Schedule of talks

Dynamics, Topology and Computations 2022

June 20 - 25, 2022, Bedlewo, Poland

International Conference
organized by

Stefan Banach International Mathematical Center

Faculty of Mathematics and Computer Science
of the
Jagiellonian University in Kraków

The Committee on Mathematics
of the
Polish Academy of Sciences

Monday, 20 June

8:00–9:00	Breakfast
9.00-9.50	K. Mischaikow, *Solving Systems of Ordinary Differential Equations via Combinatorial Homological Algebra*
10.00-10.50	H. Osinga, *Heterodimensional cycles as organising centres of complicated dynamics*
	Coffee break
11.30-12.20	O. Junge, *Entropic transfer operators*
12.30-13.00	V. Gaiko, *Bifurcation and topological methods for polynomial dynamical systems*
13:00	Lunch
15.00-15.40	W. Tucker, *Lower bounds on the Hausdorff dimensions of Julia sets*
	Coffee break
	Session I
16.00-16.30	E. Sander, *Rigorous bifurcation methods for diblock and triblock copolymer models*
16.30-17.00	P. Kalita, *Autonomous and non-autonomous unbounded attractors in evolutionary problems*
17.00-17.30	J. Lessard, *Towards computational Morse-Floer homology: forcing results for connecting orbits by computing relative indices of critical points*
19:00	Banquet

Tuesday, 21 June

8:00–9:00	Breakfast	
9.00-9.50	U. Locatelli, *Computer assisted proofs of existence of KAM tori: a normal form approach*	
10.00-10.50	T. Wanner, *Combinatorial Topological Dynamics*,	
	Coffee break	
11.30-12.20	W. Chachólski, *Homological algebra and persistence*	
12.30-13.00	M. Capiński, *A topological version of the normally hyperbolic invariant manifold theorem*	
13:00	Lunch	
15.00-15.40	Tamal Dey, *New Results in Computing Zigzag and Multiparameter Persistence*, **online talk**	
	Coffee break	
	Parallel session I	Parallel session II
16.00-16.30	J. Banaśkiewicz, *Periodic orbit for the Brusselator system with diffusion*	D. Hien, *A TDA approach to cycling in dynamical systems*
16.30-17.00	O. Hénot, *Computer-assisted proofs of radially symmetric steady states for Klein-Gordon on R^3*	M. Lipiński, *Tracking Dynamical Features via Continuation and Persistence*
17.00-17.30	K. Lademann, *Effective highly accurate integrators for linear Klein-Gordon equations from low to high frequency regimes*	M. Przybylski, *The Szymczak functor on the category of finite relations*
19:00	Dinner	

Wednesday, 22 June

8:00–9:00	Breakfast
9.00-9.50	J. Boroński, *A classification of Lozi maps*
10.00-10.50	D. Mosquera, *Homotopic distance and dynamics*
	Coffee break
11.30-12.20	J. B. van den Berg, *Computer assisted proofs for spiral waves in the complex Ginzburg-Landau problem*
12.30-13.00	M. Brenden, *A posteriori validation of generalized polynomial chaos expansions*
13:00	Lunch
13:30	Kayaking trip (Excursion to Poznań in case of bad weather)
19:00	Dinner

Thursday, 23 June

8:00–9:00	Breakfast	
9.00-9.50	I. Mitrea, *Computational Aspects for Elliptic Boundary Value Problems in Non-Smooth Domains*	
10.00-10.50	E. Fontich, *Invariant manifolds of parabolic objects*	
	Coffee break	
11.30-12.20	B. Krauskopf, *The structure of accumulating global bifurcations of two coupled phase-amplitude oscillators*	
12.30-13.00	Z. Galias, *On limit cycles of the Songling system*	
13:00	Lunch	
15.00-15.30	R. Schaefer, *Arnold Diffusion for a Hamiltonian system with 3 +1/2 degrees of freedom*	
	Coffee break	
	Parallel session I	Parallel session II
16.00-16.30	J. Mireles, *Continuation and Bifurcation of Ejection-Collision Orbits*	D. Woukeng Feudjio, *Rigorous computation in dynamics based on combinatorial multivector fields*
16.30-17.00	M. Moczurad, *Central configurations on the plane with N heavy and k light bodies*	D. Sadowski, *Computational approach to dynamics based on combinatorial multivector fields*
17.30-18.00	N. Wodka, *Computer assisted proof of diffusion - application to PER3BP*	E. Fleurantin, *A Dynamical Systems Approach for Most Probable Escape Paths in Non-Gradient Systems*
19:00	Bonfire	

Friday, 24 June

8:00–9:00	Breakfast	
9.00-9.50	S. Kanazawa, *Large deviation principle for persistence diagrams of random cubical filtrations*	
10.00-10.50	P. Chocano, *A first approach to the reconstruction of discrete dynamical systems*	
	Coffee break	
11.30-12.20	Alex Haro, *Effective bounds for the measure of rotations*	
12.30-13.00	P. Pilarczyk, *How much stochastic dynamics is there in the quadratic map family?*	
13:00	Lunch	
15.00-15.30	J. Jaquette, *Unraveling global dynamics and unstable blowup in a nonlinear Schrödinger equation without conservation laws*	
	Coffee break	
	Parallel session I	Parallel session II
16.00-16.30	E. Queirolo, *Validation in Machine Learning*	H. Barge,*Geometric topology and the realization problem of attractors*
16.30-17.00	S. Kepley, *Efficient parameterization of invariant manifolds using deep neural networks*	A. Gierzkiewicz, *Period forcing for multidimensional maps with attracting periodic orbits*
17.00-17.30	I. Balázs, *A differential equation with a state-dependent queueing delay*	E. Durmishi, *Chain Components*
19:00	Dinner	

Saturday, 25 June

8:00–9:00	Breakfast
9.00-9.50	D. Wilczak, *Hyperbolic horsheshoe for Kuramoto-Sivashinski equation*
10.00-10.50	P. Zgliczyński, *TBA*
	Coffee break