

7. EQUILIBRIUM, EXPECTATIONS & DYNAMICS

Subprogrammes:	EU FP7 Integrated Macro-Finance Modelling for Robust Policy Design (MACFINROBODS); EU Horizon 2020, Bridging the gap: from Individual Behaviour to the Socio-technical MaN (IBSEN); Institute of New Economic Thinking (INET), Heterogeneous Expectations and Financial Crises (HexFiCs); Marie Curie Innovative Training Network, Expectations and Social Influence Dynamics in Economics (ExSIDE). NWO ORA Behavioral and Experimental Analysis in Macro-Finance
Programme director:	Prof. dr. C.G.H. Diks
Section:	Quantitative Economics
JEL-Classification:	C, D, E6
Starting date:	1998
Website:	http://cendef.uva.nl

7.1 MEMBERS OF THE RESEARCH GROUP AND RESEARCH IN FTES

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2015</i>	<i>Total 2016</i>	<i>Total 2017</i>	<i>Funding</i>
Altaghlibi, M.	msc	guest	0,00	0,00	0,00	1
Amman, H.M.	prof. dr.	hgl	0,00	0,00	0,00	1
Assenza, T.	dr.	postdoc	0,16	-	-	1
Cafferata, A.	msc	guest	-	-	0,00	1
Diks, C. (CeNDEF)	prof. dr.	hgl	0,50	0,50	0,50	1
Fang, H.	msc	phd	0,80	0,80	0,53	1
Goy, G.	msc	phd	-	0,27	0,80	1
Hennequin, M.	msc	phd	0,27	0,80	0,80	1
Hommel, C.H. (CeNDEF)	prof. dr.	hgl	0,50	0,50	0,56	1
Hommel, C.H. (CeNDEF)	prof. dr.	hgl	0,35	0,35	0,10	2
Huang, Z.	dr.	guest	0,00	-	-	1
Huber, S.	dr.	ud	-	-	0,17	1
Jong, J. de	msc	phd	-	-	0,27	1
Kopányi, D.	dr.	postdoc	-	0,27	0,80	2
Kopányi-Peuker, A.	dr.	postdoc	0,27	0,80	0,80	2
Koster, M.A.L.	dr.	uhd	0,13	0,08	0,00	1
Leij, M. van der	dr.	ud	0,50	0,50	0,13	1
Leij, M. van der	dr.	uhd	-	-	0,37	1
Leur, M. van de	msc	guest	0,00	-	-	1
Levelt, E.	msc	phd	-	-	0,27	1
Li, H.	msc	guest	0,00	0,00	0,00	1
Linardi, F.	msc	guest	-	0,00	0,00	1
Lustenhouwer, J.	msc	phd	0,80	0,80	0,53	2
Makarewicz, T.	dr.	postdoc	0,80	0,53	0,53	2
Makarewicz, T.	dr.	postdoc	0,80	0,27	-	1
Meertens, Q.	msc	guest	-	0,00	0,00	1
Mohammadian Moghayer, S.	dr.	guest	-	0,00	0,00	1
Negriu, A.	msc	phd	0,60	-	-	1
Negriu, A.	msc	guest	-	0,00	-	1

<i>Name</i>	<i>Title</i>	<i>Function</i>	<i>Total 2015</i>	<i>Total 2016</i>	<i>Total 2017</i>	<i>Funding</i>
Ozden, T.	msc	phd	-	-	0,27	1
Ramer, R.	dr.	guest	0,00	0,00	0,00	1
Ruiter, A.	drs.	guest	-	0,00	0,00	1
Salle, I.	dr.	postdoc	0,80	0,20	-	2
Salle, I.	dr.	guest	-	-	0,00	1
Silva, E.	msc	guest	-	-	0,00	1
Sloot, P.	prof. dr.	hgl	-	0,07	0,21	1
Sniekers, F.	msc	guest	0,00	0,00	-	1
Stephan, S.	msc	phd	-	0,27	-	1
Tuinstra, J. (CeNDEF)	prof. dr.	hgl	0,50	0,50	0,50	1
Turco, E.	msc	phd	-	-	0,27	1
Veld, D. in 't	dr.	guest	0,00	0,00	-	1
Wagener, F. (CeNDEF)	dr.	uhd	0,50	0,50	0,50	1
Wang, J.	msc	guest	0,00	0,00	0,00	1
Wang, H.-S.	msc	guest	0,00	0,00	0,00	1
Wolski, M.	msc	guest	0,00	0,00	0,00	1
Zhu, M.	dr.	guest	0,00	-	-	1
Total 1st flow of funds			5,53	6,93	6,15	
Total 2nd flow of funds			1,95	1,08	2,76	
Total 3rd flow of funds			0,00	0,00	0,00	
Total 1st f.o.f. excl. PhD			3,06	2,92	2,41	
Total 1st-3rd flow of funds			7,48	8,01	8,91	
PhD students			2,47	2,94	3,74	

7.2 PROGRAMME DESIGN

The objective of the programme is the development of (mathematical) economic theory, focussing on the understanding of economic processes. The programme aims at developing models of economic behaviour in different areas of economics, including microeconomics, macroeconomics and finance. Emphasis is given to behavioural models of dynamic market phenomena.

The research group employs a multi-disciplinary approach. The models are studied both from a theoretical and a computational perspective, and the validity of the models is tested in laboratory experiments with human subjects as well as empirically using real data. The NWO-Vernieuwingsimpuls Information Flows in Financial Markets, the EU STREP project Financial Markets and Complexity and the NWO-VIDI programme *Structural Stability in Economic Dynamics* are part of the research programme.

The programme can be subdivided into five closely related and interacting research themes:

Equilibrium theory

Individual optimising behaviour of economic agents generates aggregate supply and demand of commodities, as a function of prices and individual expectations. In equilibrium supply and demand are equal. Many types of equilibrium can be studied: partial versus general, competitive versus monopolistic, dynamic versus static, temporary equilibrium, single, representative agent as well as heterogeneous, interacting agents equilibria. The existence of equilibria is studied, as well as conditions for stability or instability of dynamic adjustment processes.

Game theory & Industrial organisation

This part of the programme focuses on modelling strategic behaviour of economic agents in markets with imperfect competition, such as duopoly and oligopoly. Equilibria in non-cooperative games (e.g. duopoly, oligopoly) as well as cooperative games (costs sharing, general equilibrium) are studied. Evolutionary games with heterogeneous, boundedly rational strategies competing against each other are also studied.

Expectations and learning

Bounded rationality models of expectation formation and learning schemes are becoming a serious alternative to rational expectations, which was the dominating paradigm until quite recently. The fully rational representative agent is replaced by a large *heterogeneous* population of boundedly rational interacting agents, who form expectations based upon time series observations and update their forecasting rules according to new observations and new information about market fundamentals. Conditions under which learning schemes converge to rational expectations or to a boundedly rational expectations equilibrium with excess volatility are investigated. Formation of expectations is studied in theory, in laboratory experiments with human subjects and in real markets.

Nonlinear economic dynamics

This part of the programme focuses on nonlinear complexity models of dynamic market phenomena. Are market fluctuations mainly caused by random exogenous shocks, or can endogenous nonlinear economic laws of motion explain (a significant part of) the fluctuations? Various deterministic and stochastic economic models are studied theoretically, computationally as well as empirically, attempting to explain the most important stylised facts observed in real economic and financial time series. Emphasis is given to *complex adaptive systems* where markets consist of a large population of agents selecting simple strategies according to their relative success in the recent past. In these evolutionary adaptive systems endogenous variables such as prices and agents' beliefs co-evolve over time.

Dynamic optimisation

Emphasis is given to dynamic optimisation problems in environmental economics, characterised by a conflict between economic benefits and ecological costs. Tools from nonlinear dynamics and bifurcation theory are employed to investigate non-convex dynamic optimisation problems. The main thrust is a structural analysis, that is, investigation of the global solution structure of dynamic optimisation problems and dynamic games. The qualitative changes of these solutions are studied under changes of the parameters. Geometrical methods, like bifurcation theory, normal form theory and perturbation theory, as well as numerical methods yield insights that hold not just at isolated parameter values, but for the complete parameter set.

7.3 PROGRAMME EVALUATION

This programme grew out of a mathematical economics program Equilibrium and Dynamics, led by Weddepohl, which was quite small until the mid nineties. The group was extended considerably at the end of 1998, thanks to an NWO-MaG Pionier grant awarded to Hommes, to set up the Center for Nonlinear Dynamics in Economics and Finance (CeNDEF). At that time the program changed from a small specialized mathematical economics program into a multi-disciplinary research program with an emphasis on economic theory, but also running laboratory experiments (in cooperation with Joep Sonnemans at CREED) to test behavioural theories and doing empirical work as well (in cooperation with Peter Boswijk at UvA-Econometrics), in particular nonlinear time series analysis, to test behavioural models empirically. Weddepohl retired in 2002 while Furth and Koster joined the group in the same year; from that point onwards, game theory has been included as one of the research themes of the program. At the end of 2003, the CeNDEF postdocs Diks, Tuinstra and Wagener obtained tenured positions, ensuring the continuation of the research program.

The publication record of the year 2017 is very good. The output included 16 articles in international refereed journals, amongst which publications in the Economic Journal, the Journal of Economic

Dynamics and Control and the Journal of Economic Behavior and Organization, and, among others, a manuscript that was accepted for publication in the Journal of Business & Economic Statistics. There were three PhD students, Gregor Boehl, Joep Lustenhouwer and Moutaz Altaghlibi, that had their main supervisor from the group, who defended their thesis successfully.

The programme is internationally established, as is shown by excellent citation statistics (e.g. according to the Science Citation Index (SCI) in 2017 more than 500 citations of published work by group members), many invited and several keynote lectures at international seminars, conferences and workshops by various members of the research group. In the IDEAS/RePEc ranking of Top 20% institutes (<http://ideas.repec.org/top/top.netherlands.html>), CeNDEF ranks as number 11, two positions up from last year. This ranking contains faculties of economics and departments; among the small institutes of the order of a research group (up to 16 researchers) CeNDEF ranks 4th on the list.

In 2017, Stephanie Huber joined the group as a Tenure Tracker and Alessandro Basurto (EDEEM), Johan de Jong, Eva Levelt (ExSIDE), Tolga Ozden and Enrico Turco (ExSIDE) joined the group as PhD students.

The evaluation can be summarized in the following SWOT analysis of the CeNDEF activities.

Strengths: international reputation as an excellent research group on nonlinear dynamics and complexity applications in economics and finance, high scientific impact (e.g., with both having been cited over 500 times (Web of Science), Brock and Hommes (Econometrica 1997), and Brock and Hommes (JEDC 1998), are two of the best cited journal articles co-authored by a Dutch economist), regular international visitors, active seminars and international workshops, own working paper series, frequently visited website, good facilities for computing and travel.

Weaknesses: relatively few publications in top mainstream journals, where multi-disciplinary work and non-mainstream approach such as agent-based modelling and complexity modelling are getting accepted only slowly; the number of links with practitioners and policy makers has been relatively low, but is increasing.

Opportunities: development of UvA Graduate School in Economics; application of group-specific know-how to core economic problems, to demonstrate in this way the value of the programme's characteristic approach; developing more policy oriented research, e.g. through a new project on heterogeneous expectations in macro economics and monetary policy; for example, there are close collaborations with the UvA Institute of Advanced Study, Statistics Netherlands and with researchers and policy makers at DNB.

Threats: A multidisciplinary group is likely to be handicapped when evaluated in a mono-disciplinary environment; and the complexity of the tools used may turn out to be an impediment at disseminating the research approach.

7.4 RESOURCES AND FUNDING

The budget received from ASE-RI covers on average one conference per researcher per year. A budget of the Faculty covers some of the costs for the Economics Colloquia; another budget of the Tinbergen Institute covers the costs of joint research seminars Cooperative Behaviour, Strategic Interaction and Complex Systems - CSC together with the VU mathematical economics group.

The group has been very successful in obtaining additional external funding for individual PhD students (NWO Research Talent grants). In 2016, the NWO Ora project “Behavioural and Experimental Analysis in Macro-Finance, led by Jan Tuinstra, started. Moreover, CeNDEF is part of several European consortia that obtained grants and two INET projects, “Coordination of Expectations”, led by Roger Guesnerie and “Heterogeneous Expectations and Financial Crises”, led

by Cars Hommes. The EU FP7-SHS Collaborative project (with 12 European partners) "Integrated Macro-Financial Modelling for Robust Policy Design (MACFINROBODS)", 2014-2017, was coordinated by Cars Hommes for the UvA. Another EU Horizon 2020 project "Bridging the gap: from Individual Behaviour to the Socio-technical MaN (IBSEN)" has started in September 2015. For 2017-2020 funding has been obtained in a Marie Curie Innovative Training Network "Expectations and Social Influence Dynamics in Economics (ExSIDE)", allowing for 5 additional PhD positions (on mobility track basis) within the program from September 2017.

7.5 OUTPUT

Key publications

- Bao, T., Hommes, C., & Makarewicz, T. (2017). Bubble formation and (in)efficient markets in learning-to-forecast and optimise experiments. *Economic Journal*, 127(605), F581-F609.
- Battiston, S., Farmer, J.D., Flache, A., Garlaschelli, D., Haldane, A.G., Heesterbeek, H., Hommes, C., Jaeger, C., May, R. and Scheffer, M. (2016). Complex Systems: Complexity theory and financial regulation. *Science* 351, 818-819.
- Diks, C. and Wolski, M. (2016). Nonlinear Granger Causality: Guidelines for Multivariate Analysis. *Journal of Applied Econometrics* 31, 1333-1351.
- Dockner, E. and Wagener, F. (2014). Markov perfect Nash equilibria in models with a single capital stock. *Economic Theory* 56, 585-625.
- Hommes, C.H. and Zhu, M. (2014). Behavioral Learning Equilibria, *Journal of Economic Theory* 150, 778-814.
- Linde, J., Sonnemans, J. and Tuinstra, J. (2014). Strategies and evolution in the minority game: A multi-round strategy experiment. *Games and Economic Behavior* 86, 77-95.

Forthcoming

- Anufriev, M. and Kopanyi, D. (2018). Oligopoly Game: Price Makers Meet Price Takers, *Journal of Economic Dynamics and Control*,
- Bao, T., Diks, C., & Li, H. (2018). A generalized CAPM model with asymmetric power distributed errors with an application to portfolio construction. *Economic Modelling*, 68, 611-621.
- Cornea-Madeira, A., Hommes, C., & Massaro, D. (2018). Behavioral Heterogeneity in U.S. Inflation Dynamics. *Journal of Business & Economic Statistics*. Forthcoming, available on-line.
- Diks, C., Li, X. and Wu, C. (2018). Information cost, memory length and market instability, *Nonlinear Dynamics, Psychology, and Life Sciences*.
- Hommes, C., Lustenhouwer, J., & Mavromatis, K. (2018). Fiscal consolidations and heterogeneous expectations. *Journal of Economic Dynamics and Control*, 87, 173-205.
- Hommes, C.H. (2018), Carl's nonlinear cobweb, *Journal of Economic Dynamics and Control*.
- Hommes, C.H., Ochea, M. and Tuinstra, J. (2018). Evolutionary competition between adjustment processes in Cournot oligopoly: instabilities and complex dynamics, *Dynamic Games and Applications*.
- Leur, M. van de and Anufriev, M. (2018). Timing under individual evolutionary learning a continuous double auction, *Journal of Evolutionary Economics*.
- Roy, D., Lees, M. H., Pfeffer, K., & Sloot, P. M. A. Spatial segregation, inequality, and opportunity bias in the slums of Bengaluru. *Cities : The International Journal of Urban Policy and Planning*, 74, 269-276.
- Salle, I., Seppacher, P. and Lang, D. (2018). Is the market really a good teacher? Market selection, collective adaptation and financial instability, *Journal of Evolutionary Economics*.
- Salle, I., Senegas, M.-A., Yildizoglu, M. (2018). How transparent should a Central Bank be? An ABM assessment, *Journal of Evolutionary Economics*.

- Schmitt, N., Tuinstra, J., & Westerhoff (2018). Market Interactions, Endogenous Dynamics and Stabilization Policies, in: *The Economy as a Complex Spatial System: Macro, Meso and Micro Perspectives*, Eds. P. Commendatore et al., Springer Proceedings in Complexity, Springer, Berlin, NY.
- Schmitt, N., Tuinstra, J., & Westerhoff, F. (2018). Stability and welfare effects of profit taxes within an evolutionary market interaction model. *Review of International Economics*.
- Seppecher, P., Salle, I. And Lavoie, M. (2018). What drives markups? Evolutionary pricing in an agent-based stock-flow consistent macroeconomic model, *Industrial and Corporate Change*.

E-publication ahead of print

- Cornea-Madeira, A., Hommes, C., & Massaro, D. (2017). Behavioral Heterogeneity in U.S. Inflation Dynamics. *Journal of Business & Economic Statistics*.
- Schmitt, N., Tuinstra, J., & Westerhoff, F. (2017). Stability and welfare effects of profit taxes within an evolutionary market interaction model. *Review of International Economics*.

Publications in numbers

Output type	Classification	#
Articles in journals	Refereed	16
	Non-refereed	0
	Professional	0
Books or book chapters	Refereed	1
	Non-refereed	0
	Professional	0
Conference proceedings	Non-refereed	0
PhD theses		4
Total		21

Article in journal – refereed

- Assenza, T., Brock, W. A., & Hommes, C. H. (2017). Animal spirits, heterogeneous expectations and the amplification and duration of crises. *Economic Inquiry*, 55(1), 542-564.
- Bao, T., Hommes, C., & Makarewicz, T. (2017). Bubble formation and (in)efficient markets in learning-to-forecast and optimise experiments. *Economic Journal*, 127(605), F581-F609.
- Da Gama Batista, J., Massaro, D., Bouchaud, J. P., Challet, D., & Hommes, C. (2017). Do investors trade too much? A laboratory experiment. *Journal of Economic Behavior & Organization*, 140, 18-34.
- Diks, C., & Fang, H. (2017). Transfer Entropy for Nonparametric Granger Causality Detection: An Evaluation of Different Resampling Methods. *Entropy*, 19(7), [372].
- Graaf, C. S. L. de, Kandhai, D., & Sloot, P. M. A. (2017). Efficient Estimation of Sensitivities for Counterparty Credit Risk with the Finite Difference Monte Carlo Method. *Journal of Computational Finance*, 21(1), 83-113.
- Hinloopen, J., Smrkolj, G., & Wagener, F. (2017). Research and development cooperatives and market collusion: a global dynamic approach. *Journal of Optimization Theory and Applications*, 174(2), 567-612.
- Hommes, C., & in 't Veld, D. (2017). Booms, busts and behavioural heterogeneity in stock prices. *Journal of Economic Dynamics & Control*, 80, 101-124.
- Hommes, C., Makarewicz, T., Massaro, D., & Smits, T. (2017). Genetic algorithm learning in a New Keynesian macroeconomic setup. *Journal of Evolutionary Economics*, 27(5), 1133–1155.
- Kopányi-Peuker, A., Offerman, T., & Sloof, R. (2017). Fostering cooperation through the enhancement of own vulnerability. *Games and Economic Behavior*, 101, 273-290.
- Kopányi, D. (2017). The Coexistence of Stable Equilibria under Least Squares Learning. *Journal of Economic Behavior & Organization*, 141, 277-300.

- Koster, M., Kurz, S., Lindner, I., & Napel, S. (2017). The Prediction Value. *Social Choice and Welfare*, 48(2), 433-460.
- Papana, A., Kyrtsov, C., Kugiumtzis, D., & Diks, C. (2017). Financial networks based on Granger causality: A case study. *Physica A: Statistical Mechanics and its Applications*, 482, 65-73.
- Papana, A., Kyrtsov, C., Kugiumtzis, D., & Diks, C. (2017). Assessment of Resampling Methods for Causality Testing: A note on the US Inflation Behavior. *PLoS One*, 12(7), [e0180852].
- Roy, D., Lees, M. H., Pfeffer, K., & Sloot, P. M. A. (2017). Modelling the impact of household life cycle on slums in Bangalore. *Computers, Environment and Urban Systems*, 64, 275-287.
- Salle, I., Yildizoglu, M., Zumpo, M. and Senegas, M.-A., (2017) Coordination through social learning in a general equilibrium model, *Journal of Economic Behavior and Organization*, 141, 64-82.
- Schmitt, N., Tuinstra, J., & Westerhoff, F. (2017). Side effects of nonlinear profit taxes in an evolutionary market entry model: Abrupt changes, coexisting attractors and hysteresis problems. *Journal of Economic Behavior & Organization*, 135, 15-38.

Book chapter – refereed

- Hommel, C. (2017). From self-fulfilling mistakes to behavioral learning equilibria. In K. Nishimura, A. Venditti, & N. C. Yannelis (Eds.), *Sunspots and nonlinear dynamics: Essays in honor of Jean-Michel Grandmont* (pp. 97-123). (Studies in Economic Theory; Vol. 31). Cham: Springer.

Dissertation – internally prepared

- Lustenhouwer, J. E. (2017). Monetary and fiscal policy under bounded rationality and heterogeneous expectations.
- Sniekers, F. J. T. (2017). On the functioning of markets with frictions.

Dissertation – externally prepared

- Altaghlibi, M. (2017). Carbon leakage and green growth.
- Böhl, G. A. (2017). Macrofinance dynamics, heterogeneity, and policy design.

Talk or presentation

- Altaghlibi, M. (Speaker), Dynamic Border Carbon Taxes to Enhance Green Growth, 23rd Annual Conference of the European Association of Environmental and Resource Economists (EAERE), Athens, 30 June 2017.
- Diks, C. (Speaker), Complexity in Economics and Finance, Deutsche Physicalische Gesellschaft -- Socio-economic Systems (DPG-SOE) Conference, Dresden, 20 March 2017.
- Diks, C. (Speaker), Comparing Density Forecasts in a Risk Management Context, 11th Conference on Computational and Financial Econometrics, London, UK, 16 December 2017.
- Hennequin, M. (Speaker), Coordination on bubbles in large-group asset pricing experiments, QED Jamboree 2017, 12 May 2017.
- Hennequin, M. (Speaker), Managing coordination on bubbles in experimental asset markets with monetary policy, Experimental Finance 2017, Nice, 15 June 2017.
- Hennequin, M. (Speaker), Managing coordination on bubbles in experimental asset markets with monetary policy, The 23th International Conference on Computing in Economics and Finance, New York, 28 June 2017.
- Hennequin, M. (Speaker), Coordination on bubbles in large-group asset pricing experiments, 70th European Meeting of the Econometric Society: ESEM 2017, Portugal, 23 August 2017.
- Hommel, C. (Speaker), Behavioural & Experimental Macroeconomics: a survey and some recent findings, 5th Workshop in Macro Banking and Finance, Milan, 14-15 September 2017.
- Hommel, C. (Speaker), Learning to believe in simple equilibria in a complex OLG economy. Evidence from the lab, AEA meetings, Chicago, USA, January 6-8, 2017.

- Hommel, C. (Speaker), Amsterdamlezing: Speculatieve zeepbellen en financiële crises in het laboratorium, 28 February 2017.
- Huber, S. (Speaker), Preference for Housing Services and Rational Housing Bubbles, Free University Amsterdam, 2017.
- Huber, S. (Speaker), Preference for Housing Services and Rational Housing Bubbles, University Pompeu Fabra, Barcelona, 2017.
- Huber, S. (Speaker), Preference for Housing Services and Rational Housing Bubbles, Equilibrium, Expectations & Dynamics / CeNDEF (ASE, FEB), 2017.
- Huber, S. (Speaker), Preference for Housing Services and Rational Housing Bubbles, IESEG, Lille, 2017.
- Huber, S. (Speaker), Preference for Housing Services and Rational Housing Bubbles, Ludwig-Maximilians-University (LMU), Munich, 2017.
- Huber, S. (Speaker), Preference for Housing Services and Rational Housing Bubbles, Banque de France, 2017.
- Kopányi, D. (Speaker), Prices vs. Returns in Learning-to-Forecast Experiments, The 22nd Workshop on Economic Science with Heterogeneous Interacting Agents, Milan, 13 Jun 2017.
- Kopányi, D. (Speaker), Prices vs. Returns in Learning-to-Forecast Experiments, Experimental Finance 2017, Nice, 15 June 2017.
- Kopányi-Peuker, A. (Speaker), Are sunspots effective in a big crowd? Evidence from a large-scale bank run experiment, M-BEES: Maastricht Behavioral and Experimental Economics Symposium, Maastricht, 6 June 2017.
- Kopányi-Peuker, A. (Speaker), Are sunspots effective in a big crowd? Evidence from a large-scale bank run experiment, The 22nd Workshop on Economic Science with Heterogeneous Interacting Agents, Milan, 12 June 2017.
- Kopányi-Peuker, A. (Speaker), Are sunspots effective in a big crowd? Evidence from a large-scale bank run experiment, Computation in Economics and Finance (CEF 2017): CEF 2017, New York, 29 Jun 2017.
- Kopányi-Peuker, A. (Speaker), "I" on You: Observer Identity in a Dictator Game, TIBER 2017 Symposium on Psychology and Economics, Tilburg, 25 August 2017.
- Tuinstra, J. (Speaker), Information and learning in the minority game: A strategy experiment, University of Florence, 21 March 2017.
- Tuinstra, J. (Speaker), The overcharge as a measure for antitrust damages, University of Siena, 22 March 2017.
- Tuinstra, J. (Speaker), Prices vs. returns in Learning-to-Forecast experiments, The 23th International Conference on Computing in Economics and Finance, New York, 29 June 2017.
- Tuinstra, J. (Speaker), Prices vs. returns in Learning-to-Forecast experiments, BEAM Project workshop, Kyoto, 4-5 November 2017.
- Wagener, F. (Speaker), The Dynamics, the Economics, and the Expectations, 2nd CRITICS Workshop and Winter School: Critical transitions: Bridging mathematics and practice, Soesterberg, 24 March 2017.
- Wagener, F. (Speaker), Coalition formation in the presence of tipping points, CESifo, 19 May 2017.
- Wagener, F. (Speaker), Coalition formation in the presence of tipping points, EAERE2017 - 23rd Annual Conference of the European Association of Environmental and Resource Economists, Athens, 29 June 2017.
- Wagener, F. (Speaker), Coalition formation in the presence of tipping points, 11th ISDG Workshop, Warsaw, 13 July 2017.
- Wagener, F. (Speaker), Stable Partial Cooperation in Managing Ecological Systems with Tipping Points, 19th Annual BIOECON Conference: Evidence-based environmental policies and the optimal management of natural resources, 22 September 2017.

Prize

- Huber, S. (Recipient), Barcelona GSE SEED grant (5000 Euro) for the project “Biased Expectations and Skill Mismatch”, 2017.
- Hommel, C.H. (Recipient), Wim Duisenberg Research Fellowship, 2017.

Publication peer-review and editorial work

- Amman, H. (Editor in chief), Springer, 1988 -
Amman, H. (Reviewer), Springer, 1 Jan 1989 -
Hommes, C. (Editor), Review of Behavioral Economics, 2014 -
Hommes, C. (Editor), Macroeconomic Dynamics, 1997 -
Hommes, C. (Editor), Computational Economics, 1998 -
Hommes, C. (Editor), Journal of Economic Interaction and Coordination, 2006 -
Hommes, C. (Editor), Journal of Economic Dynamics and Control, 2013 -
Huber, S. (Reviewer), Experimental Economics, 2017.
Kopányi-Peuker, A. (Reviewer), Journal of Behavioral and Experimental Economics, 2017.
Kopányi-Peuker, A. (Reviewer), Games and Economic Behavior, 2016 -
Wagener, F. (Reviewer), Dynamic Games and Applications, 2016 -
Wagener, F. (Reviewer), Economic Journal, 2016 -
Wagener, F. (Reviewer), Environmental and Resource Economics, 2016 -
Wagener, F. (Reviewer), Journal of Economic Behavior & Organization, 2016 -
Wagener, F. (Reviewer), Journal of Economic Theory, 2016 -
Wagener, F. (Reviewer), Journal of Public Economics, 2016 -
Wagener, F. (Reviewer), Nature Communications, 2016 -
Wagener, F. (Reviewer), Applied Mathematical Modelling, 2017.
Wagener, F. (Reviewer), Communications in Nonlinear Science & Numerical Simulation, 2017.
Wagener, F. (Reviewer), Dynamic Games and Applications, 2017.
Wagener, F. (Reviewer), Journal of Economic Dynamics & Control, 2017.
Wagener, F. (Reviewer), Journal of Optimization Theory and Applications, 2017.
Wagener, F. (Reviewer), Journal of the Royal Society Interface, 2017.
Wagener, F. (Reviewer), Mathematical Reviews, 2017.
Wagener, F. (Reviewer), SIAM Journal on Control and Optimization, 2017.