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PERSONAL INFORMATION
BORN January 16, 1976 in Bremen, Germany
CITIZENSHIP German
FAMILY STATUS not married, in partnership, 1 daughter (born Oct 9, 2006)

EDUCATION **Universität Bremen**, Germany

Doktor rer. nat., Mathematics, March 2007, advised by [Ulrich Krause](#) (Mathematics) and [Rainer Hegselmann](#) (Philosophy, Simulation), Grade: *summa cum laude*
Diploma, Mathematics, Feb 2003, Grade: *very good* (1.2)

Schulzentrum an der Walliser Straße, Bremen, Germany

Abitur (university-entrance diploma), June 1995, Major courses: math, history
Grade: *very good* (1.3), best of the year

ACADEMIC CAREER **Carl von Ossietzky University of Oldenburg**
Center for Social Science Methodolgy, Germany

Jan 2010 – present

Researcher

ETH Zurich, **Chair of Systems Design**, Switzerland

Apr 2007 – present

Contract work

Nov 2009 – present

Postdoctoral researcher

Apr 2007 – Oct 2009

Project [CyberEmotions](#)

Feb 2009 – present

Europeans Commissions 7th Framework Programme, Large scale integrating project (9 partners),
Workpackage: Sociophysics and agent-based models of emotion dynamics in cyberspace

Proposal writing [CyberEmotions](#)

Dec 2008 – Jan 2009

Project [COST P10 Physics of Risk](#)

Apr 2007 – Nov 2008

Workpackage [Failure risk propagation in economic and supply networks](#)

Universität Bremen, Germany

Apr 1998 – Mar 2007

Doctoral Student with independent stipend

Jan 2004 – Mar 2007

Tutor, Mathematics for Economists

Apr 2000 – Mar 2001

Undergraduate, Mathematics, Philosophy, 8 terms

Apr 1998 – Mar 2003

Carl von Ossietzky Universität Oldenburg, Germany

Oct 1996 – Apr 1997

Undergraduate, Mathematics, Computer Science, 1 term

SHORT TERM ACADEMIC ACTIVITIES *Participant* Brazil Project of the Friedrich Ebert Foundation, Young Policy Dialog
Frankfurt, Berlin, São Paulo, Brasilia, Rio de Janeiro during 2005

Researcher Max-Planck Institut Physik komplexer Systems, Dresden, Germany Aug – Sep 2004
EXYSTENCE Thematic Institute [“From Many-Particle Physics to Multi-Agent Systems”](#)

Participant 1st Winterschool for the Physics of Socio-Economic Systems Feb 2004
Universität Konstanz, Germany

AWARDS	<p><i>Scholarship for Doctoral Studies</i>, Friedrich-Ebert-Stiftung, Germany Jan 2004 – Dec 2006</p> <p><i>Prize for Applied Research in Complexity Science</i> (3000 EUR), Best Poster, Workshop “Potentials of Complexity Science for Business, Governments, and the Media 2006”, Aug 3–5, 2006, Budapest, Hungary</p> <p><i>Best student paper</i> (700 EUR) “2nd International Meeting: Connectionist Approaches in Economics and Management - ASCEG 2005”, 17–18 Nov, 2005, Aix-en-Provence, France, 2nd prize</p>
SCIENTIFIC COMMUNITY SERVICE	<p><i>Referee</i> IEEE Transactions on Automatic Control (1), Journal of Artificial Societies and Social Simulation (1), European Journal of Economic and Social Systems (3), Physica A (2), European Physical Journal B (1), Advances in Complex Systems (1), Journal of Economic Interaction and Coordination (1)</p> <p><i>Delegate</i> Management Meeting “CyberEmotions”, Bremen , July 2009, for ETH Zürich</p> <p><i>Assistant</i> Administration grant 231323 “CyberEmotions” of FP7 Commission of the EU, for ETH Zürich</p> <p><i>Delegate</i> Negotiation Meeting “CyberEmotions” in pre-submission phase, Brussels, Nov 2008, for ETH Zürich</p> <p><i>Assistant</i> Administration grant C05.0148 “Physics of Risk” of Swiss Secretariat for Education and Research (5 Swiss partners), for ETH Zürich</p> <p><i>Assistant</i> Local organization of International Workshop “The Physics Approach to Risk:: Agent-based Models and Networks”, Oct 27–29, 2008, Zürich</p> <p><i>Delegate</i> COST P10 “Physics of Risk” Management Committee Meeting at 4th Annual Meeting, Sep 21–23, 2007, Palermo, Italy</p> <p><i>Organisation</i> Workshop Political Participation in Brazil and Germany, Centre Marc Bloch, Berlin, Germany, Dec 2, 2005</p>
MEMBERSHIP	Deutsche Mathematiker-Vereinigung (DMV), Wikimedia Deutschland e.V.
TEACHING	<p>Universität Bremen, Germany</p> <p><i>Co-Organiser</i> Seminar Positive Dynamische Systeme (Mathematik) WiSe 2006/2007, VAK 03-418</p> <p><i>Co-Organiser</i> Seminar Positive Dynamische Systeme (Mathematik) SoSe 2006, VAK 03-340</p> <p><i>Co-Organiser</i> Seminar Positive Dynamische Systeme (Mathematik) WiSe 2005/2006, VAK 03-342</p> <p><i>Co-Organiser</i> Seminar Positive Dynamische Systeme (Mathematik) SoSe 2005, VAK 03-330</p> <p><i>Tutor</i> Mathematik (Wirtschaftswissenschaften) WiSe 2000/2001, VAK 07-107</p> <p><i>Tutor</i> Mathematik II (Wirtschaftswissenschaften) SoSe 2000, VAK 07-108</p>
LANGUAGES	German (native), English (very good written and spoken), Matlab (expert), R (basic), L ^A T _E X including beamer,tikz (very good), MySQL (good), HTML (good)
COMPUTER SKILLS	setup of computer simulations (matlab, R), program experiments (z-Tree), data analysis (matlab, R, MySQL), webdesign, all office software, imaging software on pixel and vector basis (e.g. PhotoShop, Illustrator), desktop publishing software (e.g. InDesign), operating systems: Linux, Windows, Mac
RESEARCH FIELDS	<p>Research Topics: processes of opinion formation, decision processes, aggregation of the wisdom of crowds, rating systems, voting systems, consensus algorithms, swarms, cascades on networks, systemic risk</p> <p>Tools: modeling and simulation, mathematical analysis of dynamics (fixed points, stability, attractiveness), large scale statistical data analysis, experiments</p> <p>Mathematical fields: nonnegative matrices, inhomogeneous Markov chains, repeated application of means, positive dynamical systems, multiplicative and additive stochastic processes</p> <p>General scientific interests: complex systems, network theory, game theory, mathematics and politics, socio- and econo-physics, philosophy of modelling</p>

PAPERS

In Preparation

1. Jan Lorenz, Heiko Rauhut, Frank Schweitzer, and Dirk Helbing. Social influence generates overconfidence in the wisdom of crowds. 2009. in preparation

Preprints

2. Heiko Rauhut and Jan Lorenz. The wisdom of crowds in one mind: Experimental evidence on repeatedly asking oneself instead of others. 2009. Preprint
3. Jae Kyun Shin and Jan Lorenz. Tipping diffusivity in information accumulation systems: More links, less consensus. 2009. [arXiv:0909.1252](#)

Journal Publications

1. Jan Lorenz and Dirk A. Lorenz. On conditions for convergence to consensus. 2008. [arXiv:0803.2211](#)
2. Jan Lorenz, Stefano Battiston, and Frank Schweitzer. Systemic risk in a unifying framework for cascading processes on networks. *European Physical Journal B*, 2009. accepted. [arXiv:0907.5325](#)
3. Jan Lorenz. Universality of movie rating distributions. *European Physical Journal B*, 71:251–258, 2009. [arXiv:0806.2305](#)
4. Jan Lorenz. Heterogeneous bounds of confidence: Meet, Discuss and Find Consensus! *Complexity*, 2009. accepted. [arXiv:0801.1399](#)
5. Diemo Urbig, Jan Lorenz, and Heiko Herzberg. Opinion dynamics: The effect of the number of peers met at once. *Journal of Artificial Societies and Social Simulation*, 11(2):4, 2008
6. Jan Lorenz and Stefano Battiston. Systemic risk in a network fragility model analyzed with probability density evolution of persistent random walks. *Networks and Heterogeneous Media (NHM)*, 3(2):185–200, 2008. [arXiv:0711.1784](#)
7. Jan Lorenz. Continuous Opinion Dynamics under bounded confidence: A Survey. *Int. Journal of Modern Physics C*, 18(12):1819–1838, 2007. [arXiv:0707.1762](#)
8. Jan Lorenz and Diemo Urbig. About the Power to Enforce and Prevent Consensus by Manipulating Communication Rules. *Advances in Complex Systems*, 10(2):251, 2007. [arXiv:0708.3244](#)
9. Jan Lorenz. Consensus strikes back in the Hegselmann-Krause model of continuous opinion dynamics under bounded confidence. *Journal of Artificial Societies and Social Simulation*, 9(1):8, 2006
10. Jan Lorenz. Continuous Opinion Dynamics of Multidimensional Allocation Problems under Bounded Confidence. More dimensions lead to better chances for consensus. *European Journal of Economic and Social Systems*, 19(2):213–227, 2006. [arXiv:0708.2923](#)
11. Jan Lorenz. A stabilization theorem for dynamics of continuous opinions. *Physica A: Statistical Mechanics and its Applications*, 355(1):217–223, 2005. [arXiv:0708.2981](#)

Publications in Books and Conference Proceedings

12. Jan Lorenz. Fostering Consensus in Multidimensional Continuous Opinion Dynamics under bounded Confidence. In Dirk Helbing, editor, *Managing Complexity: Insights, Concepts, Applications*, pages 321–334. Springer, 2008. [arXiv:0708.3172](#)
13. Jan Lorenz. Fixed points in models of continuous opinion dynamics under bounded confidence. In A. Ruffing, A. Suhrer, and J. Suhrer, editors, *Communications of the Laufen Colloquium on Science 2007*. Shaker Publishing, 2007. [arXiv:0806.1587](#)
14. Jan Lorenz. Convergence of Products of Stochastic Matrices with Positive Diagonals and the Opinion Dynamics Background. In *Lecture Notes in Computer Science: Positive Systems*, volume 341, pages 209–216. Springer, 2006. [arXiv:0708.3177](#)
15. Jan Lorenz. Continuous opinion dynamics: Insights through interactive Markov chains. In *Proceedings of IASTED Conference Modelling, Simulation and Optimization MSO, Oranjestaad, Aruba*, 2005. [arXiv:0708.3293](#)

Conference, Policy and Business Papers

16. Jan Lorenz and Frederico Menino. Designing Participatory Budgeting: Mathematics of opinion dynamics and aggregation. Technical report, 2005
17. Hubert Ramke, Stefan Mues, and Jan Lorenz. Vom Resteverkauf zum Verwertungsmanagement. *Der Versandhausberater*, 2004
18. Jan Lorenz. Opinion Dynamics with Heterogeneous Bounds of Confidence for the Agents. In *Conference "WEHIA 2003", Institute for World Economics, Kiel, Germany, May 29-31, 2003*
19. Jan Lorenz. Multidimensional Opinion Dynamics when Confidence Changes. In *Economic Complexity 2003 Aix-en-Provence, France, May 8-12, 2003*

Theses

20. Jan Lorenz. *Repeated Averaging and Bounded Confidence-Modeling, Analysis and Simulation of Continuous Opinion Dynamics*. PhD thesis, Universität Bremen, 2007
21. Jan Lorenz. *Mehrdimensionale Meinungsdynamik bei wechselndem Vertrauen*. Master's thesis, Universität Bremen, 2003

POSTERS

1. [Universality in Continuous Opinion Dynamics: Empirical studies of movie rating distributions](#), COST MP0801 “Physics of Conflicts and Competition” Annual Meeting, Rome, Italy, 2009
2. [Fostering Consensus in Multidimensional Continuous Opinion Dynamics under Bounded Confidence](#), Potentials for Complexity Science in Business, Government and the Media, Collegium Budapest, Hungary, 2006

SELECTED TALKS

1. [Continuous Opinion Dynamics: Heterogeneous Bounds of Confidence, Movie Ratings, Wisdom of the Crowd; Results from Simulation, Online Data Analysis, and the Lab](#) (invited), Sociology Seminar, University of Groningen, Netherlands, 2010
2. [Mathematical ingenuity traced in the academic genealogy of mathematicians](#), Workshop “Modelling science – Understanding, forecasting, and communicating the science system”, Amsterdam, Netherlands, 2009
3. [Continuous Opinion Dynamics under Bounded Confidence: A model to explain the formation of Parties?](#) (invited), Seminar Zentrum für Methoden der Sozialwissenschaften, Universität Oldenburg, Germany, 2009
4. [Growth in coupled multiplicative stochastic processes](#), International Workshop “The Physics Approach to Risk: Agent-based Models and Networks”, Zurich, Switzerland, 2008
5. [Continuous Opinion Dynamics](#), International Workshop Sociophysics: Status and Perspectives, ISI Foundation, Torino, Italy, 2008
6. [Fostering Consensus in Continuous Opinion Dynamics under Bounded Confidence](#), Seminar “Modeling Socio-Economic Systems and Crisis”, ETH Zurich, Switzerland, 2008
7. [Is there an Optimal Level of Globalization? Stochastic Fragility Dynamics with Trend Reinforcing](#), COST P10 “Physics of Risk” Annual Meeting, Palermo, Italy, 2007
8. [Continuous Opinion Dynamics under Bounded Confidence](#) (invited), Seminar “Large Graphs and Networks”, UCL, Louvain la Neuve, Belgium, 2007
9. [Threshold models of Continuous Opinion Dynamics: Clustering, Drifting, Convergence](#) (invited), Seminar “Interdisciplinary Physics”, IFISC, Palma de Mallorca, Spain, 2007
10. [Difference Equations in Continuous Opinion Dynamics under Bounded Confidence](#), Progress on Difference Equations, Laufen/Salzburg, Germany/Austria, 2007
11. [Wiederholtes Mitteln bei beschränktem Vertrauen: Modellierung, Analyse und Simulation von kontinuierlicher Meinungsdynamik](#), Vortrag zum Promotionskolloquium, Bremen, Germany, 2007
12. [Wie man das Erreichen eine Konsenses fördert](#) (invited), Seminar “Effizienz dezentraler Strukturen” Universität Bayreuth, Germany, 2006
13. [Convergence of products of stochastic matrices with positive diagonals and the opinion dynamics background](#), POSTA Positive System: Theory and Application, Grenoble, France, 2006
14. [Fostering Consensus](#), Potentials for Complexity Science in Business, Government and the Media, Collegium Budapest, Hungary, 2006
15. [About the power to enforce and prevent consensus](#), DPG Spring Meeting, Arbeitskreis Physik sozio-ökonomischer Systeme, Dresden, Germany, 2006
16. [Continuous opinion dynamics of multidimensional allocation problems under bounded confidence](#), 12th International Meeting: Connectionist Approaches in Economics and Management - ASCEG, Aix-en-Provence, France, 2005
17. [Continuous opinion dynamics: Insights through Interactive Markov Chains](#), IASTED Conference: Modelling, Simulation, and Optimization, Aruba, 2005

PUBLIC
RESPONSE

TV documentary [Schwärme: Die Intelligenz der Massen](#), arte 25.9.2009, 19:00; shows an experiment on opinion dynamics and the wisdom of crowds (designed and conducted by Jan Lorenz, Heiko Rauhut, Dirk Helbing, Frank Schweitzer)

Science Blogs, [Weisheit der Bremer siegt über Experten](#), 27.8.2009

Show, pi x Deutschland - Die Abschlussveranstaltung im [Jahr der Mathematik](#), EXPO XXI, Kln, Germany, 11. December 2008; acted as expert for “Mathematik und Schwarmintelligenz”

Show, [KnickKnack Schwärmen für das ViertelFest](#) - die Intelligenz der Knackinsekten, ein mathematisches Massenselbstorganisationsexperiment auf dem ViertelFest, Bremen, Germany, 22.-24. August 2008; acted as advisor and expert on stage

Press release [Countdown für Bremer Großversuch zu Schwarmintelligenz: Wie viel Hering steckt im Menschen?](#), Nr. 250, 15.8.2008, Universität Bremen

