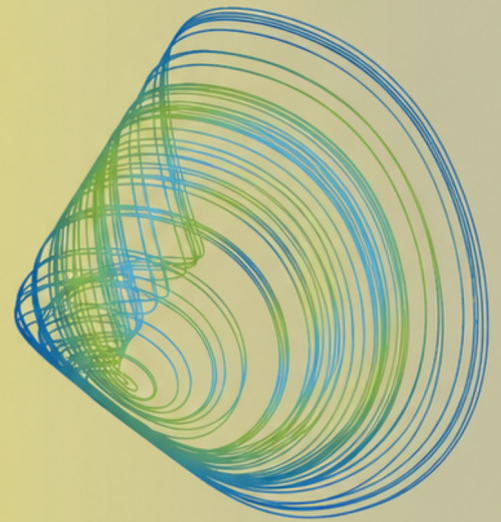


XLVI DYNAMICS DAYS EUROPE



19 - 24 July, 2026
Lisbon

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About the conference

Dynamics Days Europe

Welcome to the XLVI DDE 2026: 19-24 July 2026, Lisbon, Portugal.

Dynamics Days Europe (DDE) is a series of major international conferences founded in the 1980's that provides a European forum for developments in the theory and applications of dynamics. For more than 40 years, it has been bringing together researchers from a wide range of backgrounds including physics, mathematics, biology, and engineering for interdisciplinary research in nonlinear science.

Topics of interest include: Astrophysics, Asymptotics, Bifurcation Theory, Biophysics, Chaos, Chemical dynamics, Complex systems and Networks, Computational Methods, Control systems, Crowd Dynamics and Mobility, Earthquake engineering, Econophysics, Environmental dynamics and Ecology, Epidemics, Financial systems, Fluid and Solid Mechanics, Machine and Deep Learning, Materials Science, Mathematical Physics, Multiscale Dynamics, Multi-physics, Neurodynamics, Numerical Analysis, Pattern Formation, Reduced-order Modelling, Robotic dynamics, Self-organized systems, Scientific Computing, Soft Matter, Social dynamics and networks, Statistical Physics, Stochastic Systems, Time Series Analysis, Traffic dynamics, Turbulence.

Conference Highlights

- **Plenary Talks:** Featuring leading researchers discussing recent advancements in dynamical systems
- **Minisymposia:** Organized sessions proposed by participants, focusing on specific topics within the field
- **Contributed Talks and Posters:** Opportunities for researchers to present their work and engage with peers

XLVI Dynamics Days Europe - DDE 2026

XLVI Dynamics Days Europe 2026 (DDE 2026) continues the tradition of fostering interdisciplinary research in nonlinear science, bringing together experts from various fields. DDE 2026 is held in Lisbon, Portugal, at the Rectorate of NOVA University Lisbon and Colégio Almada Negreiros, located in the heart of Lisbon, near the iconic Praça de Espanha.

To recognize outstanding contributions, Best Poster Awards will be presented to early-career researchers, including PhD students and postdoctoral fellows

Local organizing committee

Maíra Aguiar	BCAM	Fabio Chalub	NOVA FCT
Paulo Doutor	NOVA FCT	Matheus Hansen	NOVA FCT
Paula Patrício	NOVA FCT	Maria do Céu Soares	NOVA FCT
Nico Stollenwerk	BCAM	Vanessa Steindorf	CUNEF Universidad

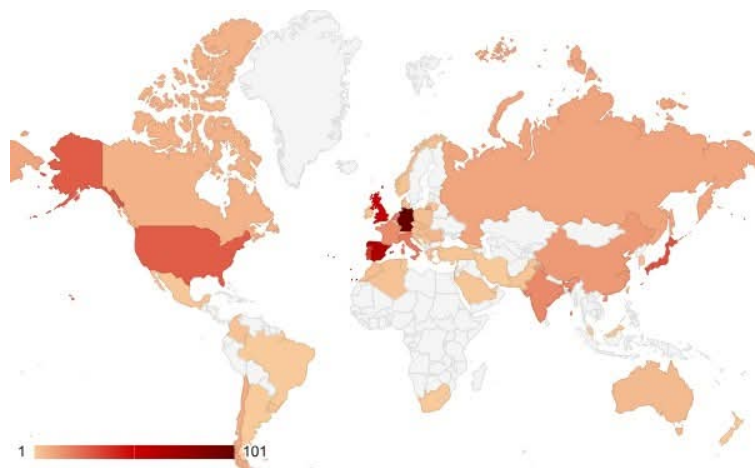
Volunteers

Bárbara Rodrigues	NOVA FCT	Carolina Fernandes	NOVA FCT
Lisandro Sequeira	NOVA FCT	Gonçalo Silva	NOVA FCT
Henrique Pacheco	Instituto Superior Técnico	Raya Noura	NOVA FCT
Jobin Josey	IIIT-Bangalore, India	Frank Smuts	University of Cape Town, South Africa
Iara Aguiar	Cantabria University, Spain		

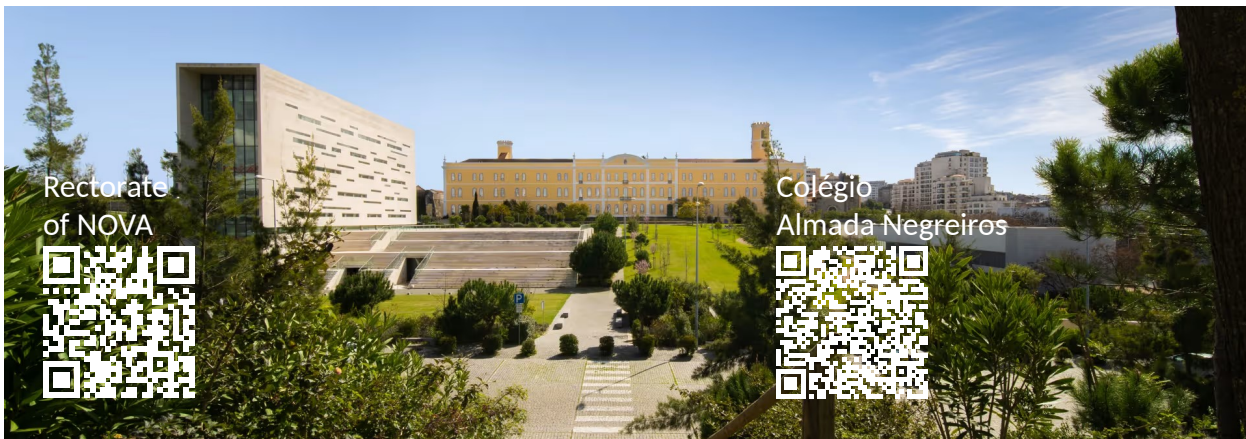
Advisory committee

Peter Ashwin	University of Exeter, UK
Roberto Artuso	Univ. degli Studi dell'Insubria, Italy
Daniele Avitabile	VU Amsterdam, The Netherlands
Wael Bahsoun	Loughborough University, UK
Christian Beck	Queen Mary University of London, UK
Christian Bick	Vrije Universiteit Amsterdam, NL
Raffaella Burioni	University of Parma, Italy
Julyan Cartwright	Universidad de Granada, Spain
Predrag Cvitanovic	Georgia Tech, USA
Murilo da Silva Baptista	University of Aberdeen, UK
Ulrike Feudel	University of Oldenburg, Germany
Dezso Horvath	University of Szeged, Hungary
Yuliya Kyrychko	University of Sussex, UK
Marcel Oliver	KU Eichstätt-Ingolstadt, Germany
Ulrich Parlitz	University of Göttingen, and Max Planck Institute, Germany
Anke Pohl	University of Bremen, Germany
Lucia Russo	STEMS-CNR, Italy
Eckehard Schöll	TU Berlin, Germany
Constantinos Siettos	University of Naples Federico II, Italy
Jens Starke	University of Rostock, Germany
Walter Zimmermann	University of Bayreuth, Germany

Participants



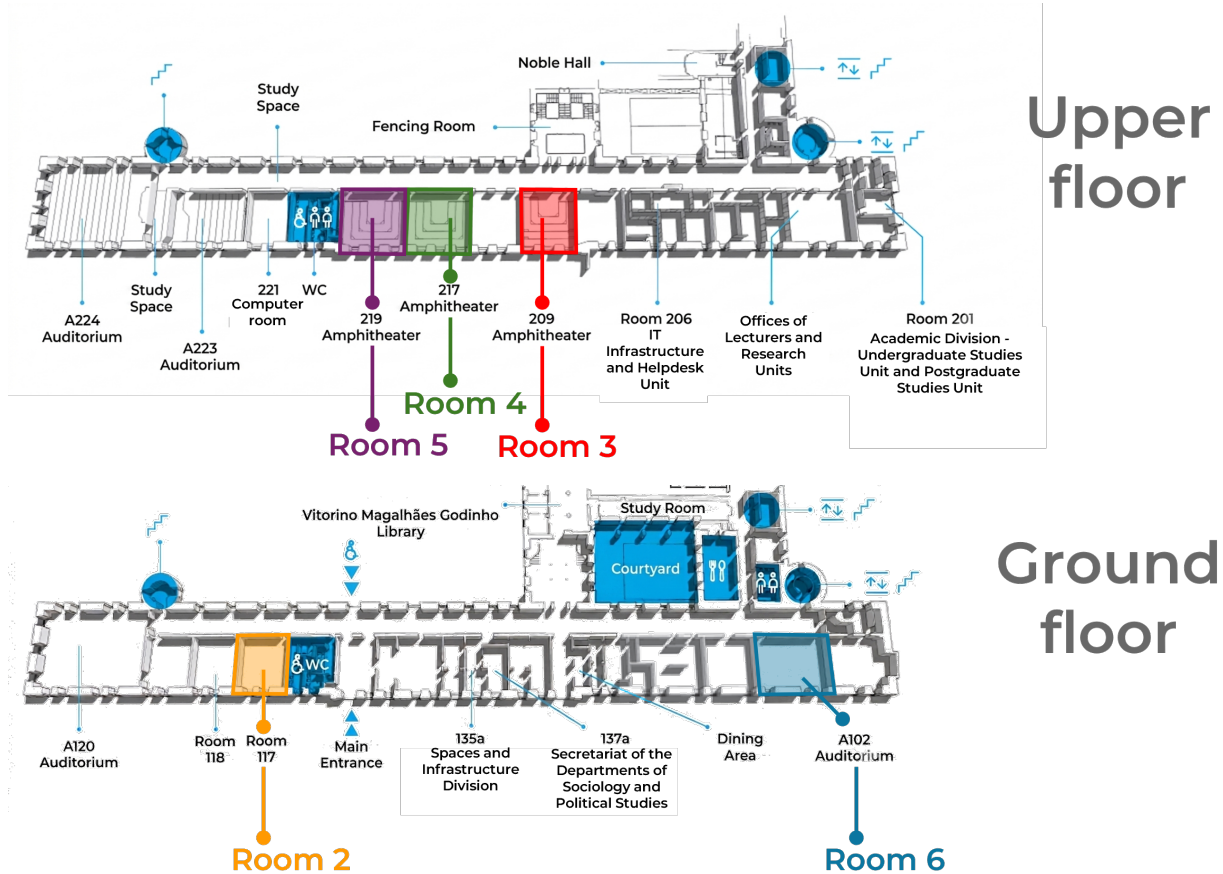
Conference Venue



Dynamics Days Europe 2026 (DDE 2026) will be held on the **Campolide campus** of NOVA University Lisbon, across two venues just **2 minutes apart**: the **Rectorate of NOVA** and the **Colégio Almada Negreiros**.

The award-winning **Rectorate of NOVA** is a modern venue for the conference's main activities. **Room 1** will host the **Plenary Sessions**, together with selected **Mini-Symposia** and **Parallel Sessions**, while the **atrium** will accommodate the **Poster Sessions**, **Cocktails**, **Coffee Breaks**, and **Lunch distribution**.

The historic **Colégio Almada Negreiros** will host the remaining **Mini-Symposia** and **Parallel Sessions** in **Rooms 2-6**, as shown in the images below.



Timetable

Sunday, 19 July

15:30–17:00	Welcome Cocktail and early check in		
17:00–17:30	Opening		
17:30–18:15	Ple 1 Room 1	Cristiane Morais Smith Chair: Christian Kuehn	Quantum matter at non-integer dimension: Topology and interactions

Monday, 20 July

08:30–9:00	Registration		
09:00–09:45	Ple 2 Room 1	János Kertész Chair: Paulo Douror	Opinion dynamics: From models to data
09:45–10:15	Coffee break		
10:15–11:35	Mini-Symposia (4x20' talks) + Parallel Sessions (4x20' CT)		
11:40–13:00	Parallel Sessions (4x20' CT)		
13:00–14:20	Lunch (standing buffet)		
14:20–15:05	Ple 3 Room 1	Anna Levina Chair: Peter Ashwin	Timescales, criticality, and optimality in neural dynamics
15:10–16:30	Mini-Symposia (4x20' talks) + Parallel Sessions (4x20' CT)		
16:50–17:55	Mini-Symposia (4x20' talks)		
18:00–19:00	Cocktail and Poster Session I		

Morning Session I			
10:15 - 11:35	MS 1 Room 1	Identifying, characterizing, and forecasting extreme events in dynamical systems MS organizers: Elbert E. N. Macau and Cristina Masoller	
10:15 - 10:35	MS01 Talk 1	Karin Alfaro-Bittner	Predicting deterministic extreme events
10:35 - 10:55	MS01 Talk 2	Michael Small	Detecting tipping point from surprise in trajectories
10:55 - 11:15	MS01 Talk 3	Elbert E. N. Macau	Forecasting extreme event transition
11:15 - 11:35	MS01 Talk 4	Juan P. Tarigo	Transient dynamics near bifurcations in a time-delayed double-well system

10:15 - 11:35	MS 2 Room 2	Dynamics of power grids: advances in modelling, stability, and control (Part I) MS organizers: Jakob Niehues, Iva Bačić, Leonardo Rydin Gorjão and Alessandro Lonardi	
10:15 - 10:35	MS02 Talk 1	Nubius Brandner	Nodal Braess's paradox and inertia destabilisation: Dynamically coupling node and line failures in power grids
10:35 - 10:55	MS02 Talk 2	Philipp C. Böttcher	Cascading failures and critical infrastructures in future renewable European power systems
10:55 - 11:15	MS02 Talk 3	Laurent Pagnier	Real-time stochastic assessment of dynamic N-1 grid contingencies
11:15 - 11:35	MS02 Talk 4	David Kraljic	Beyond Gaussian swing models: Realistic statistical modelling of grid frequency
10:15 - 11:35	MS 3 Room 3	Modeling, analysis and control of cardiac dynamics (Part I) MS organizers: Omer Berenfeld and Thomas Lilienkamp	
10:15 - 10:35	MS03 Talk 1	Omer Berenfeld	Mapping rotors in atrial fibrillation to improve understanding and ablation
10:35 - 10:55	MS03 Talk 2	Benjamin Weiß	Analysis of complex contractile dynamics of cardiac arrhythmias using 4D ultrasound
10:55 - 11:15	MS03 Talk 3	Peer Christian Drescher	Fitting unknown cardiac excitable media and reconstructing anisotropic diffusion coefficients from limited, noisy observed cell membrane voltage data
11:15 - 11:35	MS03 Talk 4	Joshua Steyer	Spiral waves in realistically aligned microstructure of cardiac excitable tissue
10:15 - 11:35	MS 4 Room 4	Inference of higher-order networks from time series data MS organizers: Mohammadreza Bahadorian and Klaus Lehnertz	
10:15 - 10:35	MS04 Talk 1	Mohammadreza Bahadorian	Network inference and characterizing pairwise interactions – an overview
10:35 - 10:55	MS04 Talk 2	Yuri Antonacci	Information-theoretic decomposition of higher-order interactions in physiological networks
10:55 - 11:15	MS04 Talk 3	Jaroslav Hlinka	What do we really infer? Two perspectives on higher-order interactions from data
11:15 - 11:35	MS04 Talk 4	Manuel Lourenço	Characterization of higher-order interactions using Kramers-Moyal coefficients

10:15 - 11:35	PS 1 Room 5	Fluid and Solid Mechanics 1 Chairs: Yuichiro Shimazaki and Philippe Caillol	
10:15 - 10:35	CT 1	Philippe Caillol	A vorticity wave packet breaking within a rapidly rotating vortex
10:35 - 10:55	CT 2	Thanh Tung Thai	Trajectory-based study and visualization of coherent flow structures in chemical reactors
10:55 - 11:15	CT 3	Makoto Iima	Phase reduction analysis of a vortex-sheet swimming model with fluid-structure interaction: Predicting entrainment under periodic external flows
11:15 - 11:35	CT 4	Yuichiro Shimazaki	Axisymmetric lump solutions and their stability in a reduced intermediate geostrophic equation

10:15 - 11:35	PS 2 Room 6	Social dynamics and networks Chairs: Harbir Lamba and Luis Franco-Pérez	
10:15 - 10:35	CT 5	Luis Franco-Pérez	Hysteresis and interpersonal social interactions
10:35 - 10:55	CT 6	Hana Krakovská	Value-based hierarchy and the evolution of fairness in networked ultimatum game
10:55 - 11:15	CT 7	Rodrigo Gutiérrez	Beyond the individual: Binge drinking dynamics
11:15 - 11:35	CT 8	Harbir Lamba	Reducible networks and representative agents

Morning Session II			
11:40 - 13:00	PS 3 Room 1	Turbulence Chairs: Gregory P. King and Ruba Murhaf	
11:40 - 12:00	CT 9	Ruba Murhaf	Nonlinear Langmuir wave modulation and modulational instability in a warm two-electron-fluid plasma model: Optical-like envelope solitons and parametric investigation
12:00 - 12:20	CT 10	Kaushik Satapathy	Interpretable data-driven discovery of nonlinear plasma dynamics using sparse regression
12:20 - 12:40	CT 11	Willem van de Water	Is the edge of turbulence an invariant manifold?
12:40 - 13:00	CT 12	Gregory P. King	An anatomical study of ASCAT's tail

11:40 - 13:00	PS 4 Room 2	Control Systems 1 Chairs: Madalena Chaves and Aditi Jain	
11:40 - 12:00	CT 13	Aditi Jain	Control analysis for the ribosome flow model with different site sizes along with Langmuir kinetics
12:00 - 12:20	CT 14	Valeriy A. Slipko	Energy-efficient control of resistive switching in first-order memristive devices
12:20 - 12:40	CT 15	Javier López-Pedrares	Optimal control of competitive biological systems: Viral dynamics and tumor growth under radiotherapy
12:40 - 13:00	CT 16	Madalena Chaves	Period computation for a circadian clock model: Comparing free-running and coupled systems

11:40 - 13:00	PS 5 Room 3	Chemical Dynamics Chairs: Rabih Sultan and Anja Göbel	
11:40 - 12:00	CT 17	Anja Göbel	Model-based computational study of reactive fluid systems using transfer operator methods
12:00 - 12:20	CT 18	Maryke Kouyate	Automatic kinetic equation discovery from scarce data
12:20 - 12:40	CT 19	Dmitry Safonov	Unidirectional wave propagation in Belousov-Zhabotinsky excitable media
12:40 - 13:00	CT 20	Rabih Sultan	New routes to exotic pattern formation in periodic precipitation (Liesegang) systems
11:40 - 13:00	PS 6 Room 4	Chaos 1 Chairs: László Mihály and Amel Kolli	
11:40 - 12:00	CT 21	Amel Kolli	Complexity analysis of FMR driven chaotic magnetization dynamics in a BiYIG nanodisk
12:00 - 12:20	CT 22	Ivan Garashchuk	Optimization techniques to search for complex dynamics
12:20 - 12:40	CT 23	Orazio Descalzi	Dissipative solitons stabilized by nonlinear gradients
12:40 - 13:00	CT 24	László Mihály	Transient chaos reveals hardness structure of Hamiltonian paths near the phase transition
11:40 - 13:00	PS 7 Room 5	Epidemics 1 Chairs: Fernando Córdova-Lepe and Nicola Cinardi	
11:40 - 12:00	CT 25	Nicola Cinardi	How host contact network impacts N-strain SIS dynamics with coinfection via a global replicator equation
12:00 - 12:20	CT 26	Paulo Doutor	Global stability in SIRP models with imitation dynamics
12:20 - 12:40	CT 27	Urszula Skwara	A two-strain dengue model with a constant recruitment
12:40 - 13:00	CT 28	Fernando Córdova-Lepe	Estimating the magnitude of dengue imported from travel to neighboring countries: Risk in mainland Chile

Afternoon Session I			
15:10 - 16:30	MS 5 Room 1	Behaviour and disease modelling in complex networks and dynamical systems (Part I) MS organizers: Congjie Shi and Enrique Chipicoski Gabrick	
15:10 - 15:30	MS05 Talk 1	Enrique Chipicoski Gabrick	Climate change modulates dengue synchronization in Brazil
15:30 - 15:50	MS05 Talk 2	Vanessa Steindorf	Dengue epidemic patterns: The role of the clusters and border provinces
15:50 - 16:10	MS05 Talk 3	Cristiana J. Silva	Complex network and optimal control of HIV/AIDS transmission dynamics
16:10 - 16:30	MS05 Talk 4	Matheus Hansen	Group centrality in optimal and suboptimal vaccination for epidemic models in contact networks
15:10 - 16:30	MS 6 Room 2	Bifurcations in continuous systems and networks: Theory and applications (Part I) MS organizers: Alexander Nepomnyashchy, Michael Zaks and Idan Sorin	
15:10 - 15:30	MS06 Talk 1	Jacob Rubinstein	A nonlinear mechanical model for the cochlea amplifier
15:30 - 15:50	MS06 Talk 2	Oleksandr Burylko	Multistability and bifurcations in gradient oscillator model for frustrated spin system
15:50 - 16:10	MS06 Talk 3	Matthias Wolfrum	The mathematics of hyperlocking
16:10 - 16:30	MS06 Talk 4	Manuel A. Matias	From excitability to form: A simple model of coral reef morphology
15:10 - 16:30	MS 3 Room 3	Modeling, analysis and control of cardiac dynamics (Part II) MS organizers: Omer Berenfeld and Thomas Lilienkamp	
15:10 - 15:30	MS03 Talk 5	Tim de Coster	Dynamics of excitable media in reduced cardiac models: Mechanisms of instability across scales
15:30 - 15:50	MS03 Talk 6	Laura Martinez-Mateu	Electrical power based characterization of rotor sites and their drift prediction in atrial tissue
15:50 - 16:10	MS03 Talk 7	Daniel Frühwald	Deep reinforcement learning to control chaotic patterns in systems of excitable media
16:10 - 16:30	MS03 Talk 8	José Luis Rojo-Álvarez	Latent geometric representations for learning and modeling cardiac dynamics

15:10 - 16:30	MS 7 Room 4	Mathematical underpinnings of tipping points (Part I) MS organizers: Sneha Kachhara and Iacopo P. Longo	
15:10 - 15:30	MS07 Talk 1	Iacopo P. Longo	Nonautonomous systems, bifurcations and tipping points
15:30 - 15:50	MS07 Talk 2	Carmen Núñez	Jump bifurcations for nonautonomous d-concave ODEs
15:50 - 16:10	MS07 Talk 3	Christopher Beekmann	Optimal control of nonautonomous saddle-node bifurcations
16:10 - 16:30	MS07 Talk 4	Sacha Sinet	A criterion for safe overshoot in coupled tipping systems

15:10 - 16:30	MS 8 Room 5	Symbolic dynamics concepts for biological signal analysis (Part I) MS organizers: Timo Bröhl and Bulcsú Sándor	
15:10 - 15:30	MS08 Talk 1	Timo Bröhl	Taming complexity: Symbolic dynamics for biological signals – current concepts and future directions
15:30 - 15:50	MS08 Talk 2	Zsolt I. Lázár	A dynamical complexity-entropy plane based on trajectory statistics
15:50 - 16:10	MS08 Talk 3	Melvyn Tyloo	Including the magnitude variability of a signal in the ordinal pattern analysis
16:10 - 16:30	MS08 Talk 4	Manuel Adams	Transcript-based characterization of interactions in the human brain

15:10 - 16:30	PS 8 Room 6	Complex Systems and Networks 1 Chairs: Margherita Bertè and Juan G. Restrepo	
15:10 - 15:30	CT 29	Juan G. Restrepo	Opinion dynamics with consequences
15:30 - 15:50	CT 30	Marvin Lücke	Learning collective variables for time-evolving networks
15:50 - 16:10	CT 31	Fatihcan M. Atay	Effects of time delays on network speed
16:10 - 16:30	CT 32	Margherita Bertè	Equitability error and synchrony in network dynamical systems

Afternoon Session II			
16:35 - 17:55	MS 5 Room 1	Behaviour and disease modelling in complex networks and dynamical systems (Part II) MS organizers: Congjie Shi and Enrique Chipicoski Gabrick	
16:35 - 16:55	MS05 Talk 5	Thainá Ferreira Silva	Coexistence and evolution of mutating rumors in complex networks
16:55 - 17:15	MS05 Talk 6	Felipe Murgel	Imitation dynamics from d-player vaccination games: A game-theoretic approach to SIRV models
17:15 - 17:35	MS05 Talk 7	Affan Shoukat	Evaluating self-isolation and targeted vaccination for containing post-spillover H5N1 transmission chains
17:35 - 17:55	MS05 Talk 8	Congjie Shi	Impact of modular network structure on coupled information-disease diffusion

16:35 - 17:55	MS 6 Room 2	Bifurcations in continuous systems and networks: Theory and applications (Part II) MS organizers: Alexander Nepomnyashchy, Michael Zaks and Idan Sorin	
16:35 - 16:55	MS06 Talk 5	Nir Gavish	Shilnikov loops and bistability in multi-strain epidemics
16:55 - 17:15	MS06 Talk 6	Svetlana Gurevich	Multistable Kuramoto splay states and coherent pulse interactions in mode-locked semiconductor lasers
17:15 - 17:35	MS06 Talk 7	Idan Sorin	Coupling-induced instability and state selection in cyclic competition population dynamics
17:35 - 17:55	MS06 Talk 8	Pere Colet	Effect of size on transmission grid stability
16:35 - 17:55	MS 9 Room 3	Adaptive networks and multiscale dynamics MS organizers: Serhiy Yanchuk and Christian Kuehn	
16:35 - 16:55	MS09 Talk 1	Serhiy Yanchuk	Singular basins in multiscale systems
16:55 - 17:15	MS09 Talk 2	Henrieke M. Krijgsheld	Neural oscillator networks for binary and fuzzy logic computations
17:15 - 17:35	MS09 Talk 3	Jaeyoung Yoon	Stability of phase-locked states in signed Kuramoto networks: Structure versus adaptation
17:35 - 17:55	MS09 Talk 4	Yu Wang	Oscillator networks with delayed adaptive coupling
16:35 - 17:55	MS 7 Room 4	Mathematical underpinnings of tipping points (Part II) MS organizers: Sneha Kachhara and Iacopo P. Longo	
16:35 - 16:55	MS07 Talk 5	Michel Crucifix	Dynamical systems for Milankovitch scales
16:55 - 17:15	MS07 Talk 6	Niccolò Zagli	Predicting forced response and detecting critical behaviour via Koopman-based response theory
17:15 - 17:35	MS07 Talk 7	Ryan Deeley	Quantifying critical transitions in a multiscale system driven by state-dependent red noise
17:35 - 17:55	MS07 Talk 8	Paul A. Sanders	Early warning of critical transitions: Distinguishing tipping points from Turing destabilizations
16:35 - 17:35	MS 8 Room 5	Symbolic dynamics concepts for biological signal analysis (Part II) MS organizers: Timo Bröhl and Bulcsú Sándor	
16:35 - 16:55	MS08 Talk 5	Yoshito Hirata	Ordinal patterns or recurrence plots: Ideal symbolizations for nonlinear time series analysis
16:55 - 17:15	MS08 Talk 6	Ramesh Srinivasan	Understanding cognitive brain function by symbolic dynamics of brain networks
17:15 - 17:35	MS08 Talk 7	Botond Molnár	Voronoi-based channel selection for state-transition network analysis of brain functional dynamics

Poster Session I

Biology, epidemiology and health

P1	Bárbara Filipa Silva Rodrigues	Fractional SIR model with distributed contacts
P2	Xenia Lainscsek	Revealing genome principles through nonlinear dynamics of DNA sequences
P3	Luke O'Loughlin	Spatiotemporal chaos in an excitable medium with spatially correlated ionic heterogeneity
P4	Alejandro V. Cano	Hiding behavior and habitat complexity as dynamical stabilizers in benthic food webs
P5	Guido Occhipinti	Modelling the impact of emerging pollutants on fish life-history traits: A dynamic energy budget theory framework
P6	Ander Movilla Miangolarra	Modeling of chromosomal networks and histone dynamics
P7	Makoto Iima	Phase-lagged curvature modulation driven by chemosensory sampling in ascidian sperm chemotaxis
P8	Erick Manuel Delgado Moya	Optimal control of dengue in São José do Rio Preto, Brazil: Integrating climatic factors and undiagnosed transmission dynamics
P9	Sujit Halder	Enhancing disease control in resource-limited settings through bidirectional behavioral responses
P10	Henrique de Campos Pacheco	Modeling resistance to <i>Clostridium difficile</i> under antibiotic condition using the replicator framework for invasion
P11	Carolina Strecht Fernandes	Kinetic formulation of compartmental epidemic models
P12	Akhilesh Nandan	Multiple tipping points in multispecies ecosystems with cross-feeding

Neural dynamics and neuro-inspired systems

P13	Paulo R. Protachevicz	Silence before synchronisation predicts seizure-like activity
P14	Tobias Schmidt	Identifying nonlinear latent dynamics with contrastive learning
P15	Ildefonso Ferreira Pica	Piecewise projective maps for analytical solutions of spiking neural network dynamics
P16	Valentin Haberl	Unscented neural mass model inference for seizure prediction
P17	Ana Carolina Filipe	Dual-phase dynamics in cerebellum-inspired control under sensory delay
P18	Dheeraja Thakur	Identifying seizure cycles in epilepsy using a Hermans-Rasson test based score
P19	Raul de Palma Aristides	Computational study of temporal interference modulation in hippocampal neurons

Machine learning and computational methods

P20	Anastasia Lavrova	Interpretable analysis of antitubercular compounds via molecular fingerprints and machine learning
P21	Francesco Martinuzzi	ReservoirComputing.jl: A modular Julia framework for data-driven dynamical systems modeling
P22	Tim W. Kroll	POD-subspace reconstruction of complex systems
P23	Matteo Gallo	Alice in Chaosland: An automated framework for the rapid mapping of chaotic regimes
P24	Ábel Ságoti	Universal approximation theorems for dynamical systems with infinite-time horizon guarantees
P25	Sara-Viola Kuntz	The tunnel effect: Expressivity constraints in ResNets between neural ODE and MLP regimes
P26	Michael Middleton	Small-scale spiking reservoir network design for object recognition guided by visual cortical processing theory
P27	Uros Sutulovic	gPC-based robustness analysis of neural systems through probabilistic recurrence metrics
P28	Radoslav Košta	Complexity-driven classification of ECG signals: a study on healthy subjects and cardiac patients
P29	Thi Minh Thao Le	A new method for selection testing in sgRNA diversity data integrating bottleneck size estimation
P30	George Datseris	DynamicalSystems.jl: Featureful, accessible, extendable, excellently-documented software for all of nonlinear dynamics

Applied, environmental and physical systems

P31	Diego Samuel Rodrigues	Causal inference and hourly forecasting of tropospheric ozone concentration via empirical dynamic modeling
P32	Ilaria Cunico	The ocean ecosystem predictability horizon
P33	Yi-Rou Yang	Correlating multiscale coherent motion and nematic order in elongated cell monolayers
P34	Mark Tinsley	From chemical micro-oscillators to tunable excitatory-inhibitory networks
P35	Jobin Josey P	Understanding the dynamics of living tissue through mechanistic modeling and semiflexible polymers
P36	Benedikt Grüger	Transient phase-locked loop dynamics of heterogeneous multi-converter power grids
P37	Alberto P. Muñozuri	Study of the impact of geometrical and mechanical factors on the pulse wave propagation in large arteries using FSI multiscale modelling
P38	Irene Sendiña-Nadal	Lost in averaging: from chaotic itinerancy to intermittent synchronization in complex networks

Tuesday, 21 July

08:30–9:00	Registration		
09:00–09:45	Ple 4 Room 1	Claudia Maraston Chair: Maíra Aguiar	Evolutionary population synthesis: Physical models for galaxy spectra across cosmic time
09:45–10:15	Coffee break		
10:15–11:35	Mini-Symposia (4x20' talks)		
11:40–13:20	Mini-Symposia (5x20' talks) + Parallel Sessions (5x20' CT)		
13:20–14:20	Lunch (light lunch pack)		
14:20–15:05	Ple 5 Room 1	Theodore Kolokolnikov Chair: Christian Beck	Agent-based models: Examples from bacterial aggregation and epidemic models
15:10–16:30	Mini-Symposia (4x20' talks)		
16:35–17:55	Mini-Symposia (4x20' talks) + Parallel Sessions (4x20' CT)		
18:00–19:00	Cocktail and Poster Session II		

Morning Session I			
10:15 - 11:35	MS 10 Room 1	Reduced-order modelling of extremes and intermittency in the climate system (Part I) MS organizers: Alessandro Barone, Alberto Carrassi, Jonathan Demayer and Stephane Vannitsem	
10:15 - 10:35	MS10 Talk 1	Alessandro Barone	Intermittent processes in coupled fast-slow system and emergence of extremes
10:35 - 10:55	MS10 Talk 2	Alessio Bellucci	Intermittency in the Atlantic Ocean circulation
10:55 - 11:15	MS10 Talk 3	Vera Melinda Galfi	Extreme climate events: Dynamics, statistics, and typicality
11:15 - 11:35	MS10 Talk 4	Francesco Ragone	Rare event sampling in climate science

10:15 - 11:35	MS 2 Room 2	Dynamics of power grids: Advances in modelling, stability, and control (Part II) MS organizers: Jakob Niehues, Iva Bačić, Leonardo Rydin Gorjão and Alessandro Lonardi	
10:15 - 10:35	MS02 Talk 5	Alejandra Sandoval-Carranza	Input-output data-driven compositional stability assessment of interconnected LTI MIMO systems: Application to DC microgrids
10:35 - 10:55	MS02 Talk 6	Verena Haberle	Next-generation grid codes: Towards a new paradigm for dynamic ancillary services
10:55 - 11:15	MS02 Talk 7	Nina Kastendiek	Matrix phases and stability conditions for adaptive, matrix-weighted, and asymmetric Laplacian networks
11:15 - 11:35	MS02 Talk 8	Jakob Niehues	Improving the robustness of stability conditions and performance measures

10:15 - 11:35	MS 11 Room 3	Analysis of complex dynamics in time series with symbolic and information-theoretic tools (Part I) MS organizers: Andrés Aragonese, Arjendu K. Pattanayak	
10:15 - 10:35	MS11 Talk 1	Juan Gancio	Anticipating explosive synchronization in networks of Kuramoto oscillators
10:35 - 10:55	MS11 Talk 2	Inmaculada Leyva	Local ordinal signatures of structure and dynamics in complex networks
10:55 - 11:15	MS11 Talk 3	Antonio J. Pons	The linguistic nature of complex systems
11:15 - 11:35	MS11 Talk 4	Arjendu K. Pattanayak	Permutation entropy of indexed ensembles (PI) a measure of complexity and entropy dynamics for out-of-equilibrium systems with applications in physics and biology

10:15 - 11:35	MS 12 Room 4	Dynamics of complex optical systems: Applications to machine learning (Part I) MS organizers: Mathias Marconi, Lina Jaurigue and Kathy Ludge	
10:15 - 10:35	MS12 Talk 1	Damien Rontani	Photonic reservoir computing for ultrafast multimedia signal processing: Recent advances and perspectives
10:35 - 10:55	MS12 Talk 2	Stefano Gretter	Dynamics in nonlinear microring resonators for neuromorphic photonics
10:55 - 11:15	MS12 Talk 3	Cristina Masoller	Photonic neuromorphic computing using a small nanolaser array
11:15 - 11:35	MS12 Talk 4	Lina Jaurigue	Dynamical resonances in photonic reservoir computing

10:15 - 11:15	MS 13 Room 5	Non-autonomous dynamical systems: Theory and applications (Part I) MS organizers: Dániel János	
10:15 - 10:35	MS13 Talk 1	Dániel János	Quantifying non-adiabaticity by means of the Hausdorff distance
10:35 - 10:55	MS13 Talk 2	Bulcsú Sándor	Beyond sliding windows: Ensemble-based symbolic dynamics for non-autonomous systems
10:55 - 11:15	MS13 Talk 3	Gabriel C. Grime	Ensemble and orbit-wise chaos indicators in parameter-drift Hamiltonian systems

10:15 - 11:35	MS 14 Room 6	Macroscopic networked dynamics: From human behaviour via epidemics to system Earth (Part I) MS organizers: Yu Meng, Bo-Wei Qin and Jürgen Kurths	
10:15 - 10:35	MS14 Talk 1	Shengtao Wang	Modeling the interaction between individual behavior and vector-borne diseases dynamics in bipartite networks
10:35 - 10:55	MS14 Talk 2	Yu Meng	Shaping dynamics: The role of vulnerability of peripheral species in mutualistic networks in R-tipping

10:55 - 11:15	MS14 Talk 3	Jingfang Fan	Statistical physics approaches to the complex Earth system
11:15 - 11:35	MS14 Talk 4	Takaaki Ohnishi	Neighborhood-scale allometry of commercial establishments exhibiting industry-specific scaling in the Greater Tokyo area

Morning Session II

11:40 - 13:20	MS 15 Room 1	Complex and chaotic nonlinear dynamics in photonics and phononics MS organizers: Fumiyoshi Kuwashima and Takashi Isoshima	
11:40 - 12:00	MS15 Talk 1	Fumiyoshi Kuwashima	Highly stable optical beats for THz waves using chaotic supremacy
12:00 - 12:20	MS15 Talk 2	Satoshi Ebisawa	Chaotic dynamics of laser diode with optical feedback and external vibration
12:20 - 12:40	MS15 Talk 3	André Röhm	Model-free prediction of multistable chaotic systems with a reservoir computer
12:40 - 13:00	MS15 Talk 4	Takashi Isoshima	Functional nodes in two-dimensional optical bistable device for chaotic network
13:00 - 13:20	MS15 Talk 5	Kazuyuki Yoshimura	Finite-mode invariant subspaces and traveling wave solutions of nonlinear lattice with long-range interactions

11:40 - 13:00	MS 16 Room 2	Complex systems approaches to modern transportation MS organizers: Felipe Olivares and Raúl López-Martín	
11:40 - 12:00	MS16 Talk 1	Massimiliano Zanin	Functional complex networks and air transport delays: What have we learnt in the last decade?
12:00 - 12:20	MS16 Talk 2	Gabriel Cwilich	Analysis of urban traffic congestions in the context of cascades of failures
12:20 - 12:40	MS16 Talk 3	Hugo Barbosa	The role of transport systems in housing insecurity
12:40 - 13:00	MS16 Talk 4	Raúl López-Martín	Aircraft interactions under the lens of complex networks

11:40 - 13:20	PS 9 Room 3	Statistical Physics Chairs: Alessandro Scirè and Olivier Pierre-Louis	
11:40 - 12:00	CT 33	Olivier Pierre-Louis	Controlling the position and the spatial organization of colloids
12:00 - 12:20	CT 34	John Moroney	Koopman operator methods for linear response and prediction of tipping in complex systems
12:20 - 12:40	CT 35	Nathan Silvano	Continuum description of active proliferating matter
12:40 - 13:00	CT 36	Ricardo Gutiérrez	Synchronization meets kinetic roughening: KPZ universality in the dynamics of synchronizing oscillator lattices
13:00 - 13:20	CT 37	Alessandro Scirè	Topological excitability in dry active matter

11:40 - 13:20	PS 10 Room 4	Machine and Deep Learning 1 Chairs: Carmen Mayora-Cebollero and Nataliya Stankevich	
11:40 - 12:00	CT 38	Nataliya Stankevich	Neural-network maps for bistable flow dynamical systems
12:00 - 12:20	CT 39	Kestutis Pyragas	Developing reservoir computing models for anticipatory synchronization with chaotic time series and real-time prediction
12:20 - 12:40	CT 40	Constantinos Siettos	PDE-free learning and numerical analysis of the Navier–Stokes equations
12:40 - 13:00	CT 41	Manuchehr Aminian	Toward practical discovery of compartmental model equations from timeseries
13:00 - 13:20	CT 42	Carmen Mayora-Cebollero	Dynamical systems analysis with deep learning
11:40 - 13:20	PS 11 Room 5	Computational Methods Chairs: Andreas Morr and Andrus Giraldo	
11:40 - 12:00	CT 43	Andrus Giraldo	Stability of traveling waves in networks: A numerical continuation approach
12:00 - 12:20	CT 44	Jens Starke	Stabilizing unstable periodic orbits in dynamic-mode atomic force microscopy
12:20 - 12:40	CT 45	Marina Martins Cano	Inference of atrial conduction properties from activation time measurements using computational modelling and finite element methods
12:40 - 13:00	CT 46	Lama Hamadeh	A data-driven framework for polygonal billiard dynamics
13:00 - 13:20	CT 47	Andreas Morr	Computing resilience measures in dynamical systems
11:40 - 13:20	PS 12 Room 6	Biophysics Chairs: Vicente Pérez-Muñuzuri and Pearson W. Miller	
11:40 - 12:00	CT 48	Pearson W. Miller	Weakly nonlinear optimal control of spontaneous symmetry breaking
12:00 - 12:20	CT 49	Davey Plugers	Attractor-based classification of cell differentiation in stochastic gene regulatory network dynamics
12:20 - 12:40	CT 50	George Kalosakas	Stochastic effects in a bistable genetic switch
12:40 - 13:00	CT 51	Alberto P. Muñuzuri	Life-like dynamics in stochastic cubic autocatalytic reaction–diffusion systems
13:00 - 13:20	CT 52	Vicente Pérez-Muñuzuri	Particle migration in constricted flows: Effects of size and shape

Afternoon Session I			
15:10 - 16:30	MS 10 Room 1	Reduced-order modelling of extremes and intermittency in the climate system (Part II) MS organizers: Alessandro Barone, Alberto Carrassi, Jonathan Demaeyer and Stephane Vannitsem	
15:10 - 15:30	MS10 Talk 5	François G. Schmitt	Multifractal climate intermittency: Modeling and analysis
15:30 - 15:50	MS10 Talk 6	Stephane Vannitsem	Intermittency, regime transitions and chaos in the low frequency variability of the tropical atmosphere
15:50 - 16:10	MS10 Talk 7	Tommaso Alberti	Geometry of climate attractors across scales: Intermittency, extremes and reduced-order dynamics
16:10 - 16:30	MS10 Talk 8	Francisco De Melo Viríssimo	Reduced-order insights into emissions uncertainty and climate intermittency
15:10 - 16:30	MS 2 Room 2	Dynamics of power grids: Advances in modelling, stability, and control (Part III) MS organizers: Jakob Niehues, Iva Bačić, Leonardo Rydin Gorjão and Alessandro Lonardi	
15:10 - 15:30	MS02 Talk 9	Anna Büttner	Transitioning from a PhD in theoretical physics to a career at a transmission system operator
15:30 - 15:50	MS02 Talk 10	Alessandro Lonardi	Understanding the complexity of frequency and phase angle fluctuations in power grids
15:50 - 16:10	MS02 Talk 11	Leonardo Rydin Gorjão	Drift, diffusion, and q-Gaussian statistics in power-grid frequency fluctuations
16:10 - 16:30	MS02 Talk 12	Ivan Sevostianov	Synchronization of pulse-coupled oscillators in distributed power grid control
15:10 - 16:30	MS 11 Room 3	Analysis of complex dynamics in time series with symbolic and information-theoretic tools (Part II) MS organizers: Andrés Aragonese, Arjendu K. Pattanayak	
15:10 - 15:30	MS11 Talk 5	Axel Maso-Puigdellosas	Risk perception in mountainous environments: A complexity study of EEG time series
15:30 - 15:50	MS11 Talk 6	Felipe Olivares	Ordinal language unveils anti-persistency in binary walks
15:50 - 16:10	MS11 Talk 7	Andrés Aragonese	Scaling laws in optical systems: Bridging quantitative linguistics and photonic dynamics
16:10 - 16:30	MS11 Talk 8	Pouya Manshour	Information theoretic analysis of geomagnetically induced currents: Causality during super-intense storms

15:10 - 16:30	MS 12 Room 4	Dynamics of complex optical systems: Applications to machine learning (Part II) MS organizers: Mathias Marconi, Lina Jaurigue and Kathy Ludge	
15:10 - 15:30	MS12 Talk 5	Stephane Barland	Coupling spiking networks
15:30 - 15:50	MS12 Talk 6	Joshua Robertson	Photonic spiking neurons for spike-based processing and reservoir computing
15:50 - 16:10	MS12 Talk 7	Elias Koch	Understanding time-multiplexed optical reservoir computing via polynomial expansion
16:10 - 16:30	MS12 Talk 8	Egor Manuylovich	Delay-free optical reservoir computing using chaotic frequency combs in microresonators
15:10 - 16:30	MS 13 Room 5	Non-autonomous dynamical systems: Theory and applications (Part II) MS organizers: Dániel János	
15:10 - 15:30	MS13 Talk 4	Sjoerd Terpstra	Transient versus equilibrium AMOC responses: Rate-dependent tipping under CO ₂ and freshwater forcing
15:30 - 15:50	MS13 Talk 5	Anikó Horvath	New model for runaway electron transport based on chaotic non-autonomous Hamiltonian systems
15:50 - 16:10	MS13 Talk 6	András Rusu	Ensemble approach to symbolic time series analysis of brain activity
15:10 - 16:30	MS 14 Room 6	Macroscopic networked dynamics: From human behaviour via epidemics to system Earth (Part II) MS organizers: Yu Meng, Bo-Wei Qin and Jürgen Kurths	
15:10 - 15:30	MS14 Talk 5	Giulio Zucal	Impossible ecologies and strata of ecological coexistence via Grassmannians
15:30 - 15:50	MS14 Talk 6	Junyou Zhu	Synchronization, stability, and pattern formation in deep graph dynamics
15:50 - 16:10	MS14 Talk 7	Fenyng Cai	Large-scale aggregation of humid heatwaves exacerbated by coastal oceanic warming
16:10 - 16:30	MS14 Talk 8	Claudia Lainscsek	Causal dynamic resonance
Afternoon Session II			
16:35 - 17:55	MS 17 Room 1	Advances in integrable systems, Painlevé equations, orthogonal polynomials, and related topics (Part I) MS organizers: Robert Jenkins, Marco Bertola and Alex Tovbis	
16:35 - 16:55	MS17 Talk 1	Dengshan Wang	Riemann-Hilbert problem and long-time asymptotics of the Yajima-Oikawa equation
16:55 - 17:15	MS17 Talk 2	Peter Miller	Asymptotic problems for the Benjamin-Ono equation

17:15 - 17:35	MS17 Talk 3	Deniz Bilman	Asymptotic behavior of a Painlevé-V family of solutions of the focusing nonlinear Schrödinger equation
17:35 - 17:55	MS17 Talk 4	Robert Jenkins	The inverse scattering transform for the focusing nonlinear Schrödinger equation with steplike oscillatory initial data

16:35 - 17:55	MS 18 Room 2	Response and tipping behaviour in the Earth system: Modelling and data-driven methods MS organizers: Manuel Santos Gutierrez, John Moroney, Ankan Bannerjee and Niccolo Zagli	
16:35 - 16:55	MS18 Talk 1	Johannes Lohmann	Recent developments in the study of critical slowing down for early-warning of climate tipping points
16:55 - 17:15	MS18 Talk 2	Matteo Cini	The role of internal climate variability in shaping AMOC transitions
17:15 - 17:35	MS18 Talk 3	George Datseris	Using global continuation to study critical cloud transitions
17:35 - 17:55	MS18 Talk 4	Paula Lorenzo Sanchez	Koopman theory for the identification of ENSO fundamental modes

16:35 - 17:55	PS 13 Room 3	Fluid and Solid Mechanics 2 Chairs: Emiliano Renzi and Merab Svanadze	
16:35 - 16:55	CT 53	Merab Svanadze	Problems of steady vibrations in the coupled linear theory of Moore-Gibson-Thompson thermoporoelasticity
16:55 - 17:15	CT 54	Nadav Yovel	A conservative low-order model for baroclinic fronts: Spontaneous imbalance and quasi-geostrophic adjustment
17:15 - 17:35	CT 55	Dalibor Pražák	On finite-dimensional attractor to 2D incompressible fluid with stress-diffusion
17:35 - 17:55	CT 56	Emiliano Renzi	Intrinsic resonance via geometry-nonlinearity coupling in structured wave media

16:35 - 17:55	PS 14 Room 4	Control Systems 2 Chairs: Niloofar Kheirkhahan and Niklas Kruse	
16:35 - 16:55	CT 57	Niklas Kruse	Trajectory-based stabilization of periodic orbits
16:55 - 17:15	CT 58	Aran Dabbaghchi	Feedback control for emergent complex dynamics: Adaptation, learning and resilience
17:15 - 17:35	CT 59	Nohayla Alaoui	Optimal control of CAR T-cells and TAMs dynamics in melanoma treatment
17:35 - 17:55	CT 60	Niloofar Kheirkhahan	Multi-hazard resilience assessment of road networks: The case study of the municipality of Messina

16:35 - 17:55	PS 15 Room 5	Neurodynamics 1 Chairs: Ana Mayora-Cebollero and Takemori Orima	
16:35 - 16:55	CT 61	Takemori Orima	Formation of fractal memory through spatiotemporal learning rule
16:55 - 17:15	CT 62	Jannis Waldmann	Dynamics and neuromorphic applications of resonant tunneling diodes
17:15 - 17:35	CT 63	Eman Alnuwaysir	Shear and symmetry breaking in an oscillator model of Parkinsonian gait freezing
17:35 - 17:55	CT 64	Ana Mayora-Cebollero	Tonic-clonic seizure transitions explained by bifurcations in a neural field model

Poster Session II			
Dynamical systems, chaos and bifurcations			
P39	Franz Aschl	Modeling and validating circadian rhythms under extreme light conditions during a submarine mission	
P40	Zoran Rajčević	Triadic interactions in the Kuramoto model	
P41	Yutaka Shimada	A method for measuring similarity between attractors	
P42	Nataliya Stankevich	Shrimps as a fundamental object of nonlinear dynamics: Quasi-periodic generalization	
P43	Gianmarco Ducci	Discovering mechanisms and governing laws with sparse regression	
P44	Paulina Hering	Fréchet means of periodic orbits in dynamical systems: Geometry, dynamics and diagnostics	
P45	Timothée Franck Belime	Dynamical system approach to warm-windy compound extremes in Portugal	
P46	Aleksandr Gonchenko	On the multistability of discrete Lorenz-like attractors in three-dimensional maps	
P47	Sneha Kachhara	Multistability and tipping in a conceptual model of the subpolar gyre	
P48	Nouf Altimani	Dynamics of autonomous and forced Rulkov maps	
P49	Lucas Maekawa	Linear stability of synchrony state for a class of systems with higher-order interactions	
Nonlinear and stochastic dynamics			
P50	Blas Echebarria	Long-term conductance dispersion in the heart: The role of voltage-dependent gap junction dynamics	
P51	Inés P. Mariño	Synchronization-based online parameter estimation for the Kuramoto-Sivashinsky equation	
P52	Lautaro Vásquez	Bifurcation analysis and dynamical mapping of a unified cardiac calcium model	
P53	Yuzuru Sato	Escape basins and long transients in optimal control	

P54	Eiki Kojima	Coexistence of stochastic resonance and stochastic chaos in random dynamical systems
P55	Rodrigo Simile Baroni	Transient chaos in toroidal field lines
P56	Dock Staal	The evasion of tipping: Pattern formation near a Turing-fold bifurcation
P57	Issei Sakai	A criterion for current symmetry breaking in disordered exclusion processes

Network dynamics and complex systems

P58	Iva Bačić	Symmetry breaking in minimum dissipation networks
P59	Adam Luddy	Canard-tipping cascades in networks
P60	Christian Kluge	Cascades on networks with functional structure
P61	Max Potratzki	Generation of proxy time series from ordinal pattern transition networks
P62	Fergal Murphy	Higher-order interactions from fast adaptation: Slow-manifold reduction and continuum limits in adaptive oscillator networks
P63	Cyriel C. van Velzen	Extreme synchronization and hysteresis in phase oscillator networks
P64	Yen-Ling Chen	Domain boundary curvature facilitated generation/annihilation, guiding, and transmission of thermally excited vortical phonons in 2D Yukawa polycrystals
P65	Nícolás Brito	A symmetry-based classification of synchrony in tree networks
P66	Rafael Riveros-Ávila	Chimera states in random complex networks of cubic-quintic Duffing oscillators

Pattern formation, fluids and waves

P67	Ágnes Herczeg	Motion based on an attractor system for hexapods
P68	Olivier Pierre-Louis	Oscillatory driving of the Allen-Cahn model
P69	Enrique García Ortiz	A mechanism for criticality in <i>M. polymorpha</i> rhizoid specification patterning
P70	Willem van de Water	Faraday waves covered by an elastic sheet
P71	Frank Smuts	Swinging waves in the Ablowitz-Ladik equation
P72	Atsushi Nomura	Numerical simulation of global flow structure observed with BZ reaction
P73	Dániel János	Derivation of the Rikitake low-dimensional dynamo model from mean-field MHD
P74	Javier López Pedrares	Minimal nonlinearity required for Turing pattern formation in an autocatalytic model
P75	Marvin Kriening	Direct numerical simulations and multiple states of Taylor-Couette flow under realistic boundary conditions
P76	Raya Noura	Velocity-tracking optimal control problem for a class of differential-type non-Newtonian fluids in 2D and 3D
P77	David Mellado-Alcedo	Stability of parametrically driven, damped nonlinear Dirac solitons

Wednesday, 22 July

08:30–9:00	Registration		
09:00–09:45	Ple 6 Room 1	Peter Ditlevsen Chair: Vanessa Steindorf	Collapse of the Atlantic overturning circulation
09:45–10:15	Coffee break		
10:15–11:35	Mini-Symposia (4x20' talks)		
11:40–13:00	Mini-Symposia (4x20' talks)		
13:00–14:20	Lunch (standing buffet)		
14:20–15:05	Ple 7 Room 1	Cecília Gonzalez Tokman Chair: Constantinos Siettos	A journey through random dynamical systems and multiplicative ergodic theory
15:10–16:50	Mini-Symposia (5x20' talks) + Parallel Sessions (5x20' CT)		
16:50–17:20	Coffee break		
17:20–18:05	Ple 8 Room 1	Christian Kuehn Chair: Christian Bick	Loss of hyperbolicity in complex systems
20:30	CONFERENCE DINNER – Pézinhos no Tejo Restaurant Meeting point: 19:45 in front of the Rectorate of Universidade NOVA de Lisboa		

Morning Session I			
10:15 - 11:35	MS 19 Room 1	Advances in reconstruction of network dynamics from time series (Part I) MS organizers: Bengi Dönmez and Edmilson Roque dos Santos	
10:15 - 10:35	MS19 Talk 1	Edmilson Roque dos Santos	Reconstruction of network dynamics from data
10:35 - 10:55	MS19 Talk 2	Bengi Dönmez	Reconstructing resonant phase oscillator interactions from noisy time series
10:55 - 11:15	MS19 Talk 3	Gemma Huguet	Reconstruction of phase-amplitude dynamics from signals of networks of oscillators
11:15 - 11:35	MS19 Talk 4	Maren Bråthen Kristoffersen	Estimating neural connection strengths from firing intervals
10:15 - 11:35	MS 20 Room 2	Analysis and control of collective oscillator dynamics in network physiology (Part I) MS organizers: Eckehard Schöll and Ralph G. Andrzejak	
10:15 - 10:35	MS20 Talk 1	Eckehard Schöll	Introduction to collective oscillatory dynamics in network physiology
10:35 - 10:55	MS20 Talk 2	Christian Bick	Using network interactions to control oscillatory network dynamics
10:55 - 11:15	MS20 Talk 3	Bo-Wei Qin	Emergence and evolution of biological oscillations
11:15 - 11:35	MS20 Talk 4	Luan Yang	Closed-loop control strategies for brain diseases: From network desynchronization to geometric stability

10:15 - 11:35	MS 21 Room 3	Applications of dynamical systems in epidemics, collective dynamics and neuroscience (Part I) MS organizers: Yuliya Kyrychko and Konstantin Blyuss	
10:15 - 10:35	MS21 Talk 1	Maíra Aguiar	Near-threshold stochastic dynamics and arbovirus emergence in non-endemic regions
10:35 - 10:55	MS21 Talk 2	Nico Stollenwerk	Self-similarity in epidemiology: Basic concepts and its relevance for practical applications
10:55 - 11:15	MS21 Talk 3	Ira Schwartz	Exploring the dynamics of interacting swarms
11:15 - 11:35	MS21 Talk 4	J. Tomás Lázaro	Persistence of viral infection in a hepatitis C virus (HCV) model
10:15 - 11:35	MS 22 Room 4	Heteroclinic structures: Realisations, dynamics and applications (Part I) MS organizers: Liliana Garrido da Silva and Alexander Lohse	
10:15 - 10:35	MS22 Talk 1	Liliana Sofia Garrido da Silva	Heteroclinic networks in coupled cell systems
10:35 - 10:55	MS22 Talk 2	Md Azmir Ibne Islam	Dynamics induced by a heteroclinic network between five equilibria
10:55 - 11:15	MS22 Talk 3	Pedro Soares	Invariant sphere and ring coupled systems
11:15 - 11:35	MS22 Talk 4	Alexandre Rodrigues	The Bosch and Simo conjecture on the Shilnikov-Hopf bifurcation
10:15 - 11:35	MS 23 Room 5	Dynamics, computations and learning in living systems (Part I) MS organizers: Kalel Rossi and Aneta Koseska	
10:15 - 10:35	MS23 Talk 1	Kalel Rossi	Dynamical systems that can compute and learn: An overview
10:35 - 10:55	MS23 Talk 2	Ábel Ságoti	From trajectories to dynamical archetypes: Uncovering interpretable neural dynamics
10:55 - 11:15	MS23 Talk 3	Gayathri Ramesan	Transient dynamical mechanisms for solving temporal tasks in recurrent neural networks
11:15 - 11:35	MS23 Talk 4	Ioana Lazar	Neural dynamics underlying overt cognitive strategies
10:15 - 11:35	MS 24 Room 6	Singularly perturbed multiscale systems (Part I) MS organizers: Jan-Eric Sulzbach and Tommaso Lamma	
10:15 - 10:35	MS24 Talk 1	Tommaso Lamma	Interfaces as dimensional reduction
10:35 - 10:55	MS24 Talk 2	Lukas Baumgartner	Multiparameter singular perturbations in chemical and biological systems
10:55 - 11:15	MS24 Talk 3	Floor Schipper	Rhythmic patterns in networks of FitzHugh–Nagumo neurons
11:15 - 11:35	MS24 Talk 4	Guillermo Olicón Méndez	Unfolding the geometric structure and multiple timescales of the urea–urease pH oscillator

Morning Session II			
11:40 - 13:00	MS 19 Room 1	Advances in reconstruction of network dynamics from time series (Part II) MS organizers: Bengi Dönmez and Edmilson Roque dos Santos	
11:40 - 12:00	MS19 Talk 5	Akari Matsuki	Network inference applicable to both synchronous and desynchronous systems
12:00 - 12:20	MS19 Talk 6	Istvan Kiss	Network inference with limited data
12:20- 12:40	MS19 Talk 7	Dimitris Pinotsis	Modelling mesoscale brain dynamics and local cortical circuits
12:40 - 13:00	MS19 Talk 8	Kazuya Sawada	Identifying dynamics of temporal networks obtained from human contact data
11:40 - 13:00	MS 20 Room 2	Analysis and control of collective oscillator dynamics in network physiology (Part II) MS organizers: Eckehard Schöll and Ralph G. Andrzejak	
11:40 - 12:00	MS20 Talk 5	Igor Franović	Coexistence of scale-free avalanches and collective rhythms in networks of neuron oscillators
12:00 - 12:20	MS20 Talk 6	Lana Kralj	Wavelet-based multiscale analysis of functional connectivity in coupled cellular systems
12:20- 12:40	MS20 Talk 7	William A. Trevizan	4-layer network of adaptively coupled phase oscillators applied to cancer therapies
12:40 - 13:00	MS20 Talk 8	Ralph G. Andrzejak	A data-driven perspective on chimera states: Heterogeneous directional interdependence in homogeneous non-directionally coupled networks
11:40 - 13:00	MS 21 Room 3	Applications of dynamical systems in epidemics, collective dynamics and neuroscience (Part II) MS organizers: Yuliya Kyrychko and Konstantin Blyuss	
11:40 - 12:00	MS21 Talk 5	Konstantin Blyuss	Mathematical model of cat purring
12:00 - 12:20	MS21 Talk 6	Oleksandr Popovych	Whole-brain modeling of neuroimaging data and prediction of behavior
12:20- 12:40	MS21 Talk 7	Yuliya Kyrychko	Mathematical model of gut microbiota-driven neuroinflammation in Alzheimer's disease
12:40 - 13:00	MS21 Talk 8	Hannes Wallner	Data-driven identification of macroscopic dynamics with implicit equation-free sampling and Gaussian process regression: For the example of an integrate-and-fire neural network

11:40 - 13:00	MS 22 Room 4	Heteroclinic structures: Realisations, dynamics and applications (Part II) MS organizers: Liliana Garrido da Silva and Alexander Lohse	
11:40 - 12:00	MS22 Talk 5	Alexander Lohse	Creating heteroclinic and excitable connections
12:00 - 12:20	MS22 Talk 6	Sören von der Gracht	Designing hierarchical connection structures in phase space
12:20 - 12:40	MS22 Talk 7	Hildegard Meyer-Ortmanns	Applications of heteroclinic dynamics to biological networks
12:40 - 13:00	MS22 Talk 8	Alastair Rucklidge	Robust heteroclinic cycles and networks
11:40 - 13:00	MS 23 Room 5	Dynamics, computations and learning in living systems (Part II) MS organizers: Kalel Rossi and Aneta Koseska	
11:40 - 12:00	MS23 Talk 5	Francisco Prista von Bonhorst	Information theory and gene regulation
12:00 - 12:20	MS23 Talk 6	Marta Ibañez Miguez	Pattern formation of cell fate specification at criticality
12:20 - 12:40	MS23 Talk 7	Omer Karin	Proofreading of biological memory repertoires through critical self-tuning
12:40 - 13:00	MS23 Talk 8	Daniel Koch	Generalized saddle-node ghost states and their composite structures in dynamical systems
11:40 - 13:00	MS 24 Room 6	Singularly perturbed multiscale systems (Part II) MS organizers: Jan-Eric Sulzbach and Tommaso Lamma	
11:40 - 12:00	MS24 Talk 5	Jan-Eric Sulzbach	Slow manifolds in multiscale PDEs and their application
12:00 - 12:20	MS24 Talk 6	Alejandro Martínez Sánchez	Stability exchange in PDEs via geometric blow-up
12:20 - 12:40	MS24 Talk 7	Edgardo Villar-Sepúlveda	Maxwell points, the origin of nontrivial connections in multiscale systems
12:40 - 13:00	MS24 Talk 8	Dimitrios Patsatzis	Physics-informed machine learning for slow invariant manifold approximation

Afternoon Session			
15:10 - 16:50	MS 17 Room 1	Advances in integrable systems, Painlevé equations, orthogonal polynomials, and related topics (Part II) MS organizers: Robert Jenkins, Marco Bertola and Alexander Tovbis	
15:10- 15:30	MS17 Talk 5	Fudong Wang	Conservation laws in soliton gas theory
15:30 - 15:50	MS17 Talk 6	Ken McLaughlin	Extremal N soliton solutions, Painlevé III + V, and rare events
15:50 - 16:10	MS17 Talk 7	Alexander Tovbis	Semiclassical focusing nonlinear Schrödinger equation with the box (barrier) potential
16:10 - 16:30	MS17 Talk 8	Marco Bertola	Minimal capacity sets on Riemann surfaces
16:30 - 16:50	MS17 Talk 9	David Mellado-Alcedo	Stability of nonlinear Dirac solitons under the action of external potentials
15:10 - 16:50	MS 25 Room 2	Current topics in geophysical fluid dynamics MS organizers: Werner Bauer, Bin Cheng and Marcel Oliver	
15:10- 15:30	MS25 Talk 1	Bin Cheng	Shallow water equations on a fast rotating surface
15:30 - 15:50	MS25 Talk 2	Roland Welter	Rotating Rayleigh-Bénard convection: Attractors, bifurcations, and heat transport via a Galerkin hierarchy
15:50 - 16:10	MS25 Talk 3	Mansi Singh	Assessing dynamic energy backscatter through baroclinic instability analysis on unstructured ocean model grids
16:10 - 16:30	MS25 Talk 4	Ojesh Koul	Optimal balance in geophysical models with non-uniform Coriolis parameter
16:30 - 16:50	MS25 Talk 5	Johannes Benthous	Enhanced dissipation for time-dependent shear flows
15:10 - 16:50	MS 26 Room 3	Nonlinear dynamics under Lévy noise: From uncoupled systems to higher-order interactions MS organizers: Yong Xu and Dan Zhao	
15:10- 15:30	MS26 Talk 1	Jürgen Kurths	Recent achievements in complex network science: From higher-order topology via Lévy noise to adaptive coupling
15:30 - 15:50	MS26 Talk 2	Yong Xu	Efficient solution of the Fokker-Planck equation via deep learning
15:50 - 16:10	MS26 Talk 3	Bin Pei	Dynamics and reliability design of rotor-nacelle-wing coupled structures under non-white random gusts
16:10 - 16:30	MS26 Talk 4	Dan Zhao	Synchronization transitions and spike dynamics in a higher-order Kuramoto model with Lévy noise
16:30 - 16:50	MS26 Talk 5	Kheder Suleiman	First-passage statistics of run-and-tumble dynamics with stochastic trapping and bias

15:10 - 16:50	PS 16 Room 4	Complex Systems and Networks 2 Chairs: Frank Hellmann and Christian Beck	
15:10- 15:30	CT 65	Christian Beck	Superstatistical methods for complex systems
15:30 - 15:50	CT 66	Yuriy V. Pershin	Information Entropy as a lens on digital memcomputing dynamics
15:50 - 16:10	CT 67	Daniel José Rodríguez Luis	Dynamical system for PageRank with a time-dependent memory
16:10 - 16:30	CT 68	Elias Charnay	Experimental observation of ballistic correlations in integrable turbulence
16:30 - 16:50	CT 69	Frank Hellmann	From Structure to Function - Power grids, graph neural networks, network measures

15:10 - 16:50	PS 17 Room 5	Multiscale Dynamics Chairs: Audrey Couineaux and Bruno F. F. Gonçalves	
15:10- 15:30	CT 70	Bruno F. F. Gonçalves	Synchrony and canards in two coupled FitzHugh–Nagumo equations
15:30 - 15:50	CT 71	Soizic Terrien	Self-oscillating musical instruments with time-varying parameter: Exploring rate-induced tipping as a control strategy for musicians
15:50 - 16:10	CT 72	Adam Luddy	Canard-tipping cascades in networks
16:10 - 16:30	CT 73	Attila Genda	Impulsive integrity of periodic solutions of a double-well Duffing oscillator with harmonic excitation
16:30 - 16:50	CT 74	Audrey Couineaux	Fast-slow analysis of a resonant linear oscillator coupled to a BNES and piezoelectric element

Thursday, 23 July

08:30–9:00	Registration		
09:00–09:45	Ple 9 Room 1	Peter Ashwin Chair: Ulrike Feudel	Relating the future to the past: The non-autonomous dynamics of tipping points
09:45–10:15	Coffee break		
10:15–11:35	Mini-Symposia (4x20' talks) + Parallel Sessions (4x20' CT)		
11:40–13:20	Mini-Symposia (4x20' talks) + Parallel Sessions (5x20' CT)		
13:25–14:10	Ple 10 Room 1	Miguel A. Muñoz Chair: Nico Stollenwerk	Exploring the complexity of microbiomes
14:10	Lunch (light lunch pack)		
15:00	Excursions		

Morning Session I			
10:15 - 11:35	MS 27 Room 1	Causality in complex systems: Challenges and advanced methods MS organizers: Milan Palus and Stephane Vannitsem	
10:15 - 10:35	MS27 Talk 1	Anna Krakovská	Causal links in dynamical networks revealed by intrinsic dimensionality
10:35 - 10:55	MS27 Talk 2	Carlos Pires	Evaluation of causation and information transfer in nonlinear systems through the causal sensitivity method
10:55 - 11:15	MS27 Talk 3	Milan Paluš	Understanding extreme events: Causes and time scales revealed by Renyi information transfer
11:15 - 11:35	MS27 Talk 4	Jozef Jakubík	Causality detection on challenging datasets

10:15 - 11:35	MS 28 Room 2	Transient and escape dynamics in complex systems (Part I) MS organizers: Jin Yan and Yuzuru Sato	
10:15 - 10:35	MS28 Talk 1	Jin Yan	Fractal basins and transient dynamics in coupled phase oscillators
10:35 - 10:55	MS28 Talk 2	Pezhman Ebrahimzadeh	Chaotic switchings in pendula networks
10:55 - 11:15	MS28 Talk 3	Alexandre Wagemakers	Efficient global continuation of dynamical systems
11:15 - 11:35	MS28 Talk 4	Alvar Daza	Branched flow in periodic potentials

10:15 - 11:15	PS 18 Room 3	Epidemics 2 Chairs: Michael Bestehorn and Benedetta Canfora
10:15 - 10:35	CT 75	Benedetta Canfora Counterfactual evaluation of elementary and secondary school policies in the COVID-19 pandemic
10:35 - 10:55	CT 76	Rey Audie Escosio The elasticity of SARS-CoV-2 transmission across the demographic landscape
10:55 - 11:15	CT 77	Michael Bestehorn Phase turbulence in population models

10:15 - 11:35	PS 19 Room 4	Neurodynamics 2 Chairs: Sergey Saveliev and Peter Boldog
10:15 - 10:35	CT 78	Peter Boldog Seeing beyond the spikes: Reconstructing single-neuron membrane potential dynamics from paired intra- and extracellular recordings
10:35 - 10:55	CT 79	Jeff Moehlis Magnitude-constrained optimal chaotic desynchronization of neural populations
10:55 - 11:15	CT 80	Mike Middleton Small-scale spiking reservoir network design for object recognition guided by visual cortical processing theory
11:15 - 11:35	CT 81	Sergey Saveliev From primates to circuits: A comparative analysis of monkey and memristor neurons

10:15 - 11:35	PS 20 Room 5	Pattern Formation 1 Chairs: Gonzalo Contreras-Aso and Uwe Thiele
10:15 - 10:35	CT 82	Uwe Thiele The conserved-Hopf instability of spatially extended systems - Phenomenology and analysis
10:35 - 10:55	CT 83	Edgar Knobloch Snaking of localized time-dependent oscillations
10:55 - 11:15	CT 84	Juan M. López Polarization patterns in ferroelectric materials
11:15 - 11:35	CT 85	Gonzalo Contreras-Aso On the non-central nature of vortex interactions in real Ginzburg-Landau

10:15 - 11:35	PS 21 Room 6	Stochastic Systems 1 Chairs: Shun Kotoku and Manuel Urban
10:15 - 10:35	CT 86	Manuel Urban Wasserstein bounds for boundary-jump diffusion approximations of general Markov processes on random networks
10:35 - 10:55	CT 87	Giacomo Landi Synchronization for the rough Kuramoto model
10:55 - 11:15	CT 88	Pedro Lind Intermittent search emerges as the dominant dynamical strategy in empirical and evolved foraging systems
11:15 - 11:35	CT 89	Shun Kotoku Reconstructing the information processing capacity of noisy reservoirs

Morning Session II			
11:40 - 13:20	PS 22 Room 1	Machine and Deep Learning 2 Chairs: Andri Pradana and Satoshi Oishi	
11:40 - 12:00	CT 90	Satoshi Oishi	Inducing fast-slow structure for stable reproduction of chaotic systems in reservoir computing
12:00 - 12:20	CT 91	Matteo Gallo	Quantifying the impact of chaos on system discoverability
12:20 - 12:40	CT 92	Yinhao Xu	Chaotic time series prediction with neuromorphic network dynamics
12:40 - 13:00	CT 93	João Biu	Data-driven closures for collisionless plasmas
13:00 - 13:20	CT 94	Andri Pradana	Discovery of bus loop control strategies with reinforcement learning to minimize commuters' waiting and travel times
11:40 - 13:00	MS 28 Room 2	Transient and escape dynamics in complex systems (Part II) MS organizers: Jin Yan and Yuzuru Sato	
11:40 - 12:00	MS28 Talk 5	Aneta Koseska	Information processing through controlled transients
12:00 - 12:20	MS28 Talk 6	Matheus Palmero	Measure, dimension, and complexity of the transient motion in Hamiltonian systems
12:20 - 12:40	MS28 Talk 7	Eiki Kojima	Noise-induced chaos in dissipative magnetic pendulums
12:40 - 13:00	MS28 Talk 8	Yuzuru Sato	Statistical periodicity in noise-induced order from Ruelle-Pollicott resonances
11:40 - 13:20	PS 23 Room 3	Complex Systems and Networks 3 Chairs: Iva Bačić and Fahima Nekk	
11:40 - 12:00	CT 95	Fahima Nekk	Quantitative systems pharmacology as a guiding approach towards precision medicine
12:00 - 12:20	CT 96	Yuzuru Mitsui	Oscillation quenching in globally coupled Rössler systems
12:20 - 12:40	CT 97	Omsap Jaroonrak	Deep reinforcement learning for passenger transfer synchronization in a bus network
12:40 - 13:00	CT 98	Anastasia Bankowski	Controlling chimera states with external oscillators
13:00 - 13:20	CT 99	Iva Bačić	Phase locking and multistability in the topological Kuramoto model on cell complexes

11:40 - 13:20	PS 24 Room 4	Self-organized systems Chairs: Maxime Lucas and Masaya Arahata	
11:40 - 12:00	CT 100	Masaya Arahata	Emergence of chimera states from neutrally stable frequency-locked states
12:00 - 12:20	CT 101	Norihisa Namura	Higher-order Kuramoto dynamics in arbitrary limit-cycle oscillators
12:20 - 12:40	CT 102	Malbor Asllani	Complexity reveals the microscopic drivers of macroscopic dynamics
12:40 - 13:00	CT 103	Dohyun Kim	Critical threshold for synchronizability of high-dimensional Kuramoto oscillators under higher-order interactions
13:00 - 13:20	CT 104	Maxime Lucas	Symmetry-based rules determine which higher-order phase coupling to use

11:40 - 13:20	PS 25 Room 5	Bifurcation Theory Chairs: Stella Abreu and Rafael Riveros-Ávila	
11:40 - 12:00	CT 105	Rafael Riveros-Ávila	Emergent Rabi-like oscillations in localized parametrically driven nonlinear media
12:00 - 12:20	CT 106	Ahlam Alhadbani	The Hopf bifurcation for neutral delay differential equations with state-dependent delay
12:20 - 12:40	CT 107	Titir Mukherjee	Memory-driven walking droplets in piecewise-smooth potential
12:40 - 13:00	CT 108	Nicolas Thomé	Beyond phase models: How amplitude dynamics enable frequency clusters
13:00 - 13:20	CT 109	Stella Abreu	Analysis of the nonlinear dynamics of a 2D γ -Ricker model using Lambert W functions

11:40 - 13:20	PS 26 Room 6	Environmental dynamics and Ecology 1 Chairs: Misha Chai and Guido Occhipinti	
11:40 - 12:00	CT 110	Guido Occhipinti	Alternative dynamic regimes in ocean biogeochemical models in extreme environments
12:00 - 12:20	CT 111	Uffe Thygesen	Dynamic soaring of albatross as a multi-scale optimization problem
12:20 - 12:40	CT 112	Cris Hasan	Beyond the doughnut: A dynamical-systems framework for navigating tradeoffs in socio-ecological systems
12:40 - 13:00	CT 113	Carlos A. Braumann	Stochastic growth models and profit optimization in cattle raising
13:00 - 13:20	CT 114	Misha Chai	A minimal model unifying regime shifts, long transients, and resilience

Friday, 24 July

08:30–9:00	Registration		
09:00–09:45	Ple 11 Room 1	Arne Traulsen Chair: Matheus Hansen	On the equivalence between theoretical ecology and evolutionary game theory
09:45–10:15	Coffee break		
10:15–11:35	Mini-Symposia (4x20' talks) + Parallel Sessions (4x20' CT)		
11:40–13:00	Mini-Symposia (4x20' talks) + Parallel Sessions (4x20' CT)		
13:05–13:50	Ple 12 Room 1	Patricia Gonçalves Chair: Eckehard Schöll	Boundary driven particle systems
13:50–14:15	Closing		
14:20	Lunch (light lunch pack)		

Morning Session I			
10:15 - 11:35	MS 29 Room 1	Bifurcations and multidimensional chaos in Hamiltonian and non-Hamiltonian systems (Part I) MS organizers: Arturo Vieiro, Alexey Kazakov and Dmitry Sinelshchikov	
10:15 - 10:35	MS29 Talk 1	Arturo Vieiro	Some homo/heteroclinic configurations and tools for studying (near)-conservative chaos
10:35 - 10:55	MS29 Talk 2	Jesús Dueñas	Asymptotically constant maps: Heteroclinic connections, splitting and phase-induced tipping
10:55 - 11:15	MS29 Talk 3	Ainoa Murillo	Resonant structures around a normally elliptic invariant curve of a 3D volume-preserving map
11:15 - 11:35	MS29 Talk 4	Kirill Zaichikov	Smale-Williams attractor at dissipative perturbations of an integrable Hamiltonian system

10:15 - 11:35	MS 30 Room 2	Dynamics and structure formation in magnetic granular matter MS organizers: Reinhard Richter, Margaret Rosenberg, Alexey Snezhko, Daniel de las Heras	
10:15 - 10:35	MS30 Talk 1	Reinhard Richter	Coarsening dynamics of transient networks emerging in ferrogranular experiments
10:35 - 10:55	MS30 Talk 2	Margaret Rosenberg	Multipolar magnetic active matter
10:55 - 11:15	MS30 Talk 3	Alexey Snezhko	Collective dynamics, emergent order and control in magnetic colloidal swarms
11:15 - 11:35	MS30 Talk 4	Daniel de las Heras	Learning to control topological transport of magnetic microparticles

10:15 - 11:35	MS 31 Room 3	Deterministic and stochastic spatio-temporal dynamical systems: Fundamentals and interdisciplinary applications (Part I) MS organizers: Oleh Omel'chenko and Cristina Masoller	
10:15 - 10:35	MS31 Talk 1	Oleh Omel'chenko	Mean-field approach to finite-size fluctuations in coupled oscillator systems
10:35 - 10:55	MS31 Talk 2	Hiromichi Suetani	Relating nonlinear dynamics of finite echo state networks to machine learning via recurrent kernel machines
10:55 - 11:15	MS31 Talk 3	Ulrike Feudel	Complex spatiotemporal dynamics supports the persistence of species in networked ecosystem models
11:15 - 11:35	MS31 Talk 4	Berta Martinez-Pamias	Phase synchronization of two mutually coupled semiconductor lasers: Application to Qside's commercial quantum random number generator
10:15 - 11:15	PS 27 Room 4	Soft Matter Chairs: Jun-Zhong Wen and Rahil Valani	
10:15 - 10:35	CT 115	Rahil Valani	Active wave-particle entities, Lorenz chaos and hydrodynamic quantum analogs
10:35 - 10:55	CT 116	Lin-Chiao Hung	How Faraday waves develop after the onset of vertical water tank oscillation
10:55 - 11:15	CT 117	Jun-Zhong Wen	Percolating transitions of structural and motional activations in the 2-stage melting transition of two-dimensional Yukawa solid
10:15 - 11:35	MS 32 Room 5	Ergodic theory and statistical properties of chaotic and random dynamical systems MS organizers: Cecilia Gonzalez-Tokman and Matteo Tanzi	
10:15 - 10:35	MS32 Talk 1	Davor Dragičević	Decay of correlations and limit theorems for random intermittent maps
10:35 - 10:55	MS32 Talk 2	Renee Oldfield	Asymptotic behavior and measure theoretic entropy for random Blaschke products
10:55 - 11:15	MS32 Talk 3	Juho Leppänen	Normal approximation for nonstationary heterochaos baker maps
11:15 - 11:35	MS32 Talk 4	Ankan Banerjee	Quantifying stability of stochastic metastable systems using Koopman eigenfunctions

10:15 - 11:35	PS 28 Room 6	Environmental dynamics and Ecology 2 Chairs: József Garay and Ilaria Cunico	
10:15 - 10:35	CT 118	Ilaria Cunico	Chaos and stability in the marine trophic network: The importance of interactions over complexity
10:35 - 10:55	CT 119	Massimo Materassi	Higher-order interactions in the <i>Leucochloridium paradoxum</i> life cycle
10:55 - 11:15	CT 120	Thi Minh Thao Le	Understanding the invader-driven replicator dynamics
11:15 - 11:35	CT 121	József Garay	An ecological model on host-initiated microbial association

Morning Session II			
11:40 - 13:00	MS 29 Room 1	Bifurcations and multidimensional chaos in Hamiltonian and non-Hamiltonian systems (Part II) MS organizers: Arturo Vieiro, Alexey Kazakov and Dmitry Sinelshchikov	
11:40 - 12:00	MS29 Talk 5	Alexey Kazakov	Pseudohyperbolic and hyperchaotic attractors: Elements of theory, examples, applications
12:00 - 12:20	MS29 Talk 6	Efrosiniia Karatetskaia	On new types of Lorenz-like attractors
12:20 - 12:40	MS29 Talk 7	Dmitry Sinelshchikov	On the mechanism of the onset of hyperchaotic dynamics: From applications to theory
12:40 - 13:00	MS29 Talk 8	Klim Safonov	Robust chaos in replicator dynamics

11:40 - 13:00	PS 29 Room 2	Stochastic Systems 2 Chairs: Pablo Moreno-Spiegelberg and Israa Zogheib	
11:40 - 12:00	CT 122	Israa Zogheib	On the dynamic saddle-node bifurcation with noise acting on the slow variable
12:00 - 12:20	CT 123	Joaquín Miguez	On the stochastic synchronisation properties of a family of nonlinear PDEs
12:20 - 12:40	CT 124	Paolo Bernuzzi	Early-warning signs for tipping events in stochastic differential equations driven by non-Markovian noise
12:40 - 13:00	CT 125	Pablo Moreno-Spiegelberg	Noise-induced spatiotemporal pattern formation in plant-soil systems

11:40 - 13:00	MS 31 Room 3	Deterministic and stochastic spatio-temporal dynamical systems: Fundamentals and interdisciplinary applications (Part II) MS organizers: Oleh Omel'chenko and Cristina Masoller	
11:40 - 12:00	MS31 Talk 5	Azam Gholami	Oxygen deficiency drives drastic pattern transition in algal bioconvection
12:00 - 12:20	MS31 Talk 6	Margarida Facão	Role of spatiotemporal dynamics in the beam quality of broad-area semiconductor lasers
12:20 - 12:40	MS31 Talk 7	Celia Anteneodo	Spatial patterns shaped by landscape heterogeneity
12:40 - 13:00	MS31 Talk 8	Raul de Palma Aristides	Small differences, large effects: Bubbling in networks of nearly identical chaotic oscillators

11:40 - 13:00	PS 30 Room 4	Time Series Analysis Chairs: Benjamin Hernandez and Jaime Cisternas	
11:40 - 12:00	CT 126	Jaime Cisternas	Data-based symmetry discovery
12:00 - 12:20	CT 127	Diego Samuel Rodrigues	State-space reconstruction of energy demand and hydroelectric storage across different time scales
12:20 - 12:40	CT 128	Uros Sutulovic	High-order derivative estimation and differential embedding with homogeneous differentiators and Savitzky-Golay filtering
12:40 - 13:00	CT 129	Benjamin Hernandez	Regime transitions in shallow cloud fields

11:40 - 13:00	PS 31 Room 5	Chaos 2 Chairs: Sakshi Jain and Francesco Martinuzzi	
11:40 - 12:00	CT 130	Francesco Martinuzzi	Learning single and multiple chaotic systems with minimal reservoir computers
12:00 - 12:20	CT 131	Keisuke Taga	Phase trajectories from Koopman eigenfunctions in the N=3 identical Kuramoto model
12:20 - 12:40	CT 132	Iván León	Scaling of chaos in the Kuramoto model with fully-disordered interactions
12:40 - 13:00	CT 133	Sakshi Jain	Resonances of annealed systems

11:40 - 12:40	PS 32 Room 6	Pattern Formation 2 Chairs: Tatsuo Yanagita and Pedro Parra-Rivas	
11:40 - 12:00	CT 134	Pedro Parra-Rivas	Stability of localized patterns in the FitzHugh-Nagumo model: Effects of tristability
12:00 - 12:20	CT 135	Julien Javaloyes	Time crystals and winnerless competition in active mode-locked laser systems
12:20 - 12:40	CT 136	Tatsuo Yanagita	Coupled map lattice modeling and numerical analysis of typhoon dynamics

What to Visit

Discover Lisbon

An historical city full of stories to tell, where the sun shines 290 days a year and the temperature rarely drops below 15°C. A city where you feel safe wandering around day or night, where the cuisine is dedicated to creating over a thousand ways to cook the beloved bacalhau (salted cod), and where you'll find hotels and restaurants to suit every taste, budget and requirement. Discover Lisbon, a city full of authenticity where old customs and ancient history intermix with cultural entertainment and hi-tech innovation. Lisbon is ageless, but it loves company, as you'll find out if you meet someone and ask them to explain, with lots of gestures and repetition, where the best place is to listen to Fado. After all, Lisbon is famous for its hospitality and the family-like way it welcomes visitors.



Practical Tips

Emergency number: 112.

ATMs and banks: Most accept international cards.

Weather: Check the forecast; comfortable shoes recommended for walking. Take water and hat.

Tips: Not mandatory.

Tours

Enjoy the proposed guided tours, including transportation, pick-up/drop-off at NOVA University, a private guide, and audio guides.



Conference Dinner

The Conference Dinner will take place at **Pézinhos no Tejo**, a restaurant overlooking the Tagus River in Rua do Joinal, Monte da Caparica (Almada). Combining a welcoming atmosphere with a privileged riverside location surrounded by natural scenery, it provides an ideal setting for an enjoyable evening with fellow participants.

A shuttle bus will depart from the **Rectorate of NOVA University Lisbon** at **19:45**. Return buses will leave at **23:00** and **01:30**, with drop-off on **Avenida José Malhoa**, a short walk from the metro station.



DDE 2026
Book of Abstracts