Dynamics, Topology and Computations 2012

Schedule of talks

25.06, Monday

09:00	DMITRY FEICHTNER-KOZLOV, *Topological Methods in Distributed Computing*
10:00	FREDERIC CHAZAL, *Topological data analysis using distance-based functions*
11:00	coffee break
11:30	CALIN GUET, *Dynamics of Bio-molecular Networks*
12:30	JEAN-PHILIPPE LESSARD, *Computation of global smooth manifolds of solutions of PDEs via rigorous multi-parameter continuation*
13:00	lunch break
15:00	ZBIGNIEW GALIAS, *On rigorous integration of continuous piecewise linear systems*
15:30	KANAME MATSUE, *Rigorous numerical verification of local dynamics around equilibria of dynamics in infinite dimensions*	PETER FRANEK, *Algorithm for topological degree computation*
16:00	JACEK CYRANKA, *Efficient Algorithms for Rigorous Integration of PDEs. Fast Fourier Transforms.*	LUIS HERNANDEZ-CORBATO, *Index of fixed points of orientation-reversing homeomorphisms of $\mathbb{R}^3$*
16:30	coffee break
17:00	PIOTR ZGLICZYNSKI, *Rigorous numerics for delay equations*	HUBERT WAGNER, *Computational Topology in Text Mining*
17:30	ALEXANDER PROKOPENYA, *Equilibrium Solution Stability in the Spatial Circular Restricted Four-Body Problem*	GRZEGORZ JABŁOŃSKI, *Persistent homology of maps*
18:00	GAETANO ZAMPIERI, *Weak instability of Hamiltonian equilibria*	

26.06, Tuesday

09:00	AMADEU DELSHAMS, *Global instability in the elliptic restricted three body problem*
10:00	ALEX HARO, *Singularity theory for non-twist KAM tori: A methodology*
11:00	coffee break
11:30	MARTIN RAUSSEN, *Spaces of executions as simplicial complexes*
12:30	LISBETH FAJSTRUP, *Periodicity in the Trace Space algorithm.*
13:00	lunch break
15:00	VALERY GAIKO, *Limit cycles of the general Liénard polynomial system*
15:30	JAY MIRELES JAMES, *Computation of local stable and unstable manifolds by parameterization with rigorous error bounds* <td>FRANK H. LUTZ, *Random Methods in Discrete Topology and the Complicatedness of Triangulations*</td>
16:00	DANIEL WILCZAK, *Uniformly hyperbolic attractors for ODEs - rigorous verification* <td>ABHISHEK RATHOD, *A unified framework for efficient algorithms in Computational Topology*</td>
16:30	coffee break
17:00	ALEXANDER WITTIG, *Sharp Verified High-Order Enclosures of Invariant Manifolds of ODEs with Parameter Dependence* <td>PIOTR BRENDEL, *Homology Computations via Acyclic Subspace*</td>
17:30	POSTER SESSION

27.06, Wednesday

09:00	DMITRIY MOROZOV, *Algorithms from the Pyramid*
10:00	MATTHEW KAHLE, *Configuration spaces of hard spheres*
11:00	coffee break
11:30	GEORGE HALLER, *Geodesic Theory of Transport Barriers*
12:30	JAN BOUWE VAN DEN BERG, *Forcing chaotic braided solutions in the Swift-Hohenberg equation via topologically validated numerics*
13:00	lunch and excursion

28.06, Thursday

09:00	MACIEJ CAPIŃSKI, *Computer assisted method for existence and higher order smoothness of invariant manifolds*
10:00	TOMAS JOHNSON, *Rigorous enclosures of slow manifolds*
11:00	coffee break
11:30	GRAHAM ELLIS, *Discrete vector fields and classifying spaces*
12:30	NEZA MRAMOR, *Integrability of discrete vector fields*
13:00	lunch break
15:00	PIETER COLLINS, *Computing the Evolution of Hybrid Systems using Rigorous Function Calculus*

15:30	WOJTEK ZAKRZEWSKI, *Concept of quasi-integrabilty and its role in the scattering of (topological) solitons*	PAWEŁ DŁOTKO, *Computational (co)homology : applications and recent progress in computations*
16:00	IGOR BOGOLUBSKY, *On multidimensional solitons and defects*	SHAUN HARKER, *Generalized Map Homology and its Applications*
16:30	coffee break	
17:00	MARCO SANSOTTERA, *On the secular evolution of extrasolar planetary systems*	PAWEŁ PILARCZYK, *Computation of cubical homology, cohomology, and related operations via chain contraction*
17:30	ANNA GIERZKIEWICZ, *First Integrals of the Silent Universe Models*	ISMAIL ASMA, *A restricted Conley index for constrained robustness of heteroclinic cycles*
18:00	TOMASZ KAPELA, *Rigorous KAM results around arbitrary periodic orbits for Hamiltonian systems*	

29.06, Friday

09:00	DENIS GAIDASHEV, *Overview of universality for area-preserving Henon-like maps: results and conjectures*
10:00	GIOVANNI FEDERICO GRONCHI, *The evolution of the orbit distance in the double averaged restricted 3-body problem with crossing singularities*
11:00	coffee break
11:30	MASSIMO FERRI, *Persistent Homology and natural images*
12:30	CLAUDIA LANDI, *The persistence space in multidimensional persistence*
13:00	lunch break
15:00	KETTY DE REZENDE, *Continuation and Bifurcation Associated to the Dynamical Spectral Sequence*

15:30	SERGEI PILYUGIN, *Relations between structural stability and shadowing: recent results*	JORDI-LLUIS FIGUERAS, *A numerical algorithm for the computation of periodic orbits of the Kuramoto-Sivashinsky equation*
16:00	DMITRII TODOROV, *Analogs of Theorems of Maizel And Pliss And Their Application in Shadowing Theory*	MARCOS RODRIGUEZ, *Obtaining rigorous skeletons of periodic orbits. Discrete and continuous families*
16:30	coffee break	
17:00	THOMAS STEPHENS, *Early dynamics in the Cahn-Morral model of phase separation*	ROBERTO BARRIO, *Symbolic Dynamics for Painting Chaos: Homoclinic spirals*
17:30	MARCIN KULCZYCKI, *On the relationship between the average and the asymptotic average shadowing properties*	AGNIESZKA SIŁUSZYK, *The finiteness in the planar restricted six-body problem*
18:00	IRINA MAKARENKO, *Quantitative morphology of the turbulent gas in the Milky Way*	

30.06, Saturday

09:00	ARTURO VIEIRO, *Dynamics of 4D symplectic maps near a double resonance.*
10:00	UGO LOCATELLI, *Long-time stability of the secular part of a planetary problem with more than three bodies*
11:00	coffee break
11:30	KRZYSZTOF ZIEMIAŃSKI, *Directed paths in d-simplicial complexes*
12:00	THOMAS WANNER, *Randomized Adaptive Topology Validation for Excursion Sets*
12:30	lunch