

DEPARTMENT OF ECONOMICS AND FINANCE

WEHIA 2017

*22nd Annual Workshop
on Economic Science
with Heterogeneous
Interacting Agents*

International Conference

12, 13 and 14 June 2017

Università Cattolica del Sacro Cuore, Milan



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Complexity Lab in Economics

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WEHIA 2017

22nd Workshop on the Economic Science with Heterogeneous Interacting Agents

Università Cattolica del Sacro Cuore, Milano

June 12-14

Programme

All plenary sessions will take place in Room 005-Cripta Aula Magna

Plenary Speakers

Cars Hommes, University of Amsterdam

Giulia Iori, City University London

Franck Portier, Toulouse School of Economics

Pontus Rendahl, University of Cambridge

Coffee breaks, lunches and the welcome cocktail will take place in Giardino di Santa Caterina

Day 1 - 12/06/2017			
14.00 - 15.00 PLENARY SESSION Giulia Iori <i>Interbank lending: networks and rates</i> Chair: Domenico Delli Gatti			
15.00 - 16.20 PARALLEL SESSION 1			
A Estimation, calibration and validation 1 Room G.112 Necchi	B Macroprudential regulation Room G.113 Meda	C Portfolio decisions Room G.114 Bisleti	D Nonlinear dynamics Room G.115 Ruffilli
<p>Sylvain Barde <i>A Multivariate extension of the Markov Information Criterion</i></p> <p>Francesco Lamperti <i>Agent Based Model Calibration using Machine Learning Surrogates</i></p> <p>Sander van der Hoog <i>Empirical validation of the Eurace@Unibi model</i></p> <p>Gabriele Tedeschi (session chair) <i>How banks' strategies influence financial cycles: an approach to identifying micro behavior</i></p>	<p>Marco Gross <i>Macroprudential Analysis using an Agent-Based Macroeconomic Model of the Euro Area</i></p> <p>Yoshi Fujiwara <i>Propagation of Liquidity Shock on Bank and Trade Credits in Japan at Nationwide Scale</i></p> <p>Arzu Uluc <i>Macroprudential Policy in an Agent-Based Model of the UK Housing Market</i></p> <p>Hideaki Aoyama (session chair) <i>Challenges in Macroprudential Regulation for Bank Network Stability</i></p>	<p>Giulio Bottazzi <i>Relative Performance of Mean-Variance, Kelly and Universal Portfolios in the Equity Markets</i></p> <p>Fabio Caccioli <i>Analytic solution to variance optimization with no short-selling</i></p> <p>Damien Challet <i>Wisdom of the institutional crowd</i></p> <p>Andreia Dionisio (session chair) <i>Frontier Markets' Efficiency: Mutual Information and DFA Analyses</i></p>	<p>Roberto Dieci <i>Interactions between stock markets and housing markets</i></p> <p>Joao Teixeira <i>Stability of the solutions of the Solow growth model with time dependent labor growth</i></p> <p>Pierre Gosselin <i>A Path Integral Approach to Economic Systems with Multiple Interacting Agents</i></p> <p>Vincenzo Valori (session chair) <i>On heterogeneity and stability of large socio-economic systems</i></p>
16.20 - 16.50 Coffee break			

16.50 - 18.10
PARALLEL SESSION 2

A Labour markets Room G.112 Necchi	B Macroeconomics 1 Room G.113 Meda	C Agent-Based Modelling Room G.114 Bisleti	D Experiments 1 Room G.115 Ruffilli
<p>Giulia Rossello <i>Inequality and hierarchy in faculty hiring networks: evidence from South Africa</i></p> <p>Gerard Ballot <i>Introducing a temporary help agency in a labor market : a multi-agent model</i></p> <p>Masatoshi Murakami (session chair) <i>Does the Widening Coverage of Job Assistance Work Well for Social Inclusion? - An Analysis using ABM</i></p>	<p>Chiara Punzo <i>Money-Financed versus Debt-Financed Fiscal Stimulus with Borrowing Constraints</i></p> <p>Jesper Riedler <i>Towards a Microfounded Agent-Based Macroeconomic Model</i></p> <p>Massimo Ferrari (session chair) <i>Cascades along the business cycle</i></p>	<p>Ali Hosseiny <i>Keynesian or New Classical Economics? Network Determines Which School is Right</i></p> <p>Dirk Kohlweyer <i>Consumer Learning in a Market with Capacity Constraints</i></p> <p>Oliver Richters (session chair) <i>Meta Modeling for Agent-Based Models based on Constrained Dynamics</i></p>	<p>Steffen Ahrens <i>The Stabilizing Role of Forward Guidance: A Macro Experiment</i></p> <p>Luba Petersen <i>Coordinating expectations through central bank projections</i></p> <p>Ekaterina Shakina <i>Withdrawal behaviour of depositors during economic crisis of a bank: An experimental study</i></p> <p>Annarita Colasante (session chair) <i>The role of long-term expectations in the stability of the market price: Experiment and Simulation</i></p>
<p>18.30 - 20.00 Welcome Cocktail</p>			

Day 2- 13/06/2017			
9.30 - 10.50			
PARALLEL SESSION 3			
A	B	C	D
Estimation, calibration and validation 2 Room G.112 Necchi	Experiments 2 Room G.113 Meda	Network 1 Room G.114 Bisleti	Open economies Room G.115 Ruffilli
<p>Leonardo Bargigli <i>Network Calibration and Metamodeling of a Financial Accelerator Agent Based Model</i></p> <p>Thomas Lux <i>Estimation of Agent-Based Models using Sequential Monte Carlo Methods</i></p> <p>Jiri Kukacka <i>On the Estimation of Behavioral Macroeconomic Models via Simulated Maximum Likelihood</i></p> <p>Mariaenrica Virgilito (session chair) <i>On the robustness of the fat-tailed distribution of firm growth rates: a global sensitivity analysis</i></p>	<p>Guidon Fenig <i>Deflating Asset Price Bubbles with Leverage Constraints and Monetary Policy</i></p> <p>Anita Kopanyi - Peuker <i>Are sunspots effective in a big crowd? – Evidence from a large-scale bank run experiment</i></p> <p>David Kopanyi <i>Prices vs. Returns in Learning-to-Forecast Experiments</i></p> <p>Tomasz Makarewicz (session chair) <i>Experimental study on the effect of nominal price level versus inflation targeting with and without guidance</i></p>	<p>Andrea Giovannetti <i>Formation of Multi-Sector Economies and Trade-Credit: Can Banks Amplify Contagion Risk?</i></p> <p>Hiroshi Iyetomi <i>Interfirm Flow Structure of an Exhaustive Production Network in Japan</i></p> <p>Takayuki Mizuno <i>Grasping the distribution route of conflict minerals on global supply chain</i></p> <p>Duc Luu (session chair) <i>Shock Diffusion in the European Production Network</i></p>	<p>Giorgio Ricchiuti <i>Heterogeneous Firms and International Trade: The role of Financial Fragility and Monetary Policy</i></p> <p>Alessandro Caiani <i>The Effects of Fiscal Targets in a Currency Union: a Multi-Country Agent Based-Stock Flow Consistent Model</i></p> <p>Emanuele Russo <i>Endogenous growth and global divergence in a multi-country agent-based model</i></p> <p>Andrea Teglio (session chair) <i>Eurace Open: an agent-based multi-country model</i></p>
10.50 - 11.20 Coffee break			
11.20 - 12.20 PLENARY SESSION Pontus Rendahl <i>Uninsurable unemployment risk as a propagator of aggregate fluctuations</i> Chair: Tiziana Assenza			
12.20 - 13.30 Lunch			
13.30 - 14.30 PLENARY SESSION Cars Hommes <i>Behavioral & experimental macroeconomics</i> Chair: Mauro Napoletano			

14.30 - 15.50 PARALLEL SESSION 4			
A Herding behaviour Room G.112 Necchi	B Macroeconomics 2 Room G.113 Meda	C Microeconomics 1 Room G.114 Bisleti	D Climate change economics Room G.115 Ruffilli
<p>Rong Ma <i>Index Coupling and Market Crash</i></p> <p>Ladislav Kristoufek <i>Herding, minority game, market clearing and efficient markets in a simple spin model framework</i></p> <p>Maria Cristina Recchioni <i>Can ants change their opinion? An analytically tractable agent-based herding model</i></p> <p>Simone Alfarano (session chair) <i>Herding behaviour in stock markets</i></p>	<p>Mariaenrica Virgilito <i>Causes and Consequences of Hysteresis: Aggregate Demand, Productivity and Employment</i></p> <p>Mattia Guerini <i>Be patient enough to wait for what you deserve: banks' time horizons, borrowing constraints and the evolution of industries</i></p> <p>Karolina Safarzynska <i>Behavioral aspects of the rebound effect: the impact of consumer myopia on life-cycle emissions from conventional and electric vehicles</i></p> <p>Marco Mazzoli and Pietro Terna (session chair) <i>Business cycle in a macromodel with oligopoly and agents' heterogeneity: an agent-based approach</i></p>	<p>Sylvain Mignot <i>When fish are lemons : Quality uncertainty of bundle of goods and co-existing market mechanisms</i></p> <p>Simone Pellegrino <i>An Evolutionary Approach to Balance the Equity-efficiency Trade-off in Personal Income Taxation</i></p> <p>Davide Radi <i>Heterogeneous behavioral rules in quantity-setting oligopolies with bounded rational firms: A spiteful firm plays the Walrasian equilibrium</i></p> <p>Jean Paul Rabanal (session chair) <i>On the dynamic stability of a price dispersion model using gradient dynamics</i></p>	<p>Veronika Stolbova <i>The climate-finance macro-network: mapping the exposure of the financial system to climate policy risks in the Euro Area</i></p> <p>Andrea Roventini <i>Faraway, so close: an agent-based model for climate, energy and macroeconomic policy</i></p> <p>Paola D'orazio <i>Financing the transition towards a sustainable economy: an ABM approach</i></p> <p>Silvano Cincotti (session chair) <i>Macroeconomic impacts of green finance: the sustainable transition in the EURACE model</i></p>
15.50 - 16.20 Coffee break			
16.20 - 17.20 Round Table: <i>Heterogeneity and Non-linear Dynamics: Where do we stand and Where do we go?</i> Moderator: Domenico Delli Gatti Panelists: Cars Hommes, Giulia Iori, Franck Portier, Pontus Rendahl			
20.00 Gala Dinner			

Day 3- 14/06/2017			
9.30 - 10.50			
PARALLEL SESSION 5			
A Financial Markets Room G.112 Necchi	B Income and wealth inequality Room G.113 Meda	C Network 2 Room G.114 Bisleti	D Macroeconomics and growth Room G.115 Ruffilli
<p>Susanna Calimani <i>Simulating Fire-Sales in a Banking and Shadow Banking System</i></p> <p>Soumya Datta <i>Exchange rate dynamics under limited arbitrage and heterogeneous expectations</i></p> <p>Kenta Yamada <i>Relationships between market impact characteristics and order book properties</i></p> <p>Alessio Biondo (session chair) <i>Order book modeling and financial stability</i></p>	<p>Matteo Coronese <i>Income Inequality, Credit Markets and Macroeconomic Crisis - A DSGE approach</i></p> <p>Maxime Gueuder <i>Wealth Inequality in Macro Agent-Based Models</i></p> <p>Cyrille Piatecki <i>Matching dynamics and inequality in a multi-agents labor market setting</i></p> <p>Philipp Harting (session chair) <i>On the Effects of Social Influence and Wage Expectations on Wage Inequality</i></p>	<p>Yuji Aruka <i>Some new perspectives on the inter-country analysis of the world production system</i></p> <p>Hiroyasu Inoue <i>Propagation of Negative Shocks through Firm Networks: Evidence from Simulation on Comprehensive Supply-Chain Data</i></p> <p>Athanasios Lapatinas <i>The role of networks in firms' multi-characteristics competition and market-share inequality</i></p> <p>Fabio Vanni (session chair) <i>Endogenous money in a dynamic network formation model with VaR constraints</i></p>	<p>Federico Bassi <i>Coerced Investments and Endogenous Structural Change in an Agent-Based Stock-Flow Consistent Model</i></p> <p>Marcin Bielecki <i>The impact of business cycle fluctuations on aggregate endogenous growth rates</i></p> <p>Anna Maria Variato <i>Unemployment and Growth in a Top Down and Bottom-Up Perspective</i></p> <p>Tommaso Ciarli (session chair) <i>Structural Change and Growth Regimes</i></p>
10.50 - 11.20 Coffee break			
11.20 - 12.20 PLENARY SESSION Franck Portier <i>Putting the cycle back into business cycle analysis</i> Chair: Thomas Lux			
12.20 - 13.30 Lunch			

13.30 - 14.50
PARALLEL SESSION 6

A Macroeconomics 3 Room G.112 Necchi	B Financial stability Room G.113 Meda	C Networks and information Room G.114 Bisleti	D Microeconomics 2 Room G.115 Ruffilli
<p>Vipin Veetil <i>The Effects of Monetary Shocks on the Distribution of Prices</i></p> <p>Stefano Marzioni <i>Learning with uncertain inflation target</i></p> <p>Michele Tettamanzi <i>E Many Pluribus Unum: A Behavioural Macro-Economic Agent Based Model</i></p> <p>Lilit Popoyan (session chair) <i>Tinbergen revisited: Monetary and Macro-prudential Policy Interactions in a Macroeconomic Agent-based Model with Interbank Market</i></p>	<p>Rosanna Grassi <i>Directed clustering as a measure of systemic risk: a new perspective</i></p> <p>Wataru Souma <i>Anticipating financial crises: elucidation of lead-lag structure of early warning indicators</i></p> <p>Iryna Veryzhenko <i>Market structure or traders' behavior? An assessment of flash crash phenomena and their regulation based on a multi-agent simulation</i></p> <p>Yuri Biondi (session chair) <i>Interbank credit and the money manufacturing process: A systemic perspective on financial stability</i></p>	<p>Orowa Sikder <i>How networks shape fake narratives</i></p> <p>Matjaz Steinbacher <i>Opinion Formation with Imperfect Agents as an Evolutionary Process</i></p> <p>Luca Gerotto <i>The role of rationally and irrationally grounded expectations in four European countries</i></p> <p>Stephan Leitner (session chair) <i>An agent-based variant of the standard hidden-action model</i></p>	<p>Ariel Wirkierman <i>An evolutionary agent-based model of innovation and the risk-reward nexus</i></p> <p>Sabin Roman <i>Topology-dependent rationality and quantal response equilibria in structured populations</i></p> <p>Yoshiyuki Arata <i>A Compositional Data Analysis of Market Share Dynamics</i></p> <p>Iqbal Owadally (session chair) <i>Cycles in Insurance Markets when Agents are Heterogeneous and Boundedly Rational</i></p>

14.50 - 15.10
Coffee break

15.10 - 16.30
PARALLEL SESSION 7

A Macroeconomics 4 Room G.112 Necchi	B Social preferences Room G.113 Meda	C Networks 3 Room G.114 Bisleti	D Financial markets 2 Room G.115 Ruffilli
<p>Gang Gong <i>Investment and Business Cycles from the Perspective of Stabilizing and Destabilizing Mechanisms: Evidence from China</i></p> <p>Elisabeth Pröhl <i>Discretizing the Infinite-Dimensional Space ff Distributions to Approximate Markov Equilibria with Ex-Post Heterogeneity and Aggregate Risk</i></p> <p>Massimiliano Rizzati <i>Heterogeneity and Economic geography: the formation and effects of Spatial Inequality</i></p> <p>Chris Georges (session chair) <i>Product Innovation, Economic Dynamism, and Consumption Inequality</i></p>	<p>Elena Orlova <i>Evolution of Social Preferences and Cognitive Intelligence</i></p> <p>Sebastiano Della Lena <i>A Microfoundation of Social Norms and Their Implications for Normal Form Games</i></p> <p>Simone Righi <i>Reflexivity reduces pro-sociality but only among strategic subjects</i></p> <p>Emiliano Alvarez (session chair) <i>Consensus and equilibria in the presence of self-interest and conformity in social groups</i></p>	<p>Andreas Krause <i>Central Bank Monetary Policy and Interbank Lending Networks</i></p> <p>Di Xiao <i>A Model of the Emergence of Core-Periphery Structures in Interbank Lending</i></p> <p>Mauro Napoletano <i>Collateral Unchained: Rehypotecation networks, complexity and systemic effects</i></p> <p>Massimo Molinari (session chair) <i>Bilateral Netting and Systemic Losses in Banking Networks</i></p>	<p>Ken Bastiaensen <i>SaveLife: A Real-World Heterogeneous Agent Approach to Saving and Investment Behaviour</i></p> <p>Danilo Liuzzi <i>Fast traders and slow price adjustments: an artificial market with strategic interaction and transaction costs</i></p> <p>Daniele Giachini <i>The Less the Better: Rationality and Asset Prices</i></p> <p>Jacopo Staccioli (session chair) <i>Wealth-driven asymptotic survival in a financial market with demand shocks</i></p>
End of conference			