SWIM 2015 program

time	**Tuesday (June 9)**
8:30 – 9:00	**registration**
9:00 – 9:05	**opening**
	chairman: Milan Hladík
9:05 – 9:50	**invited lecture:** *Michael Černý:* Some applications of interval computation in statistics
9:50 – 10:15	*Sergey I. Kumkov:* One ill-posed estimation problem of experimental process parameters. Interval approach
10:15 – 10:40	*Elena K. Kostousova:* On feedback target control for uncertain discrete-time systems through polyhedral techniques
10:40 – 11:10	**coffee break**
	chairman: Miroslav Rada
11:10 – 11:35	*Moussa Maïga, Nacim Ramdani and Louise Travé-Massuyès:* Parameter identification with hybrid systems in a bounded-error framework
11:35 – 12:00	*Stefan Ratschan:* Computing barriers of ordinary differential equations
12:00 – 12:25	*Dominique Monnet, Luc Jaulin, Jordan Ninin, Alexandre Chapoutot, Julien Alexandre-dit-Sandretto:* Viability kernel computation based on interval methods
12:25 – 14:00	**lunch**
	chairman: Nacim Ramdani
14:00 – 14:25	*Vincent Drevelle:* Guaranteed coverage assessment of a robotic survey with uncertain trajectory
14:25 – 14:50	*Salvador Pacheco and Alexandru Stancu:* Primitive shape characterization using interval methods
14:50 – 15:15	*Mohamed Mustafa, Eduard A. Codres and Alexandru Stancu:* Mobile robot mapping using interval methods
15:15 – 15:40	*Jeremy Nicola:* Gaussian nonlinear set inversion
15:40 – 16:10	**coffee break**
	chairman: Michael Černý
16:10 – 16:35	*Federico Poloni and Tayyebe Haqiri:* Permuted graph bases for verified computation of invariant subspaces
16:35 – 17:00	*Peter Franek, Marek Krčál:* Verification of zeros in underdetermined systems
17:00 – 17:25	*Sanaz Rivaz, Mohammad A. Yaghoobi and Milan Hladík:* Goal programming approach for solving interval MOLP problems
17:25 – 17:50	*Jan Bok and Milan Hladík:* Recent results on cooperative interval games

time	**Wednesday (June 10)**
	chairman: Stefan Ratschan
9:00 – 9:25	*Mohamed-Hédi Amri, Yasmina Becis, Didier Aubry, and Nacim Ramdani:* Robust indoor localization via interval analysis
9:25 – 9:50	*Simon Rohou, Luc Jaulin, Lyudmila Mihaylova, Fabrice Le Bars and Sandor M. Veres:* Robot localization in an unknown but symmetric environment
9:50 – 10:15	*Mohamed Saad ibn Seddik, Luc Jaulin and Jonathan Grimsdale:* Cooperative localization and formation maintaining using range-only measurements without communications
10:15 – 10:40	*Luc Jaulin, S. Rohou, J. Nicola, M. Saad, F. Le Bars and B. Zerr:* Distributed localization and control of a group of underwater robots using contractor programming
10:40 – 11:10	**coffee break**
	chairman: Luc Jaulin
11:10 – 11:35	*Yuki Ohta, Katsuhisa Ozaki:* Verified convex hull for inexact data
11:35 – 12:00	*Katsuhisa Ozaki:* Tight enclosure of matrix multiplication with level 3 BLAS
12:00 – 12:25	*Nisha Rani Mahato and Snehashish Chakraverty:* Sub-interval perturbation method for standard eigenvalue problem
12:25 – 14:00	**lunch**
	chairman: David Hartman
14:00 – 14:25	*Mohammad Adm, Jürgen Garloff and Jihad Titi:* Intervals of sign regular matrices
14:25 – 14:50	*Jihad Titi and Jürgen Garloff:* Matrix methods for the Bernstein form and their application in global optimization
14:50 – 15:15	*Nathalie Revol:* The (near-)future IEEE 1788 standard for interval arithmetic
15:15 – 15:40	*Clément Aubry (Luc Jaulin):* Comparison of Kalman versus Interval based loop detection problem
15:40 – 16:10	**coffee break**
	chairwoman: Nathalie Revol
16:10 – 16:35	*Milan Hladík:* Yet another method for solving interval linear equations
16:35 – 17:00	*Evgenija D. Popova:* Computing exact bounds for the solution set of parametric interval linear systems
17:00 – 17:25	*Bartłomiej Jacek Kubica:* Presentation of a multithreaded interval solver for nonlinear systems
19:00 – ??	**workshop dinner**

time	**Thursday (June 11)**
	chairwoman: Elif Garajová
9:00 – 9:25	*Alexandre Chapoutot, Julien Alexandre dit Sandretto and Olivier Mullier:* Validated explicit and implicit Runge-Kutta methods
9:25 – 9:50	*Julien Alexandre Dit Sandretto:* Validated simulation of differential algebraic equations
9:50 – 10:15	*Irmina Walawska and Daniel Wilczak:* Bifurcation and continuation of Halo orbits – rigorous numerical approach
10:15 – 10:40	*Tomasz Kapela, Daniel Wilczak and Piotr Zgliczyński:* Rigorous computation of Poincaré maps
10:40 – 11:10	**coffee break**
	chairman: Jaroslav Horáček
11:10 – 11:35	*Elif Garajová and Martin Mečiar:* Solving and visualizing nonlinear constraint satisfaction problems
11:35 – 12:00	*Jordan Ninin:* Global optimization based on contractor programming
12:00 – 12:25	*Fabrice Le Bars, Jeremy Nicola and Luc Jaulin:* EASIBEX-MATLAB: a simple tool to begin with interval contractors
12:25 – 12:30	**closing**
12:30 – 14:00	**lunch**

Workshop address:

first floor, **room S9**
Charles University, Faculty of Mathematics and Physics
Malostranské náměstí 25
118 00 Praha 1

Sponsors:

- GAČR – P202/12/G061 CE-ITI
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- DIMATIA