heterogeneous Interacting Agents** Hysteresis in a spatial separation model of a credit economy Essex, UK
2006	**Complexity Conference** Optimistic and pessimistic expectations in a sequential credit economy Aix-en-Provence, France
	EURACE meeting in Sheffield Modelling Economic X-Agents Sheffield, UK
2007	**EURACE meeting in Nice** Modelling Requirements & Guidelines for Agent-based Computational Economics Nice, France
2007	**GREQAM Interactions Group** The EURACE Project Marseilles, France
	Artificial Economics Conference The EURACE Project Palermo, Italy
2008	**14th Int. Conference on Computation in Economic and Finance (CEF)** Production and Finance in EURACE Paris, France
	Artificial Economics Conference The EURACE Project Innsbruck, Austria
2010	**9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS)** Demonstration FLAME/EURACE Toronto, Canada
2011	**BGTS project (Bielefeld Graduate school in Theoretical Sciences)** Simulation, Modelling and Analysis of Complex Systems Marienfeld, Germany
2013	**19th Int. Conference on Computation in Economics and Finance (CEF)** Bubbles, Crashes & the Financial Cycle Vancouver, Canada
	***1st* Workshop on Agent-Based Macroeconomics** Bubbles, Crashes & the Financial Cycle Bordeaux, France

Presentations at professional meetings (cont.)

2014 **20th Int. Conference on Computation in Economics and Finance (CEF)**
Bubbles, Crashes & the Financial Cycle
Oslo, Norway
***12th* International Post Keynesian Conference**
Bubbles, Crashes & the Financial Cycle
Kansas City, MO, U.S.A.

2015 **First Bordeaux-Milano Joint Workshop on Agent-Based Macroeconomics**
The Limits to Credit Growth
Bordeaux, France
Workshop on Economics with Heterogeneous Interacting Agents (WEHIA)
The Limits to Credit Growth
Nice, France
NYC Computational Economics and Complexity Workshop
The Limits to Credit Growth
New York City, New York

2016 **DFG-Workshop "Macrodynamics & Inequality 2016"**
Bubbles, Crashes & the Financial Cycle
Bielefeld, Germany
1st ISIGrowth Annual Conference: "Europe beyond Austerity"
Bruxelles, Belgium
21st Workshop on Economics with Heterogeneous Interacting Agents (WEHIA)
Empirical Estimation of Agent-Based Models
Castellon, Spain
22nd Int. Conference on Computation in Economics and Finance (CEF)
Empirical Estimation of Agent-Based Models
Bordeaux, France
16th Int. Conference of the Int. Schumpeter Society
Empirical Estimation of Agent-Based Models
Montreal, Canada

2017 **Workshop on Validation Methods for Agent-Based Models**
Co-organizer
Canterbury, UK
22nd Workshop on Economics with Heterogeneous Interacting Agents (WEHIA)
Empirical Estimation of Agent-Based Models
Milan, Italy
23rd Int. Conference on Computation in Economics and Finance (CEF)
Macroprudential Analysis using a Macroeconomic Agent-Based Model of the Euro Area
New York, US

2018 **Symposium on Computation in Economics and Finance (ISCEF)**
Empirical Estimation of Agent-Based Models
Paris, France
24rd Int. Conference on Computation in Economics and Finance (CEF)
Macroprudential Analysis using a Macroeconomic Agent-Based Model of the Euro Area
Milan, Italy

Publications

Refereed Journals:

1. S. van der Hoog, 2018. Suggogate Modelling in (and of) Agent-Based Models: A Prospectus. Computational Economics. doi:10.1007/s10614-018-9802-0
2. S. van der Hoog, 2017. The Limits to Credit Growth: Mitigation Policies and Macroprudential Regulations to Foster Macrofinancial Stability and Sustainable Debt. Computational Economics. doi:10.1007/s10614-017-9714-4.
3. S. van der Hoog and H. Dawid, 2017. Bubbles, Crashes and the Financial Cycle: The Impact of Banking Regulation on Deep Recessions. Macroeconomic Dynamics 15, 1-42, doi:10.1017/S1365100517000219.
4. H. Dawid, P. Harting, S. van der Hoog and M. Neugart, 2017, Macroeconomics with Heterogeneous Agent Models: Fostering Transparency, Reproducibility and Replication. Journal of Evolutionary Economics (accepted).
5. M. Holcombe, S. Chin, S. Cincotti, M. Raberto, A. Teglio, S. Coakley, Ch. Deissenberg, S. van der Hoog, C. Greenough, H. Dawid, M. Neugart, S. Gemkow, P. Harting, M. Kiran and D. Worth, 2013. Large-scale Modelling of Economic Systems, Complex Systems 22 (2).
6. S. Wolf, J.-P. Bouchaud, F. Cecconi, S. Cincotti, H. Dawid, H. Gintis, S. van der Hoog, C.C. Jaeger, D.V. Kovalevsky, A. Mandel, and L. Paroussos, 2013. Describing economic agent-based models – Dahlem ABM documentation guidelines. Complexity Economics 2 (1).
7. S. van der Hoog, 2008. On the Disequilibrium Dynamics of Sequential Monetary Economies, Journal of Economic Behavior and Organization 68 (3-4), 525-552.
8. Ch. Deissenberg, S. van der Hoog and H. Dawid, 2008. EURACE: A Massively Parallel Agent-Based Model of the European Economy, Applied Mathematics and Computation, 204, 541-552.

Books:

1. S. van der Hoog, 2005. *Microeconomic Disequilibrium Dynamics*, Tinbergen Institute Research Series, no. 343. Amsterdam: Thela Thesis/Tinbergen.

Multi-author Books and Proceedings:

1. H. Dawid, S. Gemkow, P. Harting, S. van der Hoog and M. Neugart, *2018*. Agent-Based Macroeconomic Modeling and Policy Analysis: The Eurace@Unibi Model. In: Chen, S-H. and Kaboudan, M. (Eds.). *Handbook on Computational Economics and Finance*, Ch. 17, pp. 490-519, Oxford University Press.

2. S. van der Hoog and Ch. Deissenberg, 2011. Energy Shocks and Macroeconomic Stabilization Policies in an Agent-based Macro Model. In: H. Dawid and W. Semmler (Eds.), *Computational Methods in Economic Dynamics*, Springer: Berlin.
3. S. Wolf, J-P Bouchaud, F. Cecconi, S. Cincotti, H. Dawid, H. Gintis, S. van der Hoog, C. C. Jaeger, D. V. Kovalevsky, A. Mandel, and L. Paroussos, 2010. Describing economic agent-based models - Dahlem ABM documentation guidelines. In: New Approaches in Economics after the Financial Crisis, Proceedings of the 100th Dahlem Conference, 28-31 Aug. 2010.
4. S. van der Hoog, C. Deissenberg and H. Dawid., 2008. Production and Finance in EURACE. In: Schredelseker, K., Hauser, F. (Eds.), Complexity and Artificial Markets. Lecture Notes in Economics and Mathematical Systems. Springer.

Working Papers:

1. H. Dawid, P. Harting and S. van der Hoog, 2018. Manager Remuneration, Share Buybacks and Firm Performance. ISIGrowth Working Paper No. 02/2018.
2. S. Barde and S. van der Hoog, 2017. An empirical validation protocol for large-scale agent-based models. ISIGrowth Working Paper No. 29/2017.
3. S. van der Hoog, 2016. Deep Learning in Agent-Based Models: A Prospectus. Bielefeld Working Papers in Economics and Management No. 02-2016.
4. S. van der Hoog and H. Dawid, 2015. Bubbles, Crashes and the Financial Cycle: Insights from a Stock-Flow Consistent Agent-Based Macroeconomic Model. Bielefeld Working Papers in Economics and Management No. 01-2015.
5. H. Dawid, S. Gemkow, P. Harting, S. van der Hoog and M. Neugart, 2012, The Eurace@Unibi Model: An Agent-Based Macroeconomic Model for Economic Policy Analysis. Bielefeld Working Papers in Economics and Management No. 05-2012.
6. H. Dawid, S. Gemkow, P. Harting, S. van der Hoog and M. Neugart, 2012, Eurace@Unibi Model v1.0 User Manual, Working Paper Bielefeld University.
7. S. van der Hoog and Ch. Deissenberg, 2007, Modelling Requirements for EURACE, Deliverable D2.1.
8. S. van der Hoog and Ch. Deissenberg, 2007, Modelling Specifications for EURACE, Deliverable D2.2.
9. S. van der Hoog, 2005, A spatial separation model of a credit economy with optimistic and pessimistic quantity expectations, CeNDEF Working Papers 05-16, University of Amsterdam.
10. S. van der Hoog, 2005, Hysteresis in a spatial separation model of a credit economy, Working paper University of Amsterdam.

Data Publications and Software

1. S. Gemkow, P. Harting and S. van der Hoog, 2014, *Eurace@Unibi Model v1.0 Source Code.* Data Publication of Bielefeld University. 10.4119/unibi/2900767. Available from: https://pub.uni-bielefeld.de/data/2900767.
2. G. Böhl, S. van der Hoog, P. Harting and H. Dawid, 2014, *The ETACE Virtual Appliance.* Data Publication of Bielefeld University. doi:10.4119/unibi/2674041. Available from: http://pub.uni-bielefeld.de/data/2674041.

Bielefeld, 26 August, 2019