

CCS2019 Programme

CCS2019 Organising Committee

October 2, 2019

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	Monday, 30 September 2019 16:30- 18:30	Tuesday, 1 October 2019 11:00 - 13:00	Tuesday, 1 October 2019 16:30-18:30	Friday, 4 October 2019 09:00-10:30	Friday, 4 October 2019 11:00-13:00
Venue	Parallel Session 1	Parallel Session 2	Parallel Session 3	Parallel Session 4	Parallel Session 5
LHN-TR+14	Networks in Economics & Finance	Economic & Financial Complexity 1	Economic & Financial Complexity 2 Economic & Financial Complexity 3	Economic & Financial Complexity 4	
LT	Network Theory 1	Network Theory 2	Network Theory 3	Network Theory 4	Network Theory 5
LHN-TR+16	Complexity Theory 1	Complexity Theory 2	Agent-Based Simulations 1	Agent-Based Simulations 2	
LHN-TR+17	Cultural Complexity	Cognitive & Linguistic Complexity 1	The Science of Science 1	Cognitive & Linguistic Complexity 2	The Science of Science 2
LHN-TR+12	Socio-Ecological Systems	Diseases & Epidemics 1	Diseases & Epidemics 2	Diseases & Epidemics 3	
LHN-TR+04	Complexity of Physics 1	Complexity of Physics 2	Complexity of Earth Processes	Complexity of Chemistry	
LHN-TR+30	Political Complexity	Complexity of Information Technologies 1	Complexity of Information Technologies 2	Complexity of Information Technologies 3	Complexity of Information Technologies 4
LHN-TR+15	Biological & Biomedical Complexity 1		Biological & Biomedical Complexity 2	Biological & Biomedical Complexity 3	Biological & Biomedical Complexity 4
LHN-TR+52	Transportation Complexity	Urban Complexity 1	Urban Complexity 2	Opinion Dynamics 2	Urban Complexity 3
LHN-TR+36	Social Networks 1	Opinion Dynamics 1	Social Networks 2	Social Networks 3	
LHN-TR+37	Social Complexity 1	Social Complexity 2	Complexity of Businesses & Organizations	Social Complexity 3	

1 Ignite Session 1

Ignite Session 1

Date	Monday, 30 September 2019		
Room	Lecture Theatre 1A		
Session Chair	Fatimah Abdul Razak		
Time	Submission number	Title	Presenter
14:45-14:50	151	Conditional Modified Granger Causality Analysis of Complex Systems	Martina Chvostekov
14:50-14:55	60	Successful strategies in the tragedy of the commons	Yohsuke Murase
14:55-15:00	166	Comment on Friston's "Life as we know it"	Martin Biehl
15:00-15:05	49	Are Co-occurrence Network Approaches Really Useful for Inferring Microbial Community Structure?	Hokuto Hirano
15:05-15:10	97	Benchmarking seeding strategies for spreading processes in social networks	Felipe Montes
15:10-15:15	397	Modified Kuramoto Model with Power Law Coupling and Spatial Time Delay	Hae Seong Lee
15:15-15:20	267	A percolation approach in air traffic management	Rosario Mantegna
15:20-15:25	425	Determinants of Gender Gap in Urban Outdoor Activities	Rossano Schifanella
15:25-15:30	328	Stability of democracies – A complex systems perspective	Karoline Wiesner

Ignite Session 1

Time	Submission number	Title	Presenter
15:30-15:35	224	Leader-Follower Distributed Consensus in Swarm Robotic Systems	Nikolaj Horsevad Soerensen
15:35-15:40	58	Bigram Humor is Associated with Lower Activation Entropy in a Semantic Network	Cynthia Siew

2 Ignite Session 2

Ignite Session 2

Date	Friday, 4 October 2019		
Room	Lecture Theatre 1A		
Session Chair	Erika Fille Legara		
Time	Submission number	Title	Presenter
14:45-14:50	407	Capturing the Continuous Complexity of Animal Behavior	Tosif Ahamed
14:50-14:55	23	Temporal similarity metrics for network reconstruction based on diffusion dynamics	Hao Liao
14:55-15:00	372	Assessing the impact of travel guidances in Florida during the 2016 Zika outbreak through digital traces	Michele Tizzoni
15:00-15:05	244	Detectability of Macroscopic Structures in Directed Networks: a Stochastic Block Model Approach	Mateusz Wilinski
15:05-15:10	334	Dynamic Structures for Evolving Tactics and Strategies in Team Robotics: Experiments and Results	Jeffrey Johnson
15:10-15:15	363	Complexity Explained: A Grassroot Collaborative Initiative to Create a Set of Essential Concepts of Complex Systems	Hiroki Sayama

Ignite Session 2

Time	Submission number	Title	Presenter
15:15-15:20	278	Estimation of Short and Long Term Effects of Exposure to Atmospheric Pollution on the Health of Chile's Metropolitan Region Population	Diego Tapia-Ramrez
15:20-15:25	321	A swarm robot control that is based on the position of the agents	Zhangang Han
15:25-15:30	104	Evolution of Interdependent Co-authorship and Citation Networks	Chakresh Kumar Singh
15:30-15:35	267	A percolation approach in air traffic management	Rosario Mantegna

3 Parallel Session 1

Parallel Session 1: Networks in Economics & Finance

Date	Monday, 30 September 2019		
Room	LHN-TR+14		
Session Chair	Haotian Gao		
Time	Submission number	Title	Presenter
16:30-16:45	234	Manchester's regional role: ownership networks of firms since 2010	Natalia Zdanowska
16:45-17:00	238	Trading in Complex Networks	Felipe Maciel Cardoso
17:00-17:15	233	Macroscopic Structures in Financial Networks	Mateusz Wilinski
17:15-17:30	129	Reverse stress testing interbank networks	Fabio Caccioli
17:30-17:45	98	Synchronization During the Great Recession and Recovery: A Network Analysis of US State Gross Domestic Product (GDP) Fluctuations	Sabine Jeschonnek
17:45-18:00	128	Estimating Credit Supply Shock Propagation on Firm-Level Supplier Network Data	Andras Borsos
18:00-18:15	135	Efficiency of payment networks with CCPs	Haotian Gao

Parallel Session 1: **Network Theory 1**

Date	Monday, 30 September 2019		
Room	LT		
Session Chair	Thomas Peron		
Time	Submission number	Title	Presenter
16:30-16:45	64	Self-Avoiding Pruning Random Walk on Signed Network	Huijuan Wang
16:45-17:00	80	A Category Theoretical Perspective on an Evolving Network Model	Taichi Haruna
17:00-17:15	215	Modified tree graphs with enhanced synchronisation dynamics: an expander approach	Alexander Kalloniatis
17:15-17:30	95	Modeling Temporal Networks with Bursty Node and Link Activity	Takayuki Hiraoka
17:30-17:45	29	Taming chimera state using heterogeneous delays	Saptarshi Ghosh
17:45-18:00	72	Characterizing The Analogy Between Hyperbolic Embedding And Community Structure Of Complex Networks	Filippo Radicchi
18:00-18:15	390	A Soccer Game as a Clustered Temporal Network, an Analysis Based on Shared Information Distance	Luis Pereira
18:15-18:30	376	On the onset of synchronization of Kuramoto oscillators in scale-free networks	Thomas Peron

Parallel Session 1: **Complexity Theory 1**

Date	Monday, 30 September 2019		
Room	LHN-TR+16		
Session Chair	Joseph Lizier		
Time	Submission number	Title	Presenter
16:30-16:45	22	How aging may be unavoidable in complex systems	Hildegard Meyer-Ortmanns
16:45-17:00	200	Analytically solvable autocorrelation function for correlated interevent times	Hang-Hyun Jo
17:00-17:15	227	Unbearable lightness of linear connectivity measures: where are the limits?	Jaroslav Hlinka
17:15-17:30	306	New constant of motion for the coevolving voter model	Joanna Toruniewska
17:30-17:45	364	Reduction of kinetic equations to Li\'enard-Levinson-Smith form: Counting limit cycles	Sandip Saha
17:45-18:00	83	Topological Time-series Analysis with Delay-Variant Embedding	Quoc Hoan Tran
18:00-18:15	362	Effects of Targetted Intervention on Statistical Properties of the Sandpile Model	Rene C. Batac
18:15-18:30	121	Interpreting transfer entropy in modelling information flows in complex systems	Joseph Lizier

Parallel Session 1: **Cultural Complexity**

Date	Monday, 30 September 2019		
Room	LHN-TR+17		
Session Chair	Andrei Klishin		
Time	Submission number	Title	Presenter
16:30-16:45	136	Spatial analysis of places in Medieval England: an application of network studies to archaeology and history	Neil Huynh
16:45-17:00	342	Self-Organizing Games: A methodological approach for team development in academic environments	Johana Murillo
17:00-17:15	314	Evolution of the Informational Complexity of Contemporary Western Music	Thomas Parmer
17:15-17:30	419	An Architecture of a Social Agent for Grounded Cognitive Semiotics	Nagarjuna G
17:30-17:45	296	Searching for hidden bridges in co-occurrence networks from Javanese wayang kulit	Andrew Schauf
17:45-18:00	71	Spatial and Network Effects in Distributed System Design	Andrei Klishin

Parallel Session 1: **Socio-Ecological Systems**

Date	Monday, 30 September 2019		
Room	LHN-TR+12		
Session Chair	Yosef Manik		

Time	Submission number	Title	Presenter
16:30-17:00	Invited talk	Empirical dynamical modeling toward ecosystem-based fisheries managements	Hsieh Chih-Hao
17:00-17:15	226	Impact of globalization on the resilience and sustainability of natural resources	Samir Suweis
17:15-17:30	438	Cascading regime shifts within and across scales	Juan Carlos Rocha Gordo
17:30-17:45	382	Towards a Complex System Model for Sustainability in Tourism Development in the Lake Toba Area of North Sumatra	Yosef Manik

Parallel Session 1: **Complexity of Physics 1**

Date	Monday, 30 September 2019		
Room	LHN-TR+04		
Session Chair	Wei-Shuo Lo		
Time	Submission number	Title	Presenter
16:30-17:00	Invited talk	Criticality in Complex Systems: Extreme events, recurrences, power-laws and beyond	Anirban Chakraborti
17:00-17:15	228	Optimal stochastic modelling with unitary quantum dynamics	Qing Liu
17:15-17:30	261	Impact of structural balance on Self-Avoiding Pruning Walk	Cunquan Qu
17:30-17:45	308	Generalized Effective Resistance Distances	Karel Devriendt
17:45-18:00	406	Mechanical and vibrational properties of amorphous solids with nanoinclusions	Yaroslav Beltukov
18:00-18:15	193	Spatiotemporal dynamics of wind-driven water wave turbulence	Wei-Shuo Lo
18:15-18:30	448	Analysis of Localized Waves in Periodically Structured Solids	K.Karunakaran Kuppusamy

Parallel Session 1: **Political Complexity**

Date	Monday, 30 September 2019		
Room	LHN-TR+30		
Session Chair	Susanne Lohmann		

Time	Submission number	Title	Presenter
16:30-16:45	418	The Anatomy of Political Trolling?	Erika Fille Legara
16:45-17:00	172	A Study of the Dynamics of Public Procurement in the Philippines using Network Analysis	Joshua Hiwatig
17:00-17:15	75	Beyond polarization: the structure of vaccine debate in France	Floriana Gargiulo
17:15-17:30	435	Democracy, Complexity, and the Power in Numbers	Susanne Lohmann
17:30-17:45	182	How effective is counterspeech for resisting cyberhate?	Joshua Garland

Parallel Session 1: **Biological & Biomedical Complexity 1**

Date	Monday, 30 September 2019		
Room	LHN-TR+15		
Session Chair	Richard Carter		
Time	Submission number	Title	Presenter
16:30-16:45	149	Duplication is Central to Efficiently Evolving Structural Complexity in Coarse-grained Proteins	Alexander Leonard
16:45-17:00	243	A Predator-Prey Model with Refuges for Prey and for Juvenile Predator	Doanh Nguyen-Ngoc
17:00-17:15	452	Self-organized Patterns from a Synthetic Genetic Oscillator in Bacterial Colonies	Guillermo Yanez
17:15-17:30	439	Prediction of Drug Interactions and Adverse Reactions with data from Electronic Health Records, Clinical Reporting, Scientific Literature, and Social Media, using Complexity Science Methods	Rion Brattig Correia
17:30-17:45	164	Robust design of inhibitory neuronal networks displaying rhythmic activity	Joseph Taylor
17:45-18:00	375	Inferring Strategic Heuristics from Aggressive Behavior in Animals and Humans	Dan Munster
18:00-18:15	277	Pathways to Autopoiesis - A Computational Study of the Emergent Properties of Self-Producing Systems	Richard Carter

Parallel Session 1: **Transportation Complexity**

Date	Monday, 30 September 2019		
Room	LHN-TR+52		
Session Chair	Vee-Liem Saw		
Time	Submission number	Title	Presenter
16:30-16:45	171	Networks and Long-Range Mobility in Cities: A Study of More Than One Billion Taxi Trips in New York City	Jose L. Mateos
16:45-17:00	141	Spatial Amalgamation using Distance-Based Thresholds and Its Impact on the Useful Information of Urban Road Network Models	Muhamad Azfar Ramli
17:00-17:15	132	Invariant Statistical Properties in the Evolution of the Manila Road Network	Michelle Cirunay
17:15-17:30	217	A coupled network approach to railway delay propagation	Mark Dekker
17:30-17:45	175	General Method for Deriving Train Logs from Commuter Data Correlations	Hong En Tan
17:45-18:00	272	Multilayer Stochastic Block model: How do transportation options drive commuters in London?	Antonia Godoy-Lorite
18:00-18:15	55	Bus bunching as a synchronisation phenomenon	Vee-Liem Saw

Parallel Session 1: **Social Networks 1**

Date	Monday, 30 September 2019		
Room	LHN-TR+36		
Session Chair	Dante Prez-Mndez		
Time	Submission number	Title	Presenter
16:30-16:45	113	Offline biases in online platforms: A study of diversity and homophily in Airbnb	Giacomo Livan
16:45-17:00	335	Examining the Effects of Expertise Diversity on Collective Design and Innovation Using an Online Social Network Experiment and Idea Geography Visualization: A Secondary Report	Hiroki Sayama
17:00-17:15	162	Self-exciting Dynamics of Discussion Threads in Online Boards	Alberto Aleta
17:15-17:30	273	Unravelling functional areas from human behaviour: mobile phone data and copulas	Elsa Arcaute
17:30-17:45	430	CONTROVERSY DETECTION, AND IMPACT ASSESSMENT ON SOCIAL MEDIA DATA	Azadeh Nematzadeh
17:45-18:00	156	The effectiveness of automated accounts on Twitter: the army of botness	Fabio Saracco
18:00-18:15	53	Unexpectedly high capacity of social media networks to spread information	Jia-Rong Xie
18:15-18:30	320	Rank Dynamics in Twitter Data	Dante Prez-Mndez

Parallel Session 1: **Social Complexity 1**

Date	Monday, 30 September 2019		
Room	LHN-TR+37		
Session Chair	Jefferson Tan		
Time	Submission number	Title	Presenter
16:30-16:45	270	Social Influence Maximization as a Time-constrained Problem	Radosaw Michalski
16:45-17:00	332	The role of relationship age on social evolution	Sahar Arabzadeh
17:00-17:15	114	Structuring Information Exchange to Improve Collective Decisions in Human Groups	Bertrand Jayles
17:15-17:30	127	Social contagion in higher-order models	Guilherme Ferraz de Arruda
17:30-17:45	100	How Does Diversity of Individuals Affect the Structure of Society? A Constructive Approach Using Adaptive Networks	Hiroki Sayama
17:45-18:00	433	Can human social ties help improve their location prediction?	Cong Li
18:00-18:15	207	Mapping Globalization through Event Themes	Jefferson Tan

4 Parallel Session 2

Parallel Session 2: Economic & Financial Complexity 1

Date	Tuesday, 1 October 2019		
Room	LHN-TR+14		
Session Chair	Huibin Si		
Time	Submission number	Title	Presenter
11:00-11:15	248	The emerging sectoral diversity of startup ecosystems	Thophile Carniel
11:15-11:30	437	Applying a Change-point Detection Method to Housing Market Data	Takaaki Ohnishi
11:30-11:45	305	How Investor Roles Effect the Dynamics of Triadic Closure	Bingsheng Chen
11:45-12:00	323	A Dynamical Systems approach to Gross Domestic Product forecasting	Andrea Tacchella
12:00-12:15	140	Investigating Singapore stock markets using Topological Data Analysis (TDA) and Persistent Homology	Tsung-Wen Yen
12:15-12:30	209	Time-domain and frequency-domain Granger causality networks: Application to Chinese financial institutions	Huibin Si

Parallel Session 2: **Network Theory 2**

Date	Tuesday, 1 October 2019		
Room	LT		
Session Chair	Alain Barrat		

Time	Submission number	Title	Presenter
11:00-11:15	432	The Impact of Information Dissemination on Vaccination in Multiplex Networks with Awareness	Cong Li
11:15-11:30	44	Coevolutionary dynamics of a nonlinear voter model	Byungjoon Min
11:30-11:45	108	Topic modeling as a community-detection problem	Yuanming Tao
11:45-12:00	405	Asymptotically-scale-free geographical networks: Role of dimensionality and of stochastic fitness	Nicola Cinardi
12:00-12:15	85	Modelling social-networks evolution via the adjacent-possible exploration	Enrico Ubaldi
12:15-12:30	283	Towards Euclidean Spatial Networks Using Directed N-colored Random Graphs	Verena Schamboeck
12:30-12:45	81	Mining span-cores in temporal networks	Alain Barrat

Parallel Session 2: **Complexity Theory 2**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+16		
Session Chair	Diane Donovan		
Time	Submission number	Title	Presenter
11:00-11:15	366	Heterogeneity extends criticality	Carlos Gershenson
11:15-11:30	17	Path entropy identifies predictability horizons	Giovanni Petri
11:30-11:45	139	Eigenvalue and Eigenvector Statistics in Time Series Analysis	Paolo Barucca
11:45-12:00	427	A data-driven approach to characterise statistical causal emergence in multivariate time series	Fernando Rosas
12:00-12:15	216	Cooperation and Competition in tension in a multi-population scenario: the Blue-Green-Red Kuramoto-Sakaguchi model	Maia Angelova
12:15-12:30	107	Re-thinking the role of statistical laws in complex systems	Eduardo Altmann
12:30-12:45	445	Categorical Algebra for Computing the Evolutionary Multidimensional Dynamics of Multilevel Complex Systems	Jeffrey Johnson
12:45-13:00	24	Uncertainty Quantification Combining An Ensemble of Modelling Methods	Diane Donovan

Parallel Session 2: **Cognitive & Linguistic Complexity 1**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+17		
Session Chair	Mariko Ito		

Time	Submission number	Title	Presenter
11:00-11:30	Invited talk	Animal Collective Cognition, Social Flexibility and Environmental Heterogeneity	Gabriel Ramos Fernandez
11:30-11:45	269	Fintech vocabulary in news, blogs and in the technical description of companies	Rosario Mantegna
11:45-12:00	294	Scaling The Language Diversity	Tomasz Raducha
12:00-12:15	316	Tracking the Evolution of the English Language as a Network with Temporal Clustering	Oliver Blanthorn
12:15-12:30	381	Decision order and individuals' accuracy in sequential decision-making	Mariko Ito
12:30-12:45	186	Hypernetworks for educational policy: topological and stochastic properties of inequality, learning deprivation and ethno-linguistic diversity	Harvey Sanchez-Restrepo

Parallel Session 2: **Diseases & Epidemics 1**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+12		
Session Chair	Edward Hill		
Time	Submission number	Title	Presenter
11:00-11:15	142	Epidemic containment using link importance	Sergio Gmez
11:15-11:30	343	Discovering and Modelling of Distributed Information Processes in Remote Monitoring of Chronic Disease Patients	Sergey Kovalchuk
11:30-11:45	351	Directionality reduces the impact of epidemics in multilayer networks	Xiangrong Wang
11:45-12:00	373	Active Adaptive Management of Infectious Disease Epidemics	Benjamin Atkins
12:00-12:15	32	Analyzing Long-Term Patient Health Trajectories Observed From Population-Wide Longitudinal Hospital Claims Data	Nils Haug
12:15-12:30	263	Vector-borne epidemics driven by human mobility	Sandro Meloni
12:30-12:45	367	Seasonal Influenza: Modelling Approaches to Capture Immunity Propagation	Edward Hill

Parallel Session 2: **Complexity of Physics 2**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+04		
Session Chair	Jeyashree Krishnan		
Time	Submission number	Title	Presenter
11:00-11:30	Invited talk	Superstatistical methods for complex systems	Christian Beck
11:30-11:45	103	Memory structures in quantum and classical stochastic processes	Felix Pollock
11:45-12:00	63	Extreme dimensional compression with quantum modelling	Thomas Elliott
12:00-12:15	260	Statistical mechanics of coevolving spin system	Tomasz Gubiec
12:15-12:30	3	agreeing to disagree in a quantum like framework: implications for costly signalling theory	Sudip Patra
12:30-12:45	109	Thermodynamics of Requisite Complexity: Efficient Modular Agents	Alexander Boyd
12:45-13:00	82	A Statistical Mechanics Perspective of Cliques, Lattices and Scale-Free Networks and their Relationships	Jeyashree Krishnan

Parallel Session 2: Complexity of Information Communication Technology 1

Date Tuesday, 1 October 2019

Room LHN-TR+30

Session Chair Jarosaw Klamut

Time	Submission number	Title	Presenter
11:00-11:15	36	Only Two Types of Strategies Enforce Linear Payoff Relationships under Observation Errors in Repeated Prisoner's Dilemma Games	Azumi Mamiya
11:15-11:30	229	An Unsupervised Learning Method to build a Network-Based model for Philippine Legal Document Classification	Juan Miguel Augusto Feria
11:30-11:45	48	A Novel Recommender System for Content based PCOD Image Retrieval using Deep Learning Algorithms	Suganya R
11:45-12:00	413	PyBDM: algorithmic complexity of 1D and 2D datasets based on Block Decomposition Method in Python	Szymon Talaga
12:00-12:15	409	Combining AI and Network Analysis to Mitigate the Impact of Computer Automation: A Case Study on Philippine Context	Benjur Emmanuel Borja
12:15-12:30	393	Study of the inverse of the Block-sequential operator in Boolean networks	Luis Cabrera-Crot
12:30-12:45	350	Optimal Control of Networked Risks: Minimizing Time and Energy	Boleslaw Szymanski
12:45-13:00	235	Activity Clustering in Continuous-Time Random Walk Formalism	Jarosaw Klamut

Parallel Session 2: **Urban Complexity 1**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+52		
Session Chair	Antonino Jr Paguirigan		
Time	Submission number	Title	Presenter
11:00-11:15	408	Folding cities	Ruiqi Li
11:15-11:30	309	The Creation of Permanence: Household-level Urbanisation Processes in Ulaanbaatar, Mongolia	Natalia Fedorova
11:30-11:45	416	An agent-based model of earthquake dynamics for the seismic assessment of urban areas	Annalisa Greco
11:45-12:00	112	Detecting Phase Transitions in Urban Dynamics: Thermodynamics and Fisher Information	Bohdan Slavko
12:00-12:15	61	Maximum Entropy Approach to Macro-Economic Urban Dynamics	Bernardo Monechi
12:15-12:30	290	Uncovering Mexican urban system hierarchical structure	Roberto Murcio
12:30-12:45	326	A multi-scalar model for system of cities	Juste Raimbault
12:45-13:00	414	Affinity-Driven Urban Agglomeration	Antonino Jr Paguirigan

Parallel Session 2: **Opinion Dynamics 1**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+36		
Session Chair	Michael Gastner		
Time	Submission number	Title	Presenter
11:00-11:15	249	Opinion dynamics with memory: how a society is shaped by its own past	Gioia Boschi
11:15-11:30	180	Opinion Dynamics Model Based on Bidirectional Bounded Threshold	Shuo Liu
11:30-11:45	88	Assessing the impact of recommender systems on the explore-exploit balance	Pietro Gravino
11:45-12:00	158	Transition to a structurally balanced paradise state in the system with agents possessing opinions	Piotr Grski
12:00-12:15	453	Emergence of echo-chambers in radicalization dynamics model	Michele Starnini
12:15-12:30	421	Understanding the reconfiguration of political spaces by opinion dynamics models	Eckehard Olbrich
12:30-12:45	298	Modelling the birth and evolution of echo chambers	Vittorio Loreto
12:45-13:00	386	Mean consensus time of the voter model on networks with two cliques	Michael Gastner

Parallel Session 2: **Social Complexity 2**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+37		
Session Chair	Jisu Kim		

Time	Submission number	Title	Presenter
11:00-11:30	Invited talk	Information flow and prediction limits in on-line networks	James Bagrow
11:30-11:45	417	The Scales of Human Mobility	Laura Alessandretti
11:45-12:00	84	Legal Requirements Engineering (LRE): Another Target for Micro-Simulation	Aernout Schmidt
12:00-12:15	30	Framing Social Complexity	Gert de Roo
12:15-12:30	241	Interconnectedness of migrants across countries and its spillover effects	Jisu Kim

5 Parallel Session 3

Parallel Session 3: Economic & Financial Complexity 2

Date	Tuesday, 1 October 2019		
Room	LHN-TR+14		
Session Chair	Toru Fujino		
Time	Submission number	Title	Presenter
16:45-17:15	Invited talk	A Patent Citation Network Structure and Formation Process	Panos Argyrakis
17:15-17:30	242	Robust behavioral patterns behind the demise of the commons	Carlos Gracia-Lzaro
17:30-17:45	240	Multi-branched Multifractal Analysis of Mean Inter-Event Times	Jaroslav Klamut
17:45-18:00	221	Learning Agents in Financial Markets: Consensus Dynamics on Volatility	Tushar Vaidya
18:00-18:15	111	Visualization of Hidden Competitiveness in Global Shareholding Networks	Takayuki Mizuno
18:15-18:30	396	Do Stylized Facts in Financial Markets Collapse Due to the Artificial Intelligence Analysis of Other Traders Behaviour?	Toru Fujino

Parallel Session 3: **Network Theory 3**

Date	Tuesday, 1 October 2019		
Room	LT		
Session Chair	Giacomo Rapisardi		
Time	Submission number	Title	Presenter
16:45-17:15	Invited talk	Susceptible Individual Drive Active Social Contagion	Lai Choy Heng
17:15-17:30	250	Making Communities Show Respect For Order	Tim Evans
17:30-17:45	313	Antifragility and a Multilayer Structure in Boolean Network Models	Hyobin Kim
17:45-18:00	117	Tensorial and bipartite block models for link prediction in layered networks and temporal networks	Antonia Godoy-Lorite
18:00-18:15	388	Fragility and anomalous susceptibility of weakly interacting networks	Giacomo Rapisardi
18:15-18:30	56	Grand Canonical Ensemble of Weighted Networks	Giulio Cimini

Parallel Session 3: **Agent-Based Simulations 1**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+16		
Session Chair	Kunbei Zhang		
Time	Submission number	Title	Presenter
16:45-17:00	210	Optimization of cruise passenger land transportation using agent-based simulation models	Tri Nguyen-Huu
17:00-17:15	284	Adaptive Motive Profiles for Motivated Particle Swarm Optimization	Medria Kusuma Dewi Hardhienata
17:15-17:30	204	An Agent-Based Model of the Emergence of Increased Visual Sensory Range and Cognition in Early Terrestrial Vertebrates	Can Gurkan
17:30-17:45	37	Memory effects in the voter model	Raul Toral
17:45-18:00	337	An Approach for Modelling and Simulation of Professional Agents in Heterogeneous Dynamic Environment: Digital Hospital Case Study	Marina Balakhontceva
18:00-18:15	92	An agent-based model for predicting Net-DGs future	Kunbei Zhang

Parallel Session 3: **The Science of Science 1**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+17		
Session Chair	Riccardo Gallotti		
Time	Submission number	Title	Presenter
16:45-17:00	1	Predicting the Evolution of Physics Research	Wenyuan Liu
17:00-17:15	247	Graphene Science and Technology: Who, What, When, Where, Why, How?	Ai Linh Nguyen
17:15-17:30	99	Designing an information system for measuring and tracking research: a complex systems approach	Felipe Montes
17:30-17:45	292	Categorical and Geographical Separation in Science	Julian Sienkiewicz
17:45-18:00	57	Unfolding the innovation system for the development of countries: coevolution of Science, Technology and Production	Giulio Cimini
18:00-18:15	255	The evolution of materials research: a case study in hip replacement applications	Khiam Aik Khor
18:15-18:30	199	Interrelationship of knowledge structure across language groups in communal data set	Jisung Yoon
18:30-18:45	122	Collective effects of individual decisions – the case of the Nobel Prize	Riccardo Gallotti

Parallel Session 3: Diseases & Epidemics 2

Date	Tuesday, 1 October 2019		
Room	LHN-TR+12		
Session Chair	Nelson Fernandez		
Time	Submission number	Title	Presenter
16:45-17:15	Invited talk	Vulnerability of EU livestock industry to epidemics	Vittoria Colizza
17:15-17:30	110	Oscillations in Sexually Transmitted Diseases	Clara Granell
17:30-17:45	212	Targeting Malaria Hotspots can be Counterproductive: Vaccination Simulation and Sensitivity Analysis	Mitsuhiro Odaka
17:45-18:00	436	Large-scale Agent-based simulations of pandemic influenza in Australia for investigating historical trends, interventions, and transmission networks	Cameron Zachreson
18:00-18:15	51	A Metabolic Network-Based Reverse Ecology Method Indicates That Gut Microbial Communities Are Fragile in Diseased Patients	Kazuhiro Takemoto
18:15-18:30	246	Assessing the Interplay Between Human Mobility and Dengue Outbreaks in Singapore	Emanuele Massaro
18:30-18:45	344	Arbovirus Vector-Host System: A Data Science Approach	Nelson Fernandez

Parallel Session 3: **Complexity of Earth Processes**

Date Tuesday, 1 October 2019

Room LHN-TR+04

Session Chair Verena Schamboeck

Time	Submission number	Title	Presenter
16:45-17:00	170	Good Dissonance, Dangerous Consonance: The Tones of El Nio (Causality and Synchronization Across the Scales of Climate Variability)	Milan Palus
17:00-17:15	181	Anomaly Detection in Paleoclimate Records Using Permutation Entropy	Joshua Garland
17:15-17:30	211	Climate-concerned students triggering tipping points in carbon divestment allow the creation of an actionable knowledge base for policy intervention.	Roger Cremades
17:30-17:45	443	Stochastic Dynamics and Noise-Induced Transitions in Three-Dimensional Climate Model	Dmitri Alexandrov
17:45-18:00	223	Early Warning Signal for Floods using Persistent Homology	Syed Mohd Sadiq Syed Musa
18:00-18:15	191	The Conditions Leading to the Emergence of Period-Doubling Slow and Fast Ruptures	Deepa Mele Veedu
18:15-18:30	188	Hierarchical Clustering Of Haze Episodes Based On Wasserstein Distance Of Topological Features	Nur Fariha Syaquina Zulkepli
18:30-18:45	282	Is Water Governed By Its Network?	Verena Schamboeck

Parallel Session 3: **Complexity of Information Communication Technologies 2**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+30		
Session Chair	Rakesh Kumar		
Time	Submission number	Title	Presenter
16:45-17:15		Invited talk by Meeyoung Cha	Meeyoung Cha
17:15-17:30	237	A Synergy Based Measure of Information Modification	Conor Finn
17:30-17:45	392	How to estimate "go no sen" (responsive initiative) in Fencing	Shintaro Mori
17:45-18:00	150	CombinationCombination Phase Synchronization among Non-Identical Fractional Order Complex Chaotic Systems via Nonlinear Control	Vijay Kumar Yadav
18:00-18:15	91	How to Lie If You Must: The Evolutionary Dynamics of Deception and Trust	Poong Oh
18:15-18:30	7	A General Deep Learning Framework for Network Reconstruction	Zhang Zhang
18:30-18:45	444	Effects of hybrid impulses on exponential stability of BAM neural networks	Rakesh Kumar

Parallel Session 3: **Biological & Biomedical Complexity 2**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+15		
Session Chair	Luis M. Rocha		
Time	Submission number	Title	Presenter
16:45-17:00	258	Genome networks and the stability of diversification	Jorge P. Rodriguez
17:00-17:15	145	Brain Network Analysis By Mixture Component Indexing Deconvolution	Anna Pidnebesna
17:15-17:30	252	Sex-Ratio Bias Induced by Mutation	Seung Ki Baek
17:30-17:45	441	Digging the optimum pit: Antlions, Spirals and Spontaneous Stratification	Max Falkenberg
17:45-18:00	346	Hash Chemistry: An Open-Ended Evolutionary System with Cardinality Leap and Universal Fitness Evaluation	Hiroki Sayama
18:00-18:15	426	Relationship between the structure of some cell cycle networks those attractors	Shu-Ichi Kinoshita
18:15-18:30	458	Body size and Maxwell-Boltzmann-like distribution for animals	Atahualpa S. Kraemer
18:30-18:45	347	Effective Control Pathways in The Canalizing Dynamics of Biochemical Regulation and Cortical Networks	Luis M. Rocha

Parallel Session 3: Urban Complexity 2

Date	Tuesday, 1 October 2019		
Room	LHN-TR+52		
Session Chair	Hadrien Salat		

Time	Submission number	Title	Presenter
16:45-17:15	Invited talk	Scaling in physics, biology, cities and beyond	Hyejin Youn
17:15-17:30	231	Scaling in the recovery of urban transportation systems from massive events	Jose J. Ramasco
17:30-17:45	318	Improving Urban Traffic with Adaptive Lanes	Dante Prez
17:45-18:00	412	A Typology of Damage Response in Worldwide Urban Road Networks	Jesus Felix Valenzuela
18:00-18:15	208	Complex Systems Based Integrated Assessment of Droughts, Floods, Heat Comfort and GHG Emissions in Cities under Climate Change	Roger Cremades
18:15-18:30	147	Optimising Electricity Infrastructure Planning in Developing Countries Using Mobile Phone Data	Hadrien Salat

Parallel Session 3: **Social Network 2**

Date	Tuesday, 1 October 2019		
Room	LHN-TR+36		
Session Chair	Diego Fregolent Mendes de Oliveira		
Time	Submission number	Title	Presenter
16:45-17:00	403	Link-centric analysis of variation by demographics in mobile phone communication patterns	Mikaela Irene Fudolig
17:00-17:15	303	Homophily as a process generating social networks: insights from Social Distance Attachment model	Szymon Talaga
17:15-17:30	317	Effect of interaction bias on spreading dynamics in social networks	Matteo Neri
17:30-17:45	389	Motif signatures of social networks are function of hierarchy and homophily	Malgorzata Turalaska
17:45-18:00	102	Temporal Social Network Analysis Of A Physical Activity Mobile Phone-based Intervention in Public Schools Of Bogot, Colombia.	Ana Guerra
18:00-18:15	163	Competition and spreading of low and high quality information in online social networks	Diego Fregolent Mendes de Oliveira

Parallel Session 3: **Complexity of Businesses & Organizations**

Date Tuesday, 1 October 2019

Room LHN-TR+37

Session Chair Babatunde Epoyun

Time	Submission number	Title	Presenter
16:45-17:00	213	Efficient Team Structures in an Open-Ended Cooperative Creativity Experiment	Bernardo Monechi
17:00-17:15	34	A Case Study on Complex Systems in a Hierarchical Organisation	Ser Ming Mark Lee
17:15-17:30	134	Exploring complexity in organizations: Bridging social networks and behavior analysis	Fabio Bento
17:30-17:45	239	Complexity and Chaos in Scrum: A Reappraisal	Czeslaw Mesjasz
17:45-18:00	400	Making Middle-Management the Focus of Heterarchic Restructuring Strategies: Insights from Geometric Modelling of Organizational Charts	Babatunde Epoyun

6 Parallel Session 4

Parallel Session 4: **Economic & Financial Complexity 3**

Date	Friday, 4 October 2019		
Room	LHN-TR+14		
Session Chair	Wataru Souma		
Time	Submission number	Title	Presenter
9:00-9:15	190	Complexities in Family Business System	Marita Rautiainen
9:15-9:30	268	Optimal Legal System in a Semi-underground Economy	Katarina Mayer
9:30-9:45	214	S&P 500 and DAX Relationships from Point of View of Dynamical Systems	Jozef Jakubk
9:45-10:00	358	A Complex Approach To A Theory Of The Firm	Dirk Bruin
10:00-10:15	179	News sentiment analysis in the US and Japan using deep learning methods	Wataru Souma

Parallel Session 4: **Network Theory 4**

Date	Friday, 4 October 2019		
Room	LT		
Session Chair	Ajay Deep Kachhvah		

Time	Submission number	Title	Presenter
9:00-9:15	262	Resilience of networks as a function of node behaviour	Oliver Smith
9:15-9:30	13	Synchronization of complex cyber-physical networks subject to malicious attack	Manchun Tan
9:30-9:45	67	Antagonistic Structural Patterns in Complex Networks	Mara Palazzi
9:45-10:00	21	A Vector Threshold Model for the Simultaneous Spread of Correlated Influence	Osman Yaan
10:00-10:15	41	Delay Regulated Explosive Synchronization in Multiplex Networks	Ajay Deep Kachhvah

Parallel Session 4: **Agent-Based Simulations 2**

Date Friday, 4 October 2019

Room LHN-TR+16

Session Chair Hian Lee Kwa

Time	Submission number	Title	Presenter
9:00-9:15	124	Data-driven Agent-based Model Simulating NTU Campus Shuttle Service	Wei Liang Quek
9:15-9:30	203	Collective Computing Framework for Swarming Systems	Jabez Leong Kit
9:30-9:45	205	Towards Decentralised Particle Swarms	Hian Lee Kwa

Parallel Session 4: **Cognitive & Linguistic Complexity 2**

Date	Friday, 4 October 2019		
Room	LHN-TR+17		
Session Chair	Cynthia Siew		
Time	Submission number	Title	Presenter
9:00-9:30	Invited talk	Complexities of mental health: Towards the use of network models in therapy	Sacha Eskamp
9:30-9:45	402	Random as well as non-random patterns of trait term recurrence and co-occurrence in English novels, and their potential implications on the lexical hypothesis in personality psychology	Markus Luczak-Roesch
9:45-10:00	394	Category Theoretical Approach for the Problems of Consciousness	Naotsugu Tsuchiya
10:00-10:15	131	Quantifying the interplay of semantics and phonology during failures of word retrieval by people with aphasia using a multiplex lexical network	Cynthia Siew

Parallel Session 4: **Diseases & Epidemics 3**

Date	Friday, 4 October 2019		
Room	LHN-TR+12		
Session Chair	Sheryl Le Chang		

Time	Submission number	Title	Presenter
9:00-9:15	329	Correlations between stochastic endemic infection in multiple interacting subpopulations	Sophie Meakin
9:15-9:30	125	Impact of the distribution of recovery rates on disease spreading in complex networks	Guilherme Ferraz de Arruda
9:30-9:45	118	Imitation dynamics in a SIR-network model of pediatric vaccination	Sheryl Le Chang

Parallel Session 4: Complexity of Chemistry

Date	Friday, 4 October 2019		
Room	LHN-TR+04		
Session Chair	Verena Schamboeck		
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Time	Submission number	Title	Presenter
<hr/>			
9:00-9:15	197	The topological features of fingerprint space and its application to the efficient retrosynthetic analysis	Mariko Ito
9:15-9:30	266	The Language of Chemistry: from Words to Macromolecules	Yuliia Orlova
9:30-9:45	279	Directed Random Graph Model For The Formation of Polymer Networks	Verena Schamboeck
9:45-10:00	259	Finite reaction networks of the infinite-size molecules	Yuliia Orlova
10:00-10:15	254	Modeling the topological structure of polymer networks by joining chemistry and n-colored random graphs	Verena Schamboeck

Parallel Session 4: **Complexity of Information Communication Technologies 3**

Date	Friday, 4 October 2019		
Room	LHN-TR+30		
Session Chair	Shintaro Mori		
Time	Submission number	Title	Presenter
9:00-9:15	106	Predictability of diffusion-based recommender systems	Leyang Xue
9:15-9:30	253	Greedy control of cascading failures in interdependent networks	Malgorzata Turalska
9:30-9:45	428	Formally Architecting Complex Systems-of-Systems on the Internet-of-Things	Flavio Oquendo
9:45-10:00	359	The coupling strength versus convergence speed in pinning control	Mingyang Zhou
10:00-10:15	271	Asynchronously Tuned Elementary Cellular Automata and Reservoir Computing	Daisuke Uragami
10:15-10:30	183	Reinforced Learning of Social Learning in Restless Multiarmed Bandit Game	Shintaro Mori

Parallel Session 4: **Biological & Biomedical Complexity 3**

Date	Friday, 4 October 2019		
Room	LHN-TR+15		
Session Chair	Hannah Rissah Forio-Abad		
Time	Submission number	Title	Presenter
9:00-9:30	Invited talk	Tangled Nature: a model of emergent structure and temporal mode among co-evolving agents	Henrik Jensen
9:30-9:45	450	Estimating species richness and macro-patterns from local presence-absence data	Anna Tovo
9:45-10:00	69	Higher-order vs. Structured Interactions in Competitive Ecosystems	Violeta Calleja-Solanas
10:00-10:15	50	Revisiting the Energetics of the Prokaryote-Eukaryote Divide	Katsumi Chiyomaru
10:15-10:30	297	Modelling and Simulation of the Antibiotics Resistant and Antibiotic Susceptible Bacteria Interaction	Hannah Rissah Forio-Abad

Parallel Session 4: **Opinion Dynamics 2**

Date	Friday, 4 October 2019		
Room	LHN-TR+52		
Session Chair	Jeehye Choi		

Time	Submission number	Title	Presenter
9:00-9:15	38	Influence of Group Leader Strength on Group Opinion Unanimity	Krzysztof Malarz
9:15-9:30	264	How does local rewiring change opinion dynamics?	Tomasz Raducha
9:30-9:45	325	The cost of opinion change	Laura Hernandez
9:45-10:00	378	Majority-vote Dynamics on Multiplex Networks with Two-layers	Jeehye Choi

Parallel Session 4: **Social Network 3**

Date	Friday, 4 October 2019		
Room	LHN-TR+36		
Session Chair	Alberto Aleta		

Time	Submission number	Title	Presenter
9:00-9:15	155	Extracting significant signal of news consumption from social networks:the case of Twitter in Italian political elections	Fabio Saracco
9:15-9:30	349	Detecting eigenmoods in individual human emotions	Johan Bollen
9:30-9:45	256	Modeling Human Mobility Networks with Facebook Advertising Data	MicheleTizzoni
9:45-10:00	275	Firsthand Opiates Abuse on Social Media: Monitoring Geospatial Patterns of Interest Through a Digital Cohort	Paolo Bajardi
10:00-10:15	348	Tracking the evolution of naturally occurring human emotions at the minute-scale with social media content	Johan Bollen
10:15-10:30	154	The Dynamics of Collective Social Behavior in a Crowd Controlled Game: Twitch Plays Pokmon	Alberto Aleta

Parallel Session 4: **Social Complexity 3**

Date	Friday, 4 October 2019		
Room	LHN-TR+37		
Session Chair	Iacopo Iacopini		

Time	Submission number	Title	Presenter
9:00-9:15	291	Solving the Humanitarian Challenges of the Twenty First Century: Social Innovators as a Human Sensor Network	Matias Rojas
9:15-9:30	220	Indirect donations promote social contributions.	Carlos Gracia-Lzaro
9:30-9:45	225	Genealogical Network Analysis of Social Group Evolution	Koji Oishi
9:45-10:00	43	Interacting contagions are indistinguishable from social reinforcement	Samuel Scarpino
10:00-10:15	8	Simplicial models of social contagion	Iacopo Iacopini

7 Parallel Session 5

Parallel Session 5: Economic & Financial Complexity 4

Date	Friday, 4 October 2019		
Room	LHN-TR+14		
Session Chair	Silvia Salinas		
Time	Submission number	Title	Presenter
11:00-11:15	415	Spatiotemporal Dynamics of Housing Market: A Random Matrix Approach	Silvia Salinas
11:15-11:30	9	Analyzing Stakeholders Network for Disaster risk reduction in Iran	Homa Yousefi Khoshsabegheh
11:30-11:45	39	Trader Interaction, Behavioral Convergence and Asset Market Volatility	Honggang Li
11:45-12:00	307	Coupled criticality analysis of inflation and unemployment	Ali Alinamaki
12:00-12:15	371	A data analytic elucidation on how firm choose to locate: a case study from Singapore maritime industry	Lock Yue Chew
12:15-12:30	169	Tensor Autoregression in Economics and Finance	Giuseppe Brandi
12:30-12:45	424	Macroeconomic Indicators Improve Housing Prices Forecast Accuracy: Time Series Analysis and Hybrid Models Approach	Silvia Salinas

Parallel Session 5: **Network Theory 5**

Date	Friday, 4 October 2019		
Room	LT		
Session Chair	Riccardo Marcaccioli		

Time	Submission number	Title	Presenter
11:00-11:15	143	Maxmin-omega: A New Threshold Model on Networks	Ebrahim Patel
11:15-11:30	148	The Longest Path in the Price Model	Tim Evans
11:30-11:45	301	Detection of spread source in complex networks	Janusz Hoyst
11:45-12:00	133	Temporal network embedding for the estimation of spreading process outcome	Laetitia Gauvin
12:00-12:15	45	The spreading of computer viruses on time-varying networks	Nicola Perra
12:15-12:30	338	Towards a New Multi-Scale And Multi-Relational Network Theory	Markus Kirkilionis
12:30-12:45	115	A Plya urn approach to information filtering in complex networks	Riccardo Marcaccioli

Parallel Session 5: **The Science of Science 2**

Date	Friday, 4 October 2019		
Room	LHN-TR+17		
Session Chair	Javier Borge-Holthoefer		

Time	Submission number	Title	Presenter
11:00-11:15	230	Quantifying and modeling gender bias in scientific careers	Federico Musciotto
11:15-11:30	287	Quality in peer production systems: impact of cohesiveness of communication networks on group efficacy	Agnieszka Rychwalska
11:30-11:45	157	Building Knowledge Space from Microscopic Behaviors to Macro Structure	Young-Ho Eom
11:45-12:00	66	Online division of labour: emergent structures in Open Source Software	Javier Borge-Holthoefer

Parallel Session 5: **Complexity of Information Communication Technologies 4**

Date	Friday, 4 October 2019		
Room	LHN-TR+30		
Session Chair	Shun Takeuchi		

Time	Submission number	Title	Presenter
11:00-11:15	429	Towards a Taxonomy of Information Dynamics Based on Integrated Information Decomposition	Pedro A.M. Mediano
11:15-11:30	74	Estimation of the Attribution of Bitcoin Users Using Transaction History and the Network Topology Case of the Location Information Detection	Joomi Jun
11:30-11:45	59	A high-performance analog max-SAT solver	Botond Molnr
11:45-12:00	62	Do Neural Networks dream of Adjacent Possible?	Alessandro Londei
12:00-12:15	77	Extracting Dynamical Behavioral Structure in Evolutionary Games	Shun Takeuchi

Parallel Session 5: **Biological & Biomedical Complexity 4**

Date	Friday, 4 October 2019		
Room	LHN-TR+15		
Session Chair	Rossano Schifanella		
Time	Submission number	Title	Presenter
11:00-11:15	218	Adaptive Strategies in Consumer-Resource Models	Samir Suweis
11:15-11:30	442	Predicting critical regions in the heart for the initiation of cardiac fibrillation using percolation on spatial networks	Max Falkenberg
11:30-11:45	340	High Order Nestedness and the structure of ecological systems	Albert Sole
11:45-12:00	116	Stable probability distribution of brain network properties in resting state fMRI	Levente Varga
12:00-12:15	391	Epsilon Machines Distinguish Between Conscious States in the Fly Brain	Felix Pollock
12:15-12:30	330	A reservoir-computing model of how planaria switch phenotypes stochastically	Santosh Manicka
12:30-12:45	70	Information theory strategies to scape parasites	Lus F Seoane
12:45-13:00	375	Inferring Strategic Heuristics from Aggressive Behavior in Animals and Humans	Dan Mønster
13:00-13:15	288	From food consumption to ingredients networks: large-scale and high-resolution analysis of food purchases and health outcomes	Rossano Schifanella

Parallel Session 5: **Urban Complexity 3**

Date	Friday, 4 October 2019		
Room	LHN-TR+52		
Session Chair	Roberto Murcio		

Time	Submission number	Title	Presenter
11:00-11:30	Invited talk	Infrastructure resilience on the context of global change	Yang Saini
11:30-11:45	352	Hybrid Cellular Automata Model for the Projection of Electricity Demand at the Urban Scale	Anahi Molar Cruz
11:45-12:00	86	Urban Semantic: Disentangle city segregation patterns	Riccardo Di Clemente
12:00-12:15	333	Decongestion of urban areas with hotspot-pricing	Albert Sole
12:15-12:30	65	Trends in urban flows: from Wi-Fi data to pedestrians' route choices	Roberto Murcio

8 Poster Session 1

Poster Session 1

Submission number	Title	Board number
176	Anomalous diffusions of granular rafts and oscillons on Faraday waves	1
73	An Extended Principle of Least Action for Self-organization in Complex Systems	2
54	Blockchain Technology for Electoral Process in Africa: A Short Review	3
356	Predicting the unpredictable: A case study of financial market crashes	4
78	Structural Invertibility and Optimal Sensor Node Placement for Error and Input Reconstruction in Dynamic Systems	5
236	Complexity of Social Systems and Awareness of Ignorance	6
384	Mechanical Effects On Soft Tissues During Acupuncture Needling	7
404	Smart and Secure E-Voting System using Blockchain Technology	8
312	A Network Approach to the study of the Bitcoin Price Evolution	9
185	Quantifying the Air Quality In Hanoi Using a Complex Temporal Network Approach	10
395	Model Fitting in Malaria Epidemics: Applying High-Frequency Empirical Data for SEI-SI Model	11
206	Buildings as Species: Competition and Scaling Rules in Cities	12

Poster Session 1

Submission number	Title	Board number
257	Mechanisms for the emergence of synchronization in inhibitory neural networks	13
14	PRESTO: A Systematic Framework for Blockchain Consensus Protocols	14
105	Longitudinal Analysis of Collective Emotion in Online Social Media	15
422	Characterization Study of Induced Current Electrical Impedance Tomography (ICEIT) On Iron Powder Distribution In Soil	16
201	Functions, universal with respect to classical systems	17
456	Latency Prediction Based on Machine Learning of Real-Time Highway Data	18
178	The structure and evolution of Japanese production network	19
280	Economics of Fisheries: How Do Market Prices Affect the Sustainability	20
42	Revealing the Predictability of Intrinsic Structure in Networks	21
462	Interevent time distribution, burst, and hybrid percolation transition	22

9 Poster Session 2

Poster Session 2

Submission number	Title	Board number
295	Non-locality in Cognition without Quantum Mechanics	1
274	\$BC_DCN\$: An efficient and accurate edge centrality measure.	2
174	A Case Study on the Change of Industrial Ecosystem According to the National Policy for Growth Engines - Focused on government R&D Projects in south korea	3
423	On Prediction of Annual Motorcycles Selling Using a Competition Mathematical Model	4
440	Exploring the Cognitive Process of Learning the Latent Structures in a Probabilistic Reversal Learning Task	5
5	EXPLORING SUSTAINABLE ENERGY PATHWAYS FOR LAND TRANSPORT IN NIGERIA: A TIMES MODEL APPLICATION	6
379	Complex Dynamics Of A Four Species Food-Web Model	7
168	Health and Disease Emergent States Resulting from Adaptive Social and Biological Network Interactions	8
383	An Analysis on Explanatory Power of Vision-Driven Agent Simulations to Pedestrian Spatial Distribution	9
399	Exploring the Role of Interdisciplinarity in Physics: Success, Talent and Luck	10

Poster Session 2

Submission number	Title	Board number
460	Synchronization of Coupled Reaction-Diffusion Systems	11
35	The Heider Balance and the Looking-Glass Self	12
177	An analysis of the Malaysian Twitter Network of the 2018 Port Dickson by-election	13
18	Node Centrality of Weighted Networks Considering Connectability to Nodes within Two Degrees of Separation	14
161	Integrated agriculture calculator Cal-cGosPuck	15
79	Fractal dimension as a useful tool for EEG analysis	16
6	Classification of Countries in Global Banking Network	17
455	The effect of demographic noise in MacArthur's resource-consumer model	18
357	Centralized implementation of traffic flow routing for SDN networks	19
401	Modern Tools for Agent-Based Model Sensitivity Analysis	20

10 Poster Session 3

Poster Session 3

Submission number	Title	Board number
173	Inclusion of Self-Organized Dynamics in a Game-Theoretic Social Network Model	1
446	A Computer Simulation of Motivation and Behaviour in Police Patrol Systems	2
137	Analysis of Possible Transit Country in Global Migration	4
33	The Coverage Control in the Multi-agent systems by the Aid of Evolutionary Game Theory	5
219	Nearest-neighbor Separations of Economic and Administrative Buildings in a Self-organized Urban Setting	6
353	Complex knowledge resource management in model-based professional reasoning	7
251	PREDICTION OF RAINFALL FOR CROP PRODUCTION	8
47	Transformation of Cognitive Level in Interfacing Automata theory and Grammar with Compiler Design and its Applications through Collaborative Teaching and Learning	9
398	Coupling Agent-Based Modelling and Blockchain for rural studies in Vietnam	10
126	A Comprehensive Analysis of the Hungarian Firm-Level Supplier Network	11
431	Rhythm Sensing: Identifying Chronotypes and Sleep and Activity Rhythms from Passive Mobile Phone Data	12

Poster Session 3

Submission number	Title	Board number
281	Node Replacement in DOTA 2 Team Networks	13
299	A Natural Definition for the Boundaries of Cities	14
93	Analysis of two charismatic persons at an election using opinion dynamics approach	15
265	A Fairly Complete Qualitative Analysis of a Discrete SIR Epidemic Model - Local Stability and generic codimension 1 Bifurcation	16
311	Finding the source of local information cascades in complex networks	17
319	Bali ancient rice terraces: A Hamiltonian approach	18
2	Chaotic Analysis of Acid Rains with Time Series of pH Degree, Nitrate and Sulphate Concentration on Wet Samples	19
222	Cancer cell cluster formation in endothelial-cancer cell mixture	20

11 Poster Session 4

Poster Session 4

Submission number	Title	Board number
138	Digital Twin for Structural Health Monitoring of Transportation Infrastructures	1
153	Service WaterPUCK a new method for investigation influence of agricultural holdings and land-use structures on coastal waters of the southern Baltic Sea	2
276	Weekly idiosyncratic momentum and contrarian effects in the Chinese stock market	3
165	A Network-Based Approach To The Cancer Hallmarks Paradigm For The Localization Of Pharmacological Targets In The Human Interactome	4
385	Management of Big Data in the public sector system level risks and design principles	5
94	The complexity of learning in artificial intelligent systems: the role of cooperation between intelligent agents operating a bus line	6
160	Knowledge Relatedness in Research Portfolio Diversification	7
289	Saving of production as the key to model economic growth in kinetic wealth-exchange models	8
198	The u-shaped role of communication in diversity-enhanced collective intelligence	9
322	The Effect of Exercise on Internal State Dynamics	10
101	Native Communities in Social Networks	11

Poster Session 4

Submission number	Title	Board number
16	Inferring the complexity of efficient quantum modelling	12
119	Machine Learning Models for Predictive Analytics of Readmission Risks in Hospitals	13
187	Multilayer spillover networks analysis of China's financial institutions based on variance decompositions	14
90	Analysis of untrusted person and charismatically popular person using opinion dynamics approach	15
410	Dimension Reduction of Molecular Fingerprints Using Nonnegative Matrix Factorization	16
315	Prediction of Robustness and Evolvability of Biological Networks Based on Antifragility	17
345	Effectiveness of premium programs in increasing the income of Mexican coffee growers	18
434	African Buffalo Optimization Algorithm for Personalized Diet Optimization and recommendation	19
144	Graph theoretical properties of functional and effective connectivity matrix	20

12 Poster Session 5

Poster Session 5

Submission number	Title	Board number
26	The Production of Space in the Capitalism Era: A Case Study	1
374	A network approach to calculate the entropy of social organisations	2
365	Extended Constant Returns to Scale in Macroeconomics	5
360	Packaged transmission of cultural traits generates false signal for selection	6
355	Weighted Networks of Friendship and Animosity in Classrooms Groups	7
354	Does geo-electric data tell us anything about future earthquakes?	8
380	Analysis of the Relation between Office Rent and Evaluation of Location Using Space Syntax Theory The Areas within 2km from Kanda and Shibuya Station-	9
302	What is the optimal railway network?	11
202	Temporal employment networks reveal inter-industry dynamics and knowledge transfer in New Zealand	12
324	Network Science For Diseases: Conjugating Ayurveda and Modern Medicine	13
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