

MONDAY 24/9 ROOM 1

08:45 – 09:00

09:00 – 09:45

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Opening Talks

Cascading phenomena in social processes | Janos Kertesz

The Complexity of Sociology and the Sociology of Complexity | Fredrik Liljeros

Coffee Break

Modified Schelling segregational modeling of multiethnic societies and migration

| Georgios Mitkidis, Georgia Dede and Elpida Tzafestas

Detectability of Macroscopic Structures in Directed Networks: a Stochastic Block Model Approach | Mateusz Wilinski, Daniele Tantari, Piero Mazzarisi and Fabrizio Lillo

Structural Constraints on the Mixing Patterns of Binary Node Metadata

| Matteo Cinelli, Leto Peel, Antonio Iovanella and Jean-Charles Delvenne

Lost in Nestedness? Assessing the performances of nestedness indicators in mutualistic ecosystems | Claudia Payrato-Borras, Laura Hernandez and Yamir Moreno

Spreading processes in complex networks: a Cellular-automaton analysis

| Guilherme Ferraz de Arruda, Emanuele Cozzo, Pablo Rodriguez,

Francisco Rodrigues and Yamir Moreno

Knowledge Diffusion in Networks conditioned by Agents' Awareness

| Ioannis Antoniou, Evangelos Ioannidis, Nikolaos Varsakelis

Epidemic spreading in modular time-varying networks

| Matthieu Nadini, Kaiyuan Sun, Enrico Ubaldi, Michele Starnini, Alessandro Rizzo, Nicola Perra

Statistical mechanical extension of the Refined Minimum Description Length and the problem of community detection in complex networks

| Juan Ignacio Perotti, Claudio Juan Tessone, Aaron Clauset, Guido Caldarelli

Lunch Break

Big Data for understanding human dynamics: the power of networks | Fosca Giannotti

Optimality and Scaling in Living Systems and Ecological Communities: The Case of Plants and Forests | Amos Maritan

Social tipping elements instrumental for decarbonization by 2050

| Ilona M. Otto, Jonathan F. Donges, Avit Bhowmik, Roger Cremades Wolfgang Lucht

Scaling Patterns in Basic Sanitation Expenditure: the case of Brazil

| Ludmila D. Ribeiro, Fernando F. Ferreira and Camilo R. Neto

Capturing Interpersonal Synergies on Badminton

| Kike Lacasa Claver, Pedro Passos, Joao Milho and Carlota Torrents

Assessing nutritional diversity of barcoded food products: the Swiss market case- study

| Gianrocco Lazzari and Marcel Salathe

Data Mining and Networks Analysis of Mammalians as Potential Reservoirs of Viruses and Pathogens: The Colombian Northeastern Region Revision Case.

| Carlos Caceres, Juan Acevedo, Richard Hoyos-Lopez, Nelson Fernandez and Yesid Madrid

Coffee break

Facing complexity with self-organization | Carlos Gershenson

Complex Contagion: Competition, dual users and heterogeneous adoptability

| Maxi San Miguel and Byungjoon Min

Efficient detection of hierarchical block structures in networks

| Michael Schaub and Leto Peel

Generic features of temporal evolution in hierarchical complex systems

| Gerardo Iñiguez, Carlos Pineda, Carlos Gershenson, Jose A Morales and Albert-L Barabasi

Threshold cascade dynamics on signed networks | Sungmin Lee, Jaewook Kim, Kyu-Min Lee and Kwang-II Goh

Information Diffusion Backbones in Temporal Networks | Xiuixiu Zhan, Alan Hanjalic, Huijuan Wang

Multiple structural transition of interacting networks

| Giacomo Rapisardi, Giulio Cimini, Guido Caldarelli, Alex Arenas

MONDAY 24/9 ROOM 2

11:00 - 11:30	Emergence of encounter networks due to human mobility Jose Mateos
11:30 - 11:45	Anomalous Behaviors of Diffusion in Temporal Multiplex Networks Emanuele Cozzo, Conrad Perez-Vicente, Albert Diaz-Guilera
11:45 - 12:00	A dynamical approach to block structure analysis Mauro Faccin, Michael Schaub, Jean-Charles Delvenne
12:00 - 12:15	Does aggregation preserve communities? Adeline Decuyper, Yerai Gandica, Christophe Cloquet, Isabelle Thomas, Jean-Charles Delvenne
12:15 - 12:30	Optimal Coupling in Directed Multiplex Networks: A new type of superdiffusion Alejandro Tejedor, Anthony Longjas, Efi Foufoula-Georgiou, Tryphon Georgiou, Yamir Moreno
12:30 - 12:45	Overload of a network under a massive attack or random failure Gabriel Cwilich, Yosef Kornbluth, Sergey Buldyrev
12:45 - 13:00	Are Emerging Behaviours a Key Attribute of Complex Systems?
17:00 - 17:15	Turing instability in the context of language competition Alberto P. Munuzuri
17:15 - 17:30	Weighted multilayer competition fosters structural stability of mutualistic ecosystems Xiangrong Wang, Thomas K. Dm. Peron, Johan L. A. Dubbeldam, Yamir Moreno
17:30 - 17:45	Individual-Community Interactions and Emergent Strategies in League of Legends Alyssa Adams
17:45 - 18:00	The Strong Reinforcement Effects of Bidirectionality of Interactions on the Robustness of Evolving Open Systems
	Takashi Shimada, Fumiko Ogushi, Kimmo Kaski, Janos Kertesz
18:00 - 18:15	Modeling Systems with Coupled Dynamics (SCDs): A Multi-Agent, Networks, and Game Theory-based Approach
	Osman Ortega, Yesid Madrid, Guillermo Restrepo, Wilmer Leal, Carlos Gershenson, Nelson Fernandez
18:15 - 18:30	Leveraging Random-Walk Hitting Times for Influential Spreaders Identification Flavio Iannelli, Manuel Sebastian Mariani, Igor M. Sokolov
18:30 - 18:45	Time irreversibility of persistent time series generated by discrete Ito equation Monika Petelczyc, Zbigniew Czechowski
18:45 - 19:00	A simple model of cellular automata with inertia and applications in pattern formation and ecotones phenomena Marcos Da Luz

MONDAY 24/9 ROOM 3

11:00 - 11:30	Blockchain Technology for a Complex Society Tomaso Aste
11:30 - 11:45	Importance and Interactions of World Universities from 24 Wikipedia editions Celestin Coquide, Jose Lages, Dima L Shepelyansky
11:45 - 12:00	Bypassing Large Groups of Vulnerable Nodes in Complex Networks
	Sebastian M. Krause, Michael Danziger, Vinko Zlatic
12:00 - 12:15	Beware How You Cite: Reference Patterns From Successful and Unsuccessful Scientific Papers Julia Poncela-Casasnovas, Martin Gerlach, Luis Amaral
12:15 - 12:30	Social diversity for improving the performance of social learning
	Fernando Rosas, Deniz Gunduz, Kwang-Cheng Chen
12:30 - 12:45	Beyond community detection resolution limit: the Degree Corrected Asymptotic Significance Fabio Saracco, Carolina Becatti, Giuseppe Trapani
12:45 - 13:00	Higher Order Correlations and Complete Characterization of Bursty Dynamics Hang-Hyun Jo, Takayuki Hiraoka, Mikko Kivela
17:00 - 17:15	Evaluating Algorithm Fairness in an Agent-Based Taxi Simulation
	Eszter Bokanyi, Aniko Hannak
17:15 - 17:30	Analyzing Gender Inequality Through Large-scale Facebook Advertising Data David Garcia, Yonas Mitike Kassa, Angel Cuevas, Manuel Cebrian, Esteban Moro, Ruben Cuevas, Iyad Rahwan
17:30 - 17:45	The Interplay of Internal and External Traffic on Online Networks in the Prediction of Collective Attention Patrick Gildersleve, Taha Yasseri, Renaud Lambiotte
17:45 - 18:00	Entropy-based randomization of rating networks
	Fabio Saracco, Carolina Becatti, Guido Caldarelli
18:00 - 18:15	Classifying Conversation In Digital Communication Andrew Mellor
18:15 - 18:30	Proposal of mathematical model of prediction of human movement on sightseeing using position information
	Syunsuke Hatadani, Yasuko Kawahata, Akira Ishii
18:30 - 18:45	Computational Measures of Political Volatility
	Chico Camargo, Scott Hale, Helen Margetts, Peter John
18:45 - 19:00	Graph Semi-Supervised Learning through bridgeness biased random walks Sarah de Nigris, Matteo Morini

MONDAY 24/9 ROOM 4

11:00 - 11:15	Modeling the dynamics of the human consciousness by network analysis Marco Alberto Javarone, Srivas Chennu
11:15 - 11:30	Signals of Quality vs. Individual Recognition: A Model of the Tradeoffs in Assessment Strategies Elizabeth Hobson, Eleanor Harris
11:30 - 11:45	The origins of new technological domains Vilhelm Verendel, Francois Lafond, J.Doyne Farmer
11:45 - 12:00	Identifying Leverage Points for Biosecurity Risk Management Using Massive Online Games and Agent-Based Models
	Asim Zia, Christopher Koliba, Scott Merrill, Gabriela Bucini, Eric Clark, Susan Moegenburg, Serge Wiltshire, Julie Smith
12:00 - 12:15	The Language of Innovation Andrea Tacchella, Andrea Napoletano, Luciano Pietronero
12:15 - 12:30	Argument Exchange Dynamics in a Population with Divergent Mindsets
	Sven Banisch, Tat Dat Tran, Eckehard Olbrich
12:30 - 12:45	Empirical observations of ultraslow diffusion in languages: Dynamical statistical properties of word counts of already popular words
	Hayafumi Watanabe
12:45 - 13:00	The Power of Communities: A Text Classification Model with Automated Labelling Using Network Community Detection Minjun Kim, Hiroki Sayama
17:00 - 17:15	Unveiling the inter-relations between the urban streets network and its dynamic traffic flows Nimrod Serok, Shlomo Havlin, Orr Levy, Efrat Blumenfeld-Lieberthal
17:15 - 17:30	A continuous time evolution of a synthetic population Morgane Dumont, Johan Barthelemy, Timoteo Carletti
17:30 - 17:45	Urban Systems Diversity Measures Roberto Murcio, Clementine Cottineau, Elsa Arcaute, Michael Batty
17:45 - 18:00	A systematic comparison of interaction models for systems of cities
	Juste Raimbault
18:00 - 18:15	A new methodology for identification the formation of traffic bottlenecks in real-time Nirod Serok, Shlomo Havlin, Orr Levy, Efrat Blumenfeld-Lieberthal
18:15 - 18:30	Data-driven modelling of slum dynamics in Bangalore using an integrated discrete-choice agent-based framework Debraj Roy
18:30 - 18:45	Efficiency in road networks Carlos Molinero, Aberto Hernando
18:45 - 19:00	Using multifractality to reduce inequality in cities, scenarios on agent-based models Hadrien Salat, Sarah Wise

MONDAY 24/9 ROOM 5

11:00 – 11:30	Capturing Digital Signals for Health Research Yelena Mejova
11:30 – 11:45	Poverty traps in agro-ecological systems: dynamical systems approach Sonja Radosavljevic
11:45 – 12:00	Mexican corruption network: Using journalistic big data to discover major political crimes Jesus Espinal-Enriquez, Guillermo de Anda-Jauregui, Rodrigo Garcia Herrera, Sergio Antonio Alcala-Corona, Sofia Ramirez, Issa Luna Pla
12:00 – 12:15	Flockworks: A Class of Dynamic Network Models for Face-to-Face Interactions Benjamin Maier and Dirk Brockmann
12:15 – 12:30	Agent-Based Modelling as Requirements-Engineering Tool for the As-If analysis of a Macro-Prudential Risk to the EU as a Jurisdiction Aernout Schmidt and Kunbei Zhang
12:30 – 12:45	Computing the adaptive cycle Hannah Schrenk, Wolfgang Zu Castell
12:45 – 13:00	Revisiting the Stability of a Plant-Pollinator Mutualistic Community With and Without Phenology Claudia Payrato-Borras, Carlos Gracia-Lazaro, Laura Hernandez, Yamir Moreno
17:00 – 17:15	Effects of Microinsurance on Informal Safety Nets – A Model-Based Analysis Meike Will, Jurgen Groeneveld, Niklas Hase, Birgit Muller
17:15 – 17:30	Study of Primates Social Dynamics from Temporal Co-presence data Valeria Gelardi, Alain Barrat, Nicolas Claidiere and Joel Fagot
17:30 – 17:45	Human Beings and Planet Earth in Deep Time: New Challenges for Modelling The Long-Term Evolution of the Global Human-Earth System John Murphy, Joel Gunn, Maurits Ertsen, Jed Kaplan, Sarah Cornell, Carole Crumley, Vern Scarborough
17:45 – 18:00	Talent vs Luck: the Role of Randomness in Success and Failure Alessandro Pluchino, Alessio Emanuele Biondo, Andrea Rapisarda
18:00 – 18:15	Multiscale renewable resource management by social pressure in social-ecological systems Andrew Ringsmuth, Steven Lade and Maja Schlüter
18:15 – 18:30	Collaborative hierarchy maintains cooperation in asymmetric games Alberto Antonioni, Maria Pereda, Katherine Cronin, Marco Tomassini, Anxo Sanchez
18:30 – 18:45	How far does a shock event spreads on a network? Detecting causality on the salmon trade network Juan Carlos Rocha Gordo, Jessica Gephart
18:45 – 19:00	Oceanographic drivers of equity: multi-level links in the Humboldt squid fishery Laura Gabriele Elsler, Tim Haight Frawley, Gregory Lee Britton, William Gilly, Larry Crowder, Maja Schlüter

MONDAY 24/9 ROOM 6

11:00 - 11:15	Economic Complexity Transition in Emerging Economies: A multi-criteria analysis of the case of Paraguay Arturo Gonzalez, Cecilia Llamosas, Eduardo Ortigoza, Gerardo Blanco
11:15 - 11:30	Does the centrality of a stock in a financial network is determinant factor of its future returns? Michail Vamvakaris, George Wang, Xiao-Jun Zeng
11:30 - 11:45	Dynamical variety of multifractal characteristics for financial data Rafal Kowalski, Stanislaw Drozdz, Paweł Oświecimka, Rafal Rak, Robert Gebrowski
11:45 - 12:00	A cluster driven log-volatility factor model: a deepening on the source of the volatility clustering Anshul Verma, Riccardo Junior Buonocore, Tiziana Di Matteo
12:00 - 12:15	The role of momentum factor on an investment portfolio formation Fernando Ferreira, Antonio Christian Silva, Antonio Fernando Crepaldi
12:15 - 12:30	The emergence of properties of the Japanese production network: How do listed firms choose their partners? Hazem Krichene, Yoshi Fujiwara, Abhijit Chakraborty, Yoshiyuki Arata, Hiroyasu Inoue, Masaaki Terai
12:30 - 12:45	Predicting Global Stock Crash Events Using a Complex System of Deep Neural Networks and an XGBOOST Aggregation Layer Nikolaos Vlahogiannakis, Anastasios Petropoulos, Vasilis Siakoulis, Vaggelis Stavroulakis
12:45 - 13:00	Economic polarization and transnational investment networks: a Central and Eastern European evidence Natalia Zdanowska
17:00 - 17:30	Economic Fitness and Complexity Luciano Pietronero
17:30 - 17:45	Systemic risk in insurance and reinsurance: Lessons from risk model homogeneity Torsten Heinrich, Juan Sabuco
17:45 - 18:00	The determination of exchange rates - a heterodox AB-SFC perspective Raquel Almeida Ramos, Federico Bassi, Dany Lang
18:00 - 18:15	The impact of technological development on environmental performance: an empirical analysis
18:15 - 18:30	Best reply structure and equilibrium convergence in generic games Marco Pangallo, Torsten Heinrich, Luca Mungo, Doyne Farmer
18:30 - 18:45	A preliminary analysis on Bitcoin and Bitcoin Cash Networks: topology and dynamics Marco Alberto Javarone, Craig Wright
18:45 - 19:00	Heider balance in bilayer networks Piotr Gorski, Krzysztof Kulakowski, Przemysław Gawronski, Janusz Holyst

MONDAY 24/9 ROOM 7

11:00 – 11:15	Dynamical Genetics - Reaction Schemes Modelling Genetic Regulation Markus Kirkilionis
11:15 – 11:30	Towards understanding the multi-level complexity of human health: from drug interactions to human sexual behavior Rion Brattig Correia, Ian Wood, Luis M. Rocha
11:30 – 11:45	A minimally invasive neurostimulation method for controlling abnormal synchronisation in the neuronal activity Malbor Asllani, Timoteo Carletti, Paul Expert
11:45 - 12:00	Loss of trans-regulation in breast cancer Jesus Espinal-Enriquez, Cristobal Fresno, Guillermo de Anda-Jauregui, Enrique Hernandez-Lemus
12:00 – 12:15	Viruses are Driving Agents in the Human Molecular System Vandana Ravindran, David Robertson
12:15 – 12:30	Complex Healthcare Process Predictive Modelling for Decision Making and Process Control Sergey Kovalchuk, Oleg Metsker, Tesfamariam Abuhay, Anastasia Funkner, Alexey Yakovlev
12:30 – 12:45	Unified Mechanism of Atrial Fibrillation in a Simple Model Max Falkenberg McGillivray, Andrew Ford, Anthony Li, Alberto Ciacci, Nicholas S. Peters, Kim Christensen
12:45 – 13:00	Optimal information networks: Application for data-driven integrated health in populations Joe Servadio, Matteo Convertino
17:00 – 17:30	Essential nodes and keystone species in the brain, ecosystems and social systems Hernan Makse
17:30 – 17:45	Simultaneous Emergence of Cooperative Response and Mutational Robustness in Gene Regulatory Networks Macoto Kikuchi, Shintaro Nagata
17:45 – 18:00	Complex network theory and methods to control the burden of cardiovascular disease: An exploratory study based on the CARDIA dataset Yorghos Apostolopoulos, Lazaros Gallos, Michael Lemke, Kristen Hassmiller Lich
18:00 – 18:15	Warnings and caveats in brain controllability Samir Suweis
18:15 - 18:30	Adaptive metabolic strategies explain diauxic shifts and promote species coexistence Leonardo Pacciani, Samir Suweis, Amos Maritan
18:30 - 18:45	Emergence of highly connected, non-redundant micro-RNAs in breast cancer transcriptional networks and their role in the control of biological functions Guillermo de Anda-Jauregui, Jesus Espinal-Enriquez, Diana Drago-Garcia, Enrique Hernandez-Lemus
18:45 – 19:00	Pattern-oriented Model for Exploring Systemic Toxicity and Biomarker Network Dynamics Matteo Convertino, Yang Liu, Joe Servadio

MONDAY 24/9 ROOM 8

11:00 - 11:15	Hydrodynamic Control of Chaos in a Belousov Zhabotinsky Oscillator Florian Wodlei, Mihnea R Hristea
11:15 - 11:30	Balance and Frustration in Signed Networks Samin Aref and Mark Wilson
11:30 - 11:45	Motion of a folding synthetic molecular motor in soft matter in light of the fluctuation theorems Victor Teboul, Gabriel Rajonson
11:45 - 12:00	Very long-ranged forces in highly charged colloidal dispersions at finite concentration Marcelo Lozada-Cassou, Alfredo Gonzalez-Calderon, Enrique Gonzalez-Tovar
12:00 - 12:15	Feedback induced stationary and oscillatory patterns in complex bistable networks Nikos Kouvaris, Julien Petit and Timoteo Carletti
12:15 - 12:30	Controlling the Time Evolution of Paths in a Hierarchical Heteroclinic Network Maximilian Voit and Hildegard Meyer-Ortmanns
17:00 - 17:15	Universal results for the outlier eigenpair of oriented random graphs Fernando Metz and Izaak Neri
17:15 - 17:30	Can visibility network degree detect abrupt transitions in time series? Avraam Charakopoulos and Theodoros Karakasidis
17:30 - 17:45	The Emergence of Weak Criticality in SOC systems Lorenzo Palmieri, Henrik Jeldtoft Jensen
17:45 - 18:00	Universality of non-normality in real complex networks Malbor Asllani, Timoteo Carletti
18:00 - 18:15	Hopping in the Crowd to Unveil Network Topology Lorenzo Palmieri, Henrik Jeldtoft Jensen Malbor Asllani, Timoteo Carletti, Francesca Di Patti, Duccio Fanelli, Francesco Piazza
18:15 - 18:30	Graph grammars that generate networks of chemical reactions Ivan Kryven, Yuliia Orlova
18:30 - 18:45	Tangled nature model of opinion dynamics: Polarization and Intermittency in scale-free networks Hardik Rajpal, Fernando Rosas, Henrik Jensen

MONDAY 24/9 ROOM 9

11:00 - 11:30	Complexity – Statistical Mechanical Characterisation and Fingerprints Constantino Tsallis
11:30 - 11:45	I cite you, you cite me: The impact of reciprocated citations on scientific reputation Weihua Li, Tomaso Aste, Fabio Caccioli, Giacomo Livan
11:45 - 12:00	Complex Multilevel Events in Team Dynamics: Learning from Robot Soccer Ruggero Rossi, Jeff Johnson
12:00 - 12:15	Patterns of Collective User Behavior in Different Electoral Campaigns Samuel Martin-Gutierrez, Juan Carlos Losada, Rosa M. Benito
12:15 - 12:30	Entropy-Based Null Models for the Analysis of Bipartite Networks Guido Caldarelli, Mika Straka, Tiziano Squartini, Fabio Saracco
12:30 - 12:45	Determinants of public cooperation in multiplex networks Federico Battiston, Matjaz Perc, Vito Latora
12:45 - 13:00	Generalized Rich-Club Ordering in Networks Matteo Cinelli
17:00 - 17:15	A Simple Opinion Dynamics Model Suggesting an Intrinsically Negative Effect of Gossips Ilaria Bertazzi, Guillaume Deffuant, Sylvie Huet
17:15 - 17:30	Spatial-temporal Evolution of Scientific Collaborations Enrico Maiorino, Kunpeng Mu, Matteo Chinazzi, Qian Zhang, Alessandro Vesplignani
17:30 - 17:45	Modeling Public Mood and Emotions: Social Media Sentiment Near Major Events Krishna Bathina, Johan Bollen
17:45 - 18:00	Social Network Structure and Corruption in Local Government Johannes Wachs, Taha Yasseri, Balazs Lengyel, Janos Kertesz
18:00 - 18:15	Entropy-based approach to missing-links prediction Federica Parisi, Guido Caldarelli, Tiziano Squartini
18:15 - 18:30	Subgraphs and Motifs in a Dynamic Airline Network Steve Lawford, Marius Agasse-Duval
18:30 - 18:45	Universal Scaling in Sports Ranking Wei Li, Weibing Deng, Qiuping Alexandre Wang, Alain Bulou, Xu Cai
18:45 - 19:00	Optimal Interaction Network Topology for Effective Collective Response to External Perturbations Roland Bouffanais, David Mateo, Nikolaj Sorensen