

cv Stefan Thurner

Section for Science of Complex Systems (Head)
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Santa Fe Institute
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Year of Birth: 1969

Place of Birth: Innsbruck, Austria

Nationality: Austrian

Languages: German, English, Spanish, (French), (Italian)

Education

- Habilitation in Theoretical Physics, Vienna University of Technology, 2001
- Dr.rer.soc.oec. in Financial Economics, University of Vienna, 2001 (honors)
- CCEFM program in finance, 1998-2000
- Dr.techn. in Theoretical Physics, Vienna University of Technology, 1995 (honors)
- Magister rer.nat. in Theoretical Physics, University of Vienna, 1993 (honors)

Career History

- Full Professor for Science of Complex Systems at Medical University Vienna, 2009-present
- Senior Researcher at IIASA, Laxenburg, 2010-present
- External Professor at Santa Fe Institute, 2007-present
- Fellow at Collegium Budapest, 2007
- Associate Professor at Medical University Vienna, 2004-2009
- Associate Professor (a.o. Universitätsprofessor, tenure) at University of Vienna, 2001-2004
- Tenure track position (Universitätsassistent) at University of Vienna, 1999-2001
- Postdoctoral Position at Vienna University of Technology, Vienna, 1998-1999
- Research Associate at Boston University, Boston, 1996-1997
- Postdoctoral Position at Humboldt University, Berlin, 1996
- Guest researcher at Columbia University, New York, 1995 and 1996

Scientific Interests

- *Complex Systems*: (1) Statistical mechanics of Complex Systems (2) Theory of evolutionary processes (3) Entropy of strongly correlated systems (4) Network theory (5) Origin of scaling
- *Life Sciences*: (1) Gene regulatory networks (2) Big medical re-use data (3) Modeling cell differentiation (4) Cell motility
- *Quantitative Social Sciences*: (1) Formation and organization of social structures (2) Dynamics of innovation and collapse (3) Quantification of human behavior within social contexts (4) Opinion formation (5) Data science and network theory
- *Systemic Risk*: (1) Quantification, understanding and management of systemic risk (2) Financial regulation (3) Big financial data (4) Econophysics
- *Mathematics*: (1) Wavelet analysis (2) Diffusion processes (3) Fractal harmonic analysis
- *Particle Physics*: Topology of quantum gauge fields

Publications/Patents

- About 170 publications in journals as PNAS, Physical Review (Letters, D, E) Theoretical Biology, Nuclear Physics B, J Quantitative Finance, Neuroimage, J Pathology, PLoS ONE, Europhysics Letters, Scientific Reports, Histochemical Cell Biology, Physica A, Applied Bioinformatics, or J Banking of Finance. Publications cover quantum chromodynamics, statistical mechanics of complex systems, medical- and biophysics, network theory, stochastic processes, systemic risk, financial economics
- Holding two patents

Conferences

- About 150 invited talks and lectures at international conferences and summer schools. More than 150 talks at conferences, workshops and seminars

Reviews/Mass Media

- Work has been covered by media such as Nature, Science, New Scientist, Physics World, Scientific American, New York Times, Physical Review Focus, Science News, as well as by more than 300 international newspaper, television and radio reports

Miscellaneous

- Editorial boards: *Scientific Reports*, *Physica A*, *Advances of Complex Systems*, *Frontiers in Fractal Physiology*, *Entropy*, *Springer Complexity Series*. Referee for about 20 journals (complex systems, physics, social sciences). Organizer, steering committee and board member of numerous conferences and workshops. National representative of several European research initiatives

Prizes

- WWTF Life Science Award 2003, 2003
- Research Stipend of the Austrian Ministry of Science, BMWFK, 1995
- Vienna University Prize 1994, awarded by the "Gewerbliche Wirtschaft, Wien" shared with M. Feurstein and H.G. Feichtinger

Funding (project leader)

- FP7 LASAGNE (coordination) 2012-2015
- FP7 MULTIPLEX 2012-2015
- Austrian Science Fund FWF Project P23378 2011-2014
- WTZ/OeAD: Bi-national project: Slovenia-Ukraine 2011-2012
- FP7 CRISIS 2011-2014
- FP7 INSITE 2010-2013
- Austrian Science Fund FWF Project P19132, 2006-2010
- Austrian Science Fund FWF Project P17621, 2004-2008
- WTZ/OEAD: Bilateral Project: Slovenia-Austria SI-AT/04-05/01, 2004-2005
- WWTF Project LS139, 2004-2008
- Austrian Science Fund FWF Project P16022, 2002-2004
- Austrian National Bank Project P8584, 2000-2003

total volume 4.100.000 EUR

Work experience non scientific

- Consulting, 2003-present
- Development Program *Paz y bien*, Cartagena, Columbia, 1989-present, president since 2005
- Chamber music concerts, clarinetist of the *Dilletanti Mvsici*, 1992-present