Dynamics Days Europe 2022

Programme

Sunday 21st August 2022

18.00 - 19.30	Welcome Reception	Aberdeen Art Gallery Schoolhill Aberdeen AB10 1FQ

Monday 22nd August 2022

08.00 - 08.45	Registration & Tea & Coffee	Elphinstone Hall
08.45 - 09.00	Welcome from the organising committee - Arts	Arts Lecture Theatre
09.00 - 09.35	**Plenary** P 01 Ying-Cheng Lai *Finding the equations and structures of complex systems from data*	Arts Lecture Theatre
09.35 - 09.40	Comfort Break	
09.40 - 10.15	**Plenary** P 02	Arts Lecture Theatre

	Steven Schiff *Thermal Effects on Neurons During Stimulation of the Brain*	
10.15 - 10.40	Coffee Break	Elphinstone Hall

	Minisymposium			
	Room KCG7	**Room KCF22**	**Room KCG5**	**Room KCG11**
10.40 - 12.20	**MS 01.01** **Early Warning Signatures of Dynamical Transitions** Organisers: Prof. Cristina Masoller & Giulio Tirabassi, PhD	**MS 01.02** **Data Driven Modelling & Analysis in Weather & Climate Science** Organiser: Dr Frank Kwasniok	**MS 01.03** **Adaptive Dynamical Networks (Part i)** Organisers: Rico Berner, Thilo Gross, Christian Kuehn, Jürgen Kurths, Serhiy Yanchuk	**MS 01.04** **Dynamics & Life Sciences (Part i)** Celso Grebogi & Mamen Romano

12.20 - 12.25	Comfort Break	Elphinstone Hall
12.25 - 13.00	**Plenary** P 03	Arts Lecture Theatre

	Cristina Masoller *Time crystal oscillations in a periodically forced stochastic time delayed system*	
13.00 - 14.10	Lunch & Viewing of Posters	Elphinstone Hall
14.10 - 14.45	**Plenary** P 04 Tamas Tel *Climate changes of dynamical systems*	Arts Lecture Theatre
14.45 - 14.50	Comfort Break	

14.50 - 16.20	**Contributed Talks**				
	Room KCG7	**Room KCF7**	**Room KCF22**	**Room KCG11**	**Room KCG5**
	CT 01 **Machine Based-learning** **Modelling & Prediction (Part i)**	**CT 02** **Networks**	**CT 03** **Modelling**	**CT 04** **Life Sciences (Part i)**	**CT 05** **Stochastic** **Dynamics**

16.20 - 16.45	Coffee Break	Elphinstone Hall
16.45 - 17.20	**Plenary** P 05 Fordyce Davidson *The Architecture of Bacterial Biofilms*	Arts Lecture Theatre
17.20 - 17.25	Comfort Break	

17.25 - 18.00	**Plenary** P 06 Alexey Zaikin *Intelligence and consciousness in genetic-neuron astrocyte networks*	Arts Lecture Theatre

Tuesday 23rd August

08.00 - 09.00	Tea & Coffee	Elphinstone Hall
09.00 - 09.35	**Plenary** P 07 James Gleeson *Data-driven modelling of cascades on networks*	Arts Lecture Theatre
09.35 - 09.40	Comfort Break	
09.40 - 10.15	**Plenary** P 08 Ruedi Stoop *How good is your dynamical system model?*	Arts Lecture Theatre
10.15 - 10.40	Coffee Break	Elphinstone Hall
10.40 - 12.20	**Minisymposium**	

	Room KCF7 **MS 02.01** **Transient Chaos (Part i)** Organisers: Dr. Oleh Omel'chenko and Prof. Tamas Tel	Room KCF22 **MS 02.02** **Recurrence-based Data Analysis** Organisers: Tobias Braun, Norbert Marwan & Deniz Eroglu	Room KCG5 **MS 02.03** **Adaptive Dynamical Networks (Part ii)** Organisers: Organisers: Rico Berner, Thilo Gross, Christian Kuehn, Jürgen Kurths & Serhiy Yanchuk	Room KCG11 **MS 02.04** **Dynamics & Life Sciences (Part ii)** Celso Grebogi & Mamen Romano
12.20 - 12.25	Comfort Break			
12.25 - 13.00	**Plenary** P 09 Juergen Kurths *The Importance Complex Systems in Understanding Our Climate: Predictability of Extreme Climate Events*			Arts Lecture Theatre
13.00 - 14.10	Lunch & Viewing of Posters			Elphinstone Hall
14.10 - 14.45	**Plenary** P 10 Ulrich Parlitz *Challenges in cardiac dynamics*			Arts Lecture Theatre
14.45 - 14.50	Comfort Break			
14.50 - 16.20	**Contributed Talks**			

	Room KCG7	Room KCF7	Room KCF22	Room KCG5	Room KCG11
	CT 06 **Machine Learning-based Modelling & Prediction (Part ii)**	**CT 07** **Characterisation of Nonlinear Dynamics (Part i)**	**CT 08** **Inference & Modelling**	**CT 09** **Life Sciences (Part ii)**	**CT 10** **Syncronisation (Part i)**
16.20 - 16.45	Coffee Break				Elphinstone Hall
16.45 - 17.20	**Plenary** P 11 Aneta Koseska *Real-time biochemical computations at criticality*				Arts Lecture Theatre
17.20 - 17.25	Comfort Break				
17.25 - 18.00	**Plenary** P 12 Sarika Jalan *Multiple routes to abrupt first-order transition to synchronization in multilayer simplicial complexes*				Arts Lecture Theatre

Wednesday 24th August 2022

08.00 - 08.45	Tea & Coffee				Elphinstone Hall
09.00 - 09.35	**Plenary** P 13 Mario Chavez *The intrinsic geometry of complex brain networks as biomarkers in epilepsy*				Arts Lecture Theatre
09.35 - 09.40	Comfort Break				
09.40 - 10.15	**Plenary** P 14 Jesús Gómez-Gardeñes *Hunting mosquitoes with networks*				Arts Lecture Theatre
10.15 - 10.40	Coffee Break				Elphinstone Hall
10.40 - 12.20	**Minisymposium**				
	Room KCG7	**Room KCF7**	**Room KCF22**	**Room KCG5**	**Room KCG11**
	MS 03.01 **Mean-field Dynamics in**	**MS 03.02** **Transient Chaos (Part ii)** Organisers: Dr. Oleh Omel'chenko	**MS 03.03** **Enhancing Gender Balance in Non-linear Dynamics** Organisers: Dr. Simona Olmi	**MS 03.04** **Adaptive Dynamical Networks (Part iii)** Organisers: Organisers: Organisers: Rico Berner, Thilo Gross, Christian Kuehn, Jürgen Kurths & Serhiy Yanchuk	**MS 03.05** **Dynamics & Life Sciences (Part iii)** Celso Grebogi & Mamen Romano

	Oscillatory & Neural Systems Organisers: Gloria Cecchini, PhD & Pau Clusella	and Prof. Tamas Tel	and Prof. Anna Zakharova		
12.20 - 12.25	Comfort Break				
12.25 - 13.00	**Plenary** P 15 Theo Geisel *Musicians' Synchronization and the Enigma of Swing*				Arts Lecture Theatre
13.00 - 13.30	Pick Up Packed Lunch				Elphinstone Hall
13.30 - 17.00	Conference Excursion – Haddo House & Country Park, Aberdeenshire Depart: High Street Visit to Haddo House Return: High Street approximately 17.00				
18.45 - 00.00	Conference Dinner Chester Hotel, 59-63 Queen's Road, Aberdeen AB15 4YP Dinner Talk – James Yorke				

Thursday 25th August

08.00 - 08.45	Tea & Coffee	Elphinstone Hall
09.00 - 09.35	**Plenary** P 16 Benjamin Lindner *Fluctuation-dissipation theorems for systems far from equilibrium*	Arts Lecture Theatre
09.35 - 09.40	Comfort Break	
09.40 - 10.15	**Plenary** P 17 Arkady Pikovsky *Deterministic dynamics of active particles: chaos and synchronization*	Arts Lecture Theatre
10.15 - 10.40	Coffee Break	Elphinstone Hall

	Minisymposium			
10.40 - 12.20	**Room KCG7** **MS 04.01** **Estimating Stability Indicators from Data**	**Room KCF7** **MS 04.02** **Metastability in Neuron Networks**	**Room KCF22** **MS 04.03** **Adaptive Dynamical Networks (Part iv)**	**Room KCG5** **MS 04.04**

	Global Features of Coupled Dynamical Systems Organiser: Dr. Jose Mujica	Organiser: Dr. Nahal Sharafi	Organiser: Prof. Dr. Klaus Lehnertz	Organisers: Organisers: Organisers: Rico Berner, Thilo Gross, Christian Kuehn, Jürgen Kurths & Serhiy Yanchuk
12.20 - 12.25	Comfort Break			
12.25 - 13.00	**Plenary** P 18 Jordi Garcia-Ojalvo *Oscillations as organizers in cellular populations*			Arts Lecture Theatre
13.00 - 14.10	Lunch & Viewing of Posters			Elphinstone Hall
14.10 - 14.45	**Plenary** P 19 Aneta Stefanovska *Multiscale oscillatory dynamics: What happens when the frequencies are not constant?*			Arts Lecture Theatre
14.45 - 14.50	Comfort Break			
14.50 - 16.20	**Contributed Talks**			
	Room KCG7	**Room KCF7**	**Room KCF22**	**Room KCG5**	**Room KCG11**

	CT 11 Fluid Dynamics	CT 12 Characterisation of Nonlinear Dynamics (Part ii)	CT 13 Classical & Quantum Dynamics	CT 14 Spacio-temporal Dynamics	CT 15 Syncronisation (Part ii)
16.20 - 16.45	Coffee Break				Elphinstone Hall
16.45 - 17.20	**Plenary** P 20 Ulrike Feudel *Tipping phenomena and resilience of complex systems: Theory and applications*				Arts Lecture Theatre
17.20 - 17.25	Comfort Break				
17.25 - 18.00	**Plenary** P 21 Erik Bollt *On Explaining the Surprising Success of Reservoir Computing Forecaster of Chaos? The Universal Machine Learning Dynamical System with Contrasts to VAR and DMD.*				Arts Lecture Theatre

Friday 26th August

08.00 - 08.45	Tea & Coffee	Elphinstone
09.00 - 09.35	**Plenary**	Arts Lecture Theatre

	P 22 James Yorke			
09.35 - 09.40	Comfort Break			
09.40 - 10.15	**Plenary** P 23 Alessandro Torcini *Next Generation Neural Mass Models*			Arts Lecture Theatre
10.15 - 10.40	Coffee Break			Elphinstone Hall
10.40 - 12.20	**Minisymposium**			
	Room KCG7	**Room KCF7**	**Room KCF22**	**Room KCG5**
	MS 05.01 **Data Driven Modelling & Analysis of Complex Dynamical Systems** Organisers: Prof. Constantinos Siettos, Dr. Lucia Russo & Prof. Yannick de Decker	**MS 05.02** **Extreme Events** Organiser: Dibakar Ghosh	**MS 05.03** **Critical Transitions in Nonlinear Dynamical Systems: Theory and Applications** Organisers: Ulrike Feudel & Lea Oljaca	**MS 05.04** **Dynamics of Urban Complexity: Infrastructural Entanglements** Organisers: Ulysses Sengupta & Deljana Iossifova
12.20 - 12.25	Comfort Break			
12.25 - 13.00	**Plenary** P 24 Jen Creaser *A quasipotential approach for networks of bistable nodes*			Arts Lecture Theatre

13.00 - 13.30	Closing & Vote of Thanks from Organising Committee	Arts Lecture Theatre
13.30 - 14.30	Lunch	Elphinstone Hall

List of Speakers

Monday 22nd August

Minisymposiums

10.40 - 12.20

MS 01.01		**MS 01.02**		**MS 01.03**		**MS 01.04**	
Early Warning Signatures of Dynamical Transitions		**Data Driven Modelling & Analysis in Weather & Climate Science**		**Adaptive Dynamical Networks (part I)**		**Dynamics & Life Sciences**	
MS 01.01.01	**Andrés Aragoneses** Forecasting Events in the Complex Dynamics of a Semiconductor Laser with Optical Feedback	MS 01.02.01	**Frank Kwasniok** Data-driven deterministic and stochastic subgrid-scale parameterisation in atmosphere and ocean models	MS 01.03.01	**Erik A. Martens** Complex dynamics in adaptive networks of phase oscillators	MS 01.04.01	**Stefan Hoppler** Computational Modelling of Wnt Signalling-Controlled Gene Regulatory Networks in Early Embryonic Development and Heart Muscle Differentiation
MS 01.01.02	**Noémie Ehstand** Percolation framework to anticipate sudden shifts in irregular climate oscillations	MS 01.02.02	**Nikki Vercauteren** Uncertain turbulent fluxes in the atmospheric boundary layer: a stochastic data-model fusion approach	MS 01.03.02	**Luis Venegas-Pineda** Chimera States in a Coevolutive Multilayer Network framework via Geometric Singular Perturbation Theory	MS 01.04.02	**Celso Grebogi** Tipping Point and Noise Induced Transients in Ecological Networks
MS 01.01.03	**Mathias Marconi** Testing Critical Slowing Down as a Bifurcation Indicator in a Low-	MS.01.02.03	**Vera Melinda Galfi** On the typicality of persistent	MS 01.03.03	**Francesco Sorrentino** Adaptive cluster synchronization in	MS 01.04.03	**Dimitra Blana** Using dynamic simulations of movement in the

	Dissipation Dynamical System		atmospheric extreme events		complex dynamical networks		design of assistive devices for people with tetraplegia
MS 01.01.04	**Giulio Tirabassi** Correlation lag times provide a reliable early-warning indication of approaching bifurcations in spatially extended dynamical systems	MS 01.02.04	**Abdel Hannachi** Towards mining weather and climate extremes via Riemannian optimization			MS 01.04.04	**Nicolas Rubido** Finding the resistance distance and eigenvector centrality from the network's eigenvalues

Contributed Talks

14.50 - 16.20

CT 01		**CT 02**		**CT 03**		**CT 04**		**CT 05**	
Machine Learning-based Modelling & Prediction (Part i)		**Networks**		**Modelling**		**Life Sciences (Part i)**		**Stochastic Dynamics**	
CT 01.01	**Kengo Nakai** Evaluation of a data-driven model using reservoir computing from dynamical system point of view	CT 02.01	**Jens Christian Claussen** Evolutionary optimization of networks towards complexity: graph connectivity evolution driven by complexity	CT 03.01	**Hildegard Meyer-Ortmanns** The cavity method for minority games on financial markets	CT 04.01	**Skye Dore-Hall** Ramp Function Approximations of Michaelis-Menten Functions in a Model of Plant Metabolism	CT 05.01	**Rainer Klages** Extended Poisson-Kac theory: A unifying framework for stochastic processes with finite propagation velocity

			measures as fitness functions						
CT 01.02	**Sebastian Baur** Producing high-dimensional heterogeneous time series employing generalized local states	CT 02.02	**Sajjad Bakrani** Controlling collective behavior of network dynamics against link modifications	CT 03.02	**Tobias Wand** Analysis of the Football Transfer Market Network	CT 04.02	**Rodrigo García-Tejera** Regulation of stem cell dynamics through volume exclusion	CT 05.02	**Wei Hao Tey** Minimal invariant sets of Random Dynamical systems with bounded noise
CT 01.03	**Constantinos Siettos** Numerical Integration of stiff ODEs and DAEs with Physics-Informed Shallow Random Projection Machine Learning			CT 03.03	**Laura Jones** Efficacy and neighbourhoods, or how the community's actions affect crime rates.	CT 04.03	**Yu Meng** The fundamental benefits of multiplexity in ecological networks	CT 05.03	**Jinjie Zhu** Construction and application of phase reduction in coherent excitable systems
				CT 03.04	**Junzhe Zhang** Dynamics of particle aggregation in de-wetting films of complex liquids	CT 04.04	**Tamás Kovács** How can contemporary climate research help understand epidemic dynamics? -- Ensemble approach and		

							snapshot attractors		

Tuesday 23rd August

Minisymposiums

10.40 - 12.20

MS 02.01		**MS 02.02**		**MS 02.03**		**MS 02.04**	
Transient Chaos (part I)		**Recurrence-based Data Analysis**		**Adaptive Dynamical Networks (part ii)**		**Dynamics & Life Sciences (part ii)**	
MS 02.01.01	**Oleh Omel'chenko** Non-monotonic Transients to Synchrony in Kuramoto Networks and Electrochemical Oscillators	MS 02.02.01	**Norbert Marwan** Recent trends in recurrence analysis of dynamical systems	MS 02.03.01	**Sarika Jalan** Hebbian plasticity in simplicial complexes: Robustness to de-synchronization	MS 02.04.01	**Tom Hiscock** Mathematical models of tetrapod joint patterning: how does a finger get its knuckles?
MS.02.01.02	**Ying-Cheng Lai** Predicting Transient Chaos Using Machine Learning	MS 02.02.02	**Tobias Braun** A recurrence flow based approach to state space reconstruction	MS 03.04.02	**Simona Olmi** Modelling the emergence of different frequency-coupled rhythms in rats' brainstem via mean-field models of spiking neural networks with adaptation	MS 02.04.02	**Alessandro Moura** Natural selection and the spatial distribution of DNA replication origins
MS 02.01.03	**Emilio Hernandez-Garcia**	MS 02.02.03	**Celik Ozdes**	MS 02.03.02	**Serhiy Yanchuk**	MS 02.04.03	**Paco Perez-Reche**

	Flow-Network Characterization of Transient Chaos in Open Systems		Transformation cost spectrum for irregularly sampled time series		Asymmetric adaptivity induces recurrent synchronization in dynamical networks		Random growth processes to model power-law and log-normal avalanche size statistics in solids and living cells
MS 02.01.04	**Everton S. Medeiros** State-Dependent Vulnerability of Synchronization in Ecological Networks	MS 02.02.04	**Deniz Eroglu** Multiplex Recurrence Networks	MS 02.03.03	**Jan Fialkowski** Heterogeneous nucleation in finite size adaptive dynamical networks	MS 02.04.04	**Ian Stansfield** Systems biology approaches to understanding human neurodevelopment diseases: a battle against homeostasis
		MS 02.02.05	**Thomas Stemler** Ordinal pattern analysis for physiological data with ties				

Contributed Talks

14.50 - 16.20

CT 06		***CT 07***		***CT 08***		***CT 09***		***CT 10***	
Machine Learning-based Modelling & Prediction		**Characterisation of Nonlinear Dynamics**		**Inference & Modelling**		**Life Sciences (Part ii)**		**Syncronisation (Part i)**	
CT 06.01	**Inga Kottlarz** Data driven reconstruction of spatiotemporal chaos in	CT 07.01	**David Müller-Bender** Suppression of quasiperiodcity in circle	CT 08.01	**Andreas Amann** Nonlinear Dynamics in Vibrational Energy	CT 09.01	**Oskar. E. Ström** DNA Transport in Micropillar Arrays –	CT 10.01	**Anaïs Espinoso** Normalized multivariate phase locking in

	three-dimensional excitable media		maps with quenched disorder		Harvesting Devices		Elastic Turbulence Resulting in Macroscopic Ordered Waves		electroencephalographic recordings from epilepsy patient
		CT 07.02	**Andres Aragoneses** Fisher-Shannon complexity plane using ordinal patterns	CT 08.02	**Aditi Kathpalia** Robust Causal Inference for Irregularly Sampled Time Series from Dynamical Systems	CT 09.02	**Ryan Deeley** Dual-tipping: investigating abrupt state transitions induced by a coupling of rate- and noise-induced effects in a marine ecological system	CT 10.02	**Rok Cestnik** Phase and amplitude response inference from observations
		CT 07.03	**George Datseris** Methods and software for estimating basins of attraction of arbitrary dynamical systems	CT 08.03	**Camille Deberne** Non-linear dynamics of an accidental underwater compressed air release	CT 09.03	**Roman Cherniha** A Simple Mathematical Model for the COVID-19 Outbreak and Its Applications	CT 10.03	**Juan Gancio** Critical parameters of the synchronisation's stability for coupled maps in regular graphs
				CT 08.04	**Ágota Tóth** Soft hydrogel structures: from surface instabilities to collective behavior	CT 09.04	**Malcolm Hillebrand** Nonlinearity, chaos and bubbles in DNA molecules		

Wednesday 24th August

Minisymposiums

10.40 - 12.20

MS 03.01		**MS 03.02**		**MS 03.03**		**MS 03.04**		**MS 03.05**	
Mean-field dynamics in oscillatory and neural systems		**Transient Chaos (Part ii)**		**Enhancing gender balance in nonlinear dynamics**		**Adaptive dynamical networks (Part iii)**		**Dynamics & Life Sciences (Part iii)**	
MS 03.01.01	**Rok Cestnik** Exact finite-dimensional reduction for a population of noisy oscillators and its link to Ott-Antonsen and Watanabe-Strogatz theories	MS 03.02.01	**Antonio Politi** Macroscopic Chaos in Mean-Field Models of Identical Phase Oscillators	MS 03.03.01	**Sarika Jalan** Hebbian learning governed Robust desynchronization in pure simplicial complexes	MS 03.04.01	**Christian Meisel** Adaptive self-organized criticality in cortical and artificial intelligence networks	MS 03.05.01	**Lionel Broche** Field cycling imaging: measuring water dynamics in vivo
MS 03.01.02	**Pau Pomés** Arnau How phase resetting curves influence excitatory-inhibitory based rhythms	MS 03.02.02	**Ulrich Parlitz** Chaotic Transients in Excitable Media	MS 03.03.02	**Johanne Hizanidis** Dynamical properties of neuromorphic Josephson junctions			MS 03.05.02	**Murilo Baptista** Real-world applications of the science devoted to understand from data the cause and effect relationship

MS 03.01.03	**Pau Clusella** Regular and sparse neuronal synchronization are described by identical mean field dynamics	MS 03.02.03	**György Károlyi** The Transient Charm of Decay	MS 03.03.03	**Mehrnaz Anvari** Destructive interaction of extreme wind events with electrical networks	MS 03.04.03	**Jakob Niehues** Resonant velocity tuning of solitary states in networks of coupled phase oscillators	MS 03.05.03	**Ekkehard Ullner** Collective irregular dynamics in spiking neuronal networks
MS 03.01.04	**Gloria Cecchini** Mean-field model of consequential reward-driven decision making	MS 03.02.04	**Julia Cantisan** Transient Chaos in Systems Subjected to Parameter Drift	MS 03.03.04	**Fakhteh Ghanbarnejad** Epidemic dynamics in different scales	MS 03.04.04	**Silja Sormunen** Neuroscience needs Bifurcation Theory: Neural criticality and critical drift in adaptive neural networks	MS 03.05.04	**Mamen Romano** Translation dynamics
				MS 03.03.05	**Anna Zakharova** Partial synchronization in complex networks: chimeras and beyond				

Thursday 25th August

Minisymposiums

10.40 - 12.20

Ms 04.01		***MS 04.02***		***MS 04.03***		***MS 04.04***	
Global features of coupled dynamical systems		**Estimating Stability Indicators from Data**		**Metastability in neuron networks**		**Adaptive dynamical networks (Part iv)**	
MS 04.01.01	**Rob Sturman** Stability of heteroclinic cycles in rings of coupled oscillators	MS 04.02.01	**Sarah Hallerberg** Estimating covariant Lyapunov vectors from data	MS 04.03.01	**Kalel Luiz Rossi** Towards a unifying view of metastability in neuroscience	MS 04.04.01	**Miguel C. Soriano** Inferring untrained dynamics of complex systems using adapted recurrent neural networks
MS 04.01.02	**Ralf Toenjes** Low-dimensional description for ensembles of identical phase oscillators subject to Cauchy noise	MS 04.02.02	**Nikki Vercauteren** Guidelines for data-driven approaches to study transitions in multiscale systems: the case of Lyapunov vectors	MS 04.03.02	**Bastian Pietras** Mesoscopic description of metastability in networks of spiking neurons with short-term plasticity	MS 04.04.02	**Leonhard Lücken** Emergent Diversity and Persistent Turnover in Evolving Microbial Cross-Feeding Networks
MS 04.01.03	**Alejandro Barrera Moreno** Coupling of heterogeneous slow-fast systems with MMOs. New patterns and ROM simulations	MS 04.02.03	**Yumeng Chen** Inferring the instability of a dynamical system from the skill of data assimilation exercises	MS 04.03.03	**Roberto C. Budzinski** Connecting individual network structures to collective behavior in oscillator systems	MS 04.04.03	**Rico Berner** What adaptive neuronal networks teach us about power grids
MS 04.01.04	**Jose Mujica** Heteroclinic cycles under forced symmetry breaking: coupled oscillators,	MS 04.02.04	**George Datseris** Stability Indicators in DynamicalSystems .jl	MS 04.03.04	**Tobias Fischer** Utilizing metastability to design a testbed for a data-driven estimation of	MS 04.04.04	**Christian Bick** Coupled oscillators, dead zones, and networks with

	reduced dynamics, normal forms and invariant manifolds				resilience in networked dynamical systems		effective adaptivity

Contributed Talks

14.50 - 16.20

CT 11		**CT 12**		**CT 13**		**CT 14**		**CT 15**	
Fluid Dynamics		**Characterisation of Nonlinear Dynamics**		**Classical & Quantum Dynamics**		**Spacio-temporal Dynamics**		**Syncronisation (Part ii)**	
CT 11.01	**Enda Carroll** A minimal phase-coupling model for intermittency in turbulent systems	CT 12.01	**Gary Froyland** An inflated dynamic Laplacian to discover the formation and dissipation of coherent sets	CT 13.01	**Pragya Shukla** Curl force dynamics: classical and quantum	CT 14.01	**Lyle Muller** Prediction of specific spatiotemporal patterns in nonlinear oscillator networks with distance-dependent time delays	CT 15.01	**Aditi Kathpalia** Causal Properties of Synchronizing Systems
CT 11.02	**Michel Speetjens** Linear versus nonlinear transport during chaotic advection in fluid flows	CT 12.02	**Dániel Jánosi** Characterizing chaos in Hamiltonian systems subjected to parameter drift	CT 13.02	**Arjendu Pattanayak** Controlling dissipative quantum nonlinear dynamics using weak measurement back-action	CT 14.02	**Alfred R. Osborne** Nonlinear fourier analysis: solving nonlinear wave equations and analyzing wave data	CT 15.02	**Sarika Jalan** Adaptation of higher-order interactions facilitates anti-phase explosive synchronization

CT 11.03	**Sanjeeva Balasuriya** 2D invariant manifolds in 3D flows: perturbed locations under general perturbations and instantaneous flux	CT 12.03	**Maja Resman** Zeta functions and complex dimensions of orbits of dynamical systems	CT 13.03	**Michał Ławniczak** A new spectral invariant for quantum graphs	CT 14.03	**Andres Aragoneses** Correlation Entropy: Quantifying non-equilibrium ensemble dynamics	CT 15.03	**Ayumi Ozawa** Feedback control of globally coupled oscillators based on the analysis of a phase oscillator model
CT 11.04	**Bálint Kaszás** Dynamics-based Machine Learning Of Transitions In Couette Flow	CT 12.04	**Günter Radons** Chaotic Diffusion in Delay Systems: Giant Enhancement by Time Lag Modulation						
CT 11.05	**Robin Noury** Experimental study of the beads-on-string structure during viscoelastic filament stretching with digital holography	CT 12.05	**Evgeny Volkov** Emerging of complex multistability and attractor with broken symmetry in quorum sensing coupled identical ring oscillators						

Friday 26th August

Minisymposiums

10.40 - 12.20

MS 05.01		**MS 05.02**		**MS 05.03**		**MS 05.04**	
Data-driven modelling and analysis of complex dynamical systems		**Extreme Events**		**Critical transitions in nonlinear dynamical systems: theory and applications**		**Dynamics of Urban Complexity: Infrastructural Entanglements**	
MS 05.01.01	**Jens Starke** Data-driven detection of unstable states, stability information and bifurcations in laboratory experiments	MS 05.02.01	**Syamal Kumar Dana** Extreme events in dynamical systems: Mechanisms and predictability	MS 05.03.01	**Peter Ditlevsen** Are transitions in the climate predictable? Learning from the paleoclimatic records.	MS 05.04.01	**Yahya Gamal** Infrastructuring as Caring: Transforming Infrastructural Entanglements
MS 05.01.02	**Felix Dietrich** Quantum Process Tomography from Time-Delayed Measurements	MS 05.02.02	**Neelima Gupte** Climate network analysis of extreme events: Tropical Cyclones	MS 05.03.02	**Calvin Nesbitt** Noise Induced Transitions in a Bistable Toy Model of Climate	MS 05.04.02	**Denise P Lozano Lazo / Alexandros Gasparatos** Exploring the linkages between formal and informal solid waste management in developing countries through a system dynamics approach
MS 05.01.03	**Jan Sieber** Finding nonlinear emergent behaviour in a	MS 05.02.03	**Timo Broehl** Characterizing predictive edges in complex	MS 05.03.03	**Eoin Geoffrey O'Sullivan** Rate-Induced Tipping of the	MS 05.04.03	**Anas Alsharif** Where is the Complexity? Exploring the

	spatial tropical forest model		networks that can generate extreme events		Compost Bomb: Sizzling Summers, Heteroclinic Canards and Metastable Zombie Fires		Theoretical Frameworks in Simulative Urban Modelling
		MS 05.02.04	**Dibakar Ghosh** Extreme events in complex networks and statistical analysis	MS 05.03.04	**Julian Newman** Natural measures of asymptotically autonomous systems	MS 05.04.04	**Yahya Gamal** Land Market Preferences in Formal-informal Contexts: Urban Segregation Emergent Patterns
						MS 05.04.05	**Norma Valencio** Uncovering the hidden social dynamics behind disaster decreeing in Brazil

★	You are here!
20	Arts Lecture Theatre, William Guild
26	Elphinstone Hall
27	Linklater Rooms
29/30	KCG5
	KCG7
	KCF7
	KCG11
	KCF11