


		September 4								
		Main Event								
08:00	Registrations									08:00
08:45	Welcome (Auditorium)									08:45
09:00	Keynote - Sandy Pentland (Auditorium) - Sponsored by EPJ Data Science & Applied Network Science									09:00
09:15										09:15
09:30										09:30
09:45	Keynote - Nina Fefferman (Auditorium)									09:45
10:00	Lightning 1 (Auditorium)									10:00
10:15										10:15
10:30										10:30
10:45	Coffee break									10:45
11:00										11:00
11:15										11:15
11:30	Complex Behaviors in Animal Populations (Room 11)	Complexity in Cities 1 (Auditorium)	Modeling Climate Risks and Impacts (Lab 1)	Financial Complexity, and Economic Networks 1 (Room 4)	Modeling and Mitigating Epidemics 1 (Room 5)	Behavioral Patterns and Social Structures 1 (Room 1-2-3)	Foundations of Complex Systems (Room 7-8)	Science of Science (Room 9)	Opinion Dynamics and Network Stability (Room 10)	11:30
11:45										11:45
12:00										12:00
12:15										12:15
12:30										12:30
12:45										12:45
13:00	Lunch						CCS Council Meetings ONLY (Room 4)			13:00
13:15										13:15
13:30										13:30
13:45										13:45
14:00	Keynote - Tomaso Aste (Auditorium)									14:00
14:15	Invited - Karoline Wiesner (Auditorium)									14:15
14:30										14:30
14:45										14:45
15:00	Invited - Karoline Wiesner (Auditorium)									15:00
15:15										15:15
15:30										15:30
15:30	Robustness and Complexity in Biological Networks (Room 11)	Complexity in Cities 2 (Auditorium)	Team Dynamics and Collaboration (Lab 1)	Financial Complexity, and Economic Networks 2 (Room 4)	Modeling and Mitigating Epidemics 2 (Room 5)	Behavioral Patterns and Social Structures 2 (Room 1-2-3)	Personalization and Information Spread (Room 7-8)	Complex Human Systems (Room 9)	Theory of Complex Systems 1 (Room 10)	15:30
15:45										15:45
16:00										16:00
16:15	Coffee break									16:15
16:30	Coffee break									16:30
16:45										16:45
17:00										17:00
17:15	17:15									
17:30	Demystifying publishing for Early Career Researchers (Auditorium) Sponsored by PLOS COMPLEX SYSTEMS									17:30
17:45										17:45
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18:45										18:45
19:00	Gala Dinner (Holland Hall)									19:00
19:15										19:15
19:30										19:30
19:45										19:45
19:45										19:45

Sept.4 Lighting 1

10:30 Local dominance unveils clusters in networks

10:33 Adaptive Cut reveals multiscale complexity in networks

10:36 Optimal transport problem in complex systems

10:39 Inferring contact network degree distribution from epidemic data via the edge-based compartmental model

10:42 Milgram's experiment in the knowledge space: Individual navigation strategies

10:45 Interdependence of Emissions: Analysing the dynamics in emissions using a simple linear model

10:48 Understanding the Vegetable Oil Debate and Its Implications for Sustainability through Social Media

Auditorium*Shi, Dingyi; Shang, Fan; Chen, Bingsheng; Expert, Paul; Lü, Linyuan; Stanley, H. Eugene; Lambiotte, Renaud; Evans, Tim; Li, Ruiqi***Boucherie, Louis*; Lehmann, Sune**Mazzilli, Dario*; Patelli, Aurelio; Buffa, Lorenzo; Saracco, Fabio; Cimini, Giulio**Guzmán Morán, José Andrés*; Kiss, Istvan Z; Malizia, Federico; Cole, Diana; Choi, Boseung**Zhu, Manran*; János, Kertész**Kumar, Nishanth***Candellone, Elena*; Aleta, Alberto; Ferraz de Arruda, Henrique; Meijaard, Erik; Moreno, Yamir***Chair: Ronaldo Menezes****Sept.4 Complex Behaviors in Animal Populations**

11:30 Scary movie: Behavioural Rules Governing Escape Decisions in Wild Fish Shoals

11:45 Leveraging the power of higher-order networks to study animal communication

12:00 Temnothorax ants use recruitment to achieve beyond their individual capabilities

12:15 Scaling-up interaction signal dynamics to understand population-level spatial organization

Room 11*Neven, Sara Linde*; Martin, Benjamin; de Roos, André**Silk, Matthew*; Iacopini, Iacopo; Foote, Jennifer; Derryberry, Liz; Fefferman, Nina**Ohlinger, Bradley D***Colombo, Eduardo H****Chair: Maxime Lucas****Sept.4 Complexity in Cities 1**

11:30 Understanding Route Diversifiability in Urban Road Networks

11:45 Self-organized, globally optimal, and real-world urban transportation networks -- Similarities and discrepancies

12:00 SP(L)ACES: Remote sensing sidewalk networks at scale

12:15 Optimising geospatial vector data matching algorithms for change detection with synthetic data

12:30 City mobility across the urban hierarchy

Auditorium*Cornacchia, Giuliano*; Pappalardo, Luca; Nanni, Mirco; Pedreschi, Dino; González, Marta C.**Schläpfer, Markus***Borge-Holthoefer, Javier***Guardiola, Paul; Raimbault, Juste*; Olteanu-Raimond, Ana-Maria; Perret, Julien**Musso, Andrea****Chair: Marta Gonzalez****Sept.4 Modeling Climate Risks and Impacts**

11:30 Firm-level supply chains to minimize unemployment and economic losses in rapid decarbonization scenarios

11:45 Swarm Mobile Sensors for Air Quality Monitoring and Citizen Science

12:00 A scalable gravity-based method for identifying critical road segments in global cities

12:15 Modeling the Dynamics of Heterogeneous Climate Change Risk Perceptions: An Agent Based Model of US Population, 2010-2030

12:30 Assessing the interdependence of climate tipping elements

Lab 1*Stangl, Johannes*; Borsos, Andrés; Diem, Christian; Reisch, Tobias; Thurner, Stefan**Dimitri, Giovanna; Vitanza, Eleonora*; Mocenni, Chiara**Chakraborty, Sukankana*; O'Clery, Neave; Rentschler, Jun; Avner, Paolo**Zia, Asim***Scagliarini, Tomas*; De Domenico, Manlio; Gamba, Lorenzo***Chair: Pietro Gravino****Sept.4 Behavioral Patterns and Social Structures 1**

11:30 The Robust Benefits of Social Influence for the Wisdom of Individuals in the Crowd

11:45 Bots, Elections, and Controversies: Twitter Insights from Brazil's Polarised Elections

12:00 Story Arcs, Success and Diffusion of Turkish TV Dramas

Room 1-2-3*Pilgrim, Charles*; Becker, Joshua**Pacheco, Diogo F***K. Rizi, Abbas*; Pan, Guanghui; Adeel, Abdul Basit; Mutgan, Selcan*

12:15	Detection of fraudulent practices in the Mexican public procurement network	<i>Medina-Hernández, Martí*</i> ; <i>János, Kertész</i> ; <i>Fazekas, Mihály</i>
12:30	Exploring Patterns of Moderation in Mastodon's Network of Federated Instances	<i>Baqir, Anees*</i> ; <i>Arregui-García, Beatriz</i> ; <i>La Cava, Lucio</i> ; <i>Meloni, Sandro</i> ; <i>Gallotti, Riccardo</i>
12:45	Networks of Lawyers Before the European Court of Human Rights	<i>Ridi, Niccolò*</i> ; <i>Fikfak, Veronika</i>
	Chair:	Thomas Louf
Sept.4 Opinion Dynamics and Network Stability		Room 10
11:30	Heterogeneous connectivity mitigates adversarial attacks on voter model dynamics in complex networks	<i>Takemoto, Kazuhiro*</i>
11:45	Assessing frustration in real-world signed networks: towards a statistical theory of balance	<i>Gallo, Anna*</i> ; <i>Garlaschelli, Diego</i> ; <i>Lambiotte, Renaud</i> ; <i>Saracco, Fabio</i> ; <i>Squartini, Tiziano</i>
12:00	Spontaneous Opinion Swings in the Voter Model with Latency	<i>Palermo, Giovanni*</i> ; <i>Mancini, Anna</i> ; <i>Desiderio, Antonio</i> ; <i>Di Clemente, Riccardo</i> ; <i>Cimini, Giulio</i>
12:15	An extended Axelrod's model of innovation spreading and emergence of linguistic diversity	<i>Dornelas, Vivian*</i> ; <i>Anteneodo, Celia</i> ; <i>Heinsalu, Els</i> ; <i>Patriarca, Marco</i>
12:30	Temporal Dynamics of Social Networks in Rural India: Insights from a Longitudinal Study	<i>Singh, Rahul Kumar*</i> ; <i>Gaurav, Sarthak</i>
	Chair:	Giulia Cencetti
Sept.4 Financial Complexity, and Economic Networks 1		Room 4
11:30	Towards a statistical understanding of the evolution of production networks on the firm level	<i>Reisch, Tobias*</i> ; <i>Borsos, András</i> ; <i>Thurner, Stefan</i>
11:45	The Impact of AI on the Labour Market from the perspective of Economic Complexity	<i>Fenoaltea, Enrico Maria*</i>
12:00	Shock propagation in multi-product-firm production networks	<i>Kreis, Maik*</i> ; <i>Diem, Christian</i> ; <i>Schuessler, William</i> ; <i>Fialkowski, Jan</i> ; <i>Thurner, Stefan</i>
12:15	A Network Approach for supply chain due diligence risk assessment in the EU	<i>Hurt, Jan*</i> ; <i>Ledebur, Katharina</i> ; <i>Meyer, Birgit</i> ; <i>Friesenbichler, Klaus</i> ; <i>Gerschberger, Markus</i> ; <i>Thurner, Stefan</i> ; <i>Klimek, Peter</i>
12:30	Economic shocks in reconstructed firm-to-firm networks from input-output data	<i>Luzzati, Davide Samuele</i> ; <i>Ialongo, Leonardo Niccolò*</i> ; <i>Fagiolo, Giorgio</i> ; <i>Garlaschelli, Diego</i>
12:45	Mitigating systemic risk in production networks by local rewiring	<i>Zelbi, Giacomo*</i> ; <i>Thurner, Stefan</i>
	Chair:	Paolo Barucca
Sept.4 Modeling and Mitigating Epidemics 1		Room 5
11:30	Limited efficacy of forward contact tracing in epidemics	<i>de Meijere, Giulia*</i>
11:45	Enhancing global preparedness during an ongoing pandemic from partial and noisy data	<i>d'Andrea, Valeria*</i>
12:00	Analytical modeling of generalized ring vaccination strategies	<i>Scianna, Matteo</i> ; <i>Tizzoni, Michele</i> ; <i>Gallotti, Riccardo</i> ; <i>Artime, Oriol*</i> ; <i>Alvarez Zuzek, Lucila G</i>
12:15	Quantifying the impact of behavioural relaxation during the initial phase of COVID-19 vaccinations	<i>Li, Yuhan</i> ; <i>Gozzi, Nicolò</i> ; <i>Perra, Nicola*</i>
12:30	Strength and weakness of disease-induced herd immunity	<i>Hiraoka, Takayuki*</i> ; <i>Ghadiri, Zahra</i> ; <i>K. Rizi, Abbas</i> ; <i>Kivelä, Mikko</i> ; <i>Saramäki, Jari</i>
12:45	Characterizing collaborations and research flows in Vaccine Hesitancy Research	<i>Balsamo, Duilio*</i> ; <i>Offeddu, Vittoria</i> ; <i>Aghamohammadi, Zhina</i> ; <i>Leone, Laura Pasqua</i> ; <i>Torbica, Aleksandra</i> ; <i>Shayegh, Soheil</i> ; <i>Andreu-Perez, Javier</i> ; <i>Melegaro, Alessia</i>
	Chair:	Huijuan Wang
Sept.4 Foundations of Complex Systems		Room 7-8
11:30	Modeling complex aggregation processes using recent advances in combinatorial approach	<i>Lepek, Michał*</i> ; <i>Fronczak, Agata</i> ; <i>Fronczak, Piotr</i>
11:45	Awareness paradox induced by network density, degree heterogeneity, and disassortativity	<i>Kolok, Csego</i> ; <i>Odor, Gergely*</i> ; <i>Keliger, Daniel</i> ; <i>Karsai, Marton</i>
12:00	A self-supervised learning approach to the cellular automaton classification problem	<i>Rollier, Michiel*</i>
12:15	Criticality in linear vs. combinatorial evolutionary models: from graphs to hypergraphs	<i>Michaud, Jérôme*</i>
12:30	Canards: Continuous rapid transitions in turbulent combustors	<i>Siddaruda Bhavi, Ramesh*</i> ; <i>Sudarsanan, Sivakumar</i> ; <i>Bhaskaran, Anaswara</i> ; <i>Raghunathan, Manikandan</i> ; <i>Sujith, R.I</i>
12:45	Chair:	Laetitia Gauvin
Sept.4 Science of Science		Room 9
11:30	From Revolution to Research: Interplay Between Funding, Migration, and Scholarly Attention post-Arab Spring	<i>Asgari, Yasaman*</i> ; <i>Zhou, Hongyu</i> ; <i>Rezapour, Shadi</i> ; <i>Villacastin, Juven</i> ; <i>Kadir Ozer, Ozgur</i> ; <i>Sloane, Mary Ellen</i> ; <i>Bovet, Alexandre</i>

- 11:45 Is disruption decreasing, or is it accelerating? *Valverde, Sergi**
- 12:00 Gender representation and homophily as barriers to women's career in science *Jaramillo, Ana Maria; Macedo, Mariana*; Oliveira, Marcos; Karimi, Fariba; Menezes, Ronaldo*
- 12:15 Temporal glass ceiling: Gender disparities in the dissemination and acquisition of scientific knowledge *Zappalà, Chiara*; Gallo, Luca; Bachmann, Jan; Battiston, Federico; Karimi, Fariba*
- 12:30 The Role of Science in the Universe of Conspiracy Theories *Alvarez Zuzek, Lucila G*; Bertani, Anna; Baqir, Anees; Venturini, Tommaso; Traag, Vincent; Gallotti, Riccardo*
- 12:45 AI for neuroscience and neuroscience for AI: how AI and neuroscience are growing together *Fontaine, Sylvain*; Gargiulo, Floriana*

Chair: Mohsen Mosleh

Sept.4 Robustness and Complexity in Biological Networks

Room 11

- 15:30 Assessing robustness of microbiological behaviours using agent-based model *Proverbio, Daniele*; Reginato, Damiano; Gallo, Luca; Passalacqua, Barbara; Giordano, Giulia*
- 15:45 Robustness and Complexity of Directed and Weighted Metabolic Hypergraphs *Traversa, Pietro*; Ferraz de Arruda, Guilherme; Vazquez, Alexei; Moreno, Yamir*
- 16:00 Investigating the Effect of Noise on the Density Classification Task for Various Cellular Automaton Rules *Challa, Annajirao ; Hao, Duxiao*; Rozum, Jordan ; Rocha, Luis M*
- 16:45 Protein self-similarity and protein function *Moret, Marcelo A**
- 17:00 Network Modeling of Endothelial-to-Mesenchymal Transition (EndMT) caused by Dengue Virus *Fernández, Nelson *; Gershenson, Carlos; Camacho, Paula*
- 17:15 In-silico model of the pregnant uterus as a network of oscillators under sparse adaptive control *Ferro, Giuseppe M*; Sornette, Didier; Somazzi, Andrea*

Chair: Sergi Valverde

Sept.4 Complexity in Cities 2

Auditorium

- 15:30 Information Flow and Causal Redundancy in Geographic Systems: With the Case of the UK Housing Market *Zhang, Jing**
- 15:45 Measuring urban mobility and employment diversification across different regions *Wu, Zeyu*; González, Marta C.*
- 16:00 Mobility behavior by type of work and its implications for informality *Chavez-Jimenez, Christopher*; Rosas, Marco Antonio; Osorio, Carlos; Knoblauch, Steffen; Rocha, Antonio A; Gershenson, Carlos; González, Marta C.*
- 16:45 Unraveling the interplay of time use, mobility, and lifestyles across urban occupations *Chen, Baoqi Eileen*; González, Marta C.*
- 17:00 Modeling gentrification as a relocation flow-based, spatio-temporal process *Mauro, Giovanni*; Pedreschi, Nicola; Lambiotte, Renaud; Pappalardo, Luca*

Chair: Massimiliano Luca

Sept.4 Behavioral Patterns and Social Structures 2

Room 1-2-3

- 15:30 Detectability of Minority Communities in Networks *Li, Jiaze*; Peel, Leto*
- 15:45 Migration costs and rewarding schemes in spatial public goods games *Ibrahimli, Rashid*; Antonioni, Alberto*
- 16:00 An entropic study of social manifestations *Gandica, Yérali C**
- 16:45 News ecosystem dynamics: Supply, Demand, Diffusion, and the role of Disinformation *Gravino, Pietro*; Prevedello, Giulio; Brugnoli, Emanuele*
- 17:00 Drift Diffusion Model to Predict the Evolution of Cooperation in Group Dynamics *Alvarez Zuzek, Lucila G*; Ferrarotti, Laura; Lepri, Bruno; Gallotti, Riccardo*
- 17:15 Tendencies toward triadic closure: Field-experimental evidence *Mosleh, Mohsen**

Chair: Richard Blythe

Sept.4 Modeling and Mitigating Epidemics 2

Room 5

- 15:30 Endemic infectious states below the epidemic threshold and beyond herd immunity *Ramasco, Jose**
- 15:45 Modeling pathogen-pathogen competition in a multi-pathogen ensemble: application to the co-circulation of seasonal respiratory viruses. *Sartore, Marika*; Azaele, Sandro; Maritan, Amos; Poletto, Chiara*
- 16:00 An analytical approach to estimating outbreak probability for spatially structured epidemics and its application to pandemic preparedness *Wang, Boxuan*; Valdano, Eugenio*

Chair: Istvan Kiss

Sept.4 Financial Complexity, and Economic Networks 2

Room 4

- 15:30 Source of multiscaling in rough volatility models *Casaburi, Pasquale*; Di Matteo, Tiziana*

- 15:45 Synthetic Financial Time Series by Diffusion Models *Mizuno, Takayuki**; *Takahashi, Tomonori*
- 16:00 Venture Capital: how to become a successful investor *Zava, Marta**
- 16:45 Mapping critical raw materials in green technologies *Sbardella, Angelica**; *de Cunzio, Franceasco*; *Consoli, Davide* ; *Perruchas, Francois*
- 17:00 Calibration of a Novel Large-Scale Economic Agent-based Model *Wiese, Samuel**; *Kaszowska-Mojca, Jagoda*; *Dyer, Joel*; *Moran, Jose*; *Pangallo, Marco*; *Calinescu, Anisoara*; *Farmer, Doyne*

Chair: *María del Río-Chanona*

Sept.4 Personalization and Information Spread

Room 7-8

- 15:30 The Preservation of Input/Output Directed Graph Informativeness under Crossover *Pape, Andreas D*; *Schaffer, J. David*; *Sayama, Hiroki**; *Zosh, Christopher*
- 15:45 Disentangling high order effects in the transfer entropy *Stramaglia, Sebastiano*; *Faes, Luca*; *Cortes, Jesus*; *Marinazzo, Daniele**
- 16:00 Search-engine personalization and filter bubbles: evidence from searches related to an ongoing conflict *Damião, Íris**; *Almeida, Paulo*; *Sa, Joana G*; *Reis, José*
- 16:45 Decoding the News Media Diet of Disinformation Spreaders *Bertani, Anna A**; *Mazzeo, Valeria*; *Gallotti, Riccardo*

Chair: *Jason Reifler*

Sept.4 Complex Human Systems

Room 9

- 15:30 Exploratory Network Modelling of Complex Human Systems in Time-Use Research: Results from Wave 1 of the Singapore NCSS-NAK 360 Panel Study *Ho, Han Sheng**; *Ortega, Emily*; *Chan, Bryan Yu Xiu*; *Tay, Azriel Xunkai*; *Tang, Sabrina Seng Ooi*
- 15:45 A theoretical framework for studying culture as a complex adaptive system *Jansson, Fredrik**
- 16:00 Complex systems analysis of subjective well-being *Dignum, Eric**; *Roy, Debraj*; *Gerrits, Lasse*
- 16:45 Using measures from complexity to predict transitions towards depression *George, Sandip V**
- 17:00 A Reciprocal-Practice-Skill Model of Self-Regulated Learning *Laskar, Pritam**; *van der Maas, Han*

Chair: *Nandini Iyer*

Sept.4 Team Dynamics and Collaboration

Lab 1

- 15:30 Non-linearity and Power laws in IPSC shooting ranks *Frisia, Michele**
- 15:45 Event Distribution Randomness for Predicting Match Winners in Association Football *Bandara, Ishara S**
- 16:00 Team and workload dynamics in collaborative environment *Betti, Lorenzo**; *Gallo, Luca*; *Wachs, Johannes*; *Battiston, Federico*
- 16:45 Evolution in the Olympic Race *Rella, Simon A**
- 17:00 The Evolution of Platform-Driven Collaboration *Maddah, Negin*; *Heydari, Babak**

Chair: *Riccardo Gallotti*

Sept.4 Theory of Complex Systems 1

Room 10

- 15:30 Biased versus unbiased numerical methods for stochastic simulations of complex systems *Toral, Raul**; *Aguilar, Javier*; *Ramasco, Jose*
- 15:45 Mining Walks on a Network: path prediction and motif counting with self-loops and given start/end nodes *Teo, Kevin**; *Arnold, Naomi*; *Kiss, Istvan Z*; *Hone, Andrew*
- 16:00 Finding Large Independent Sets in Networks Using Competitive Dynamics *Mooij, Niek**
- 16:45 The Oneira Project: Visualizing Complex Systems in Motion *Phoenix, Jon C**
- 17:00 A generative model for networks that creates networks with given partition similarity *Zhong, Peijie**; *Clegg, Richard G*; *Mondragon, Raul J.*

Chair: *Alvaro Corral*