

# GEOMETRIC AND TOPOLOGICAL METHODS IN COMPUTER SCIENCE

## GETCO 2010, AALBORG UNIVERSITY

### Schedule

Lecture Hall: Auditorium B3-104, Fredrik Bajersvej 7B, Aalborg University

#### Monday, January 11:

9:00- 9:30 Registration

9:30- 9:40 Opening of the workshop

9:40-10:40 Massimo Ferri (Bologna), *Reduction and approximation of multidimensional persistent homology*

10:40-11:00 Coffee Break and Registration

11:00-12:00 Claudia Landi (Modena & Reggio Emilia), *Stability of Multidimensional Persistent Homology Groups*

12:00-13:30 Lunch (NOVI canteen, Niels Jernes Vej)

13:30-14:30 Emmanuel Haucourt (CEA List & Ecole Polytechnique), *Two equivalent ways of directing the spaces*

14:30-14:50 Coffee Break

14:50-15:20 Samuel Mimram (CEA List & Ecole Polytechnique), *Cubical sets and Petri nets: an adjunction*

#### Tuesday, January 12:

9:00-10:00 Maurice Herlihy (Brown), *The Index Lemma and Possible Sporadic Solutions to the Zero-One Exclusion Task*

10:00-10:20 Coffee Break

10:20-11:20 Armando Castañeda and Sergio Rajsbaum (UNAM), *Deriving an algorithm for the weak symmetry breaking task*

11:30-12:10 Ulrich Fahrenberg (Aalborg), *History-preserving bisimilarity for higher-dimensional automata via open maps*

12:10-13:30 Lunch (NOVI canteen, Niels Jernes Vej)

13:30-14:30 Robert Ghrist (Penn), *Euler Calculus for Data* 14:30-14:50 Coffee Break

14:50-15:50 Martin Raussen (Aalborg), *(Prod-)Simplicial Models for trace spaces*

16:10-17:30 “Business Meeting”: Future collaboration in Applied and Computational Algebraic Topology

### Wednesday, January 13:

9:00-10:00 Patrizio Frosini (Bologna), *Multidimensional persistent topology as a metric approach to shape comparison*

10:00-10:20 Coffee Break

10:20-11:20 Eli Gafni (UCLA), *Bigamy: Intermingling Algebraic-Topology and Distributed-Algorithms*

11:30-12:30 Poster Session

12:30-13:30 Lunch (NOVI canteen, Niels Jernes Vej)

13:30-18:00 Excursion (the Vikings at Lindholm Høje; art and architecture at the Utzon Center)

18:30 Conference Dinner at Sohngaardsholms Slot

### Thursday, January 14:

9:00-10:00 Michael Farber (Durham), *Stochastic algebraic topology in robotics*

10:00-10:20 Coffee Break

10:20-11:20 Lisbeth Fajstrup (Aalborg), *Structuring the category of  $d$ -spaces*

11:30-12:10 Michael Robinson (Penn), *Constructible sheaves and their cohomology for asynchronous logic and computation*

12:10-13:30 Lunch (NOVI canteen, Niels Jernes Vej)

13:30-14:30 Peter Bubenik (Cleveland), *Concurrency and quasi-categories*

14:30-14:50 Coffee Break

14:50-15:50 Philippe Gaucher (Paris 7), *About higher dimensional transition systems*

### Friday, January 15:

9:00-10:00 Dmitry Feichtner-Kozlov (Bremen), *Stellar equipartitions*

10:00-10:20 Coffee Break

10:20-11:20 Marco Grandis (Genova), *Directed algebraic topology and symmetries*

11:30-12:10 Rodolfo Conde Martínez and Sergio Rajsbaum (UNAM), *The iterated shared memory model of computation and an enrichment with safe consensus tasks*

12:10-13:30 Lunch (NOVI canteen, Niels Jernes Vej)

13:30-14:30 Eric Goubault (CEA List & Ecole Polytechnique), *Future Components and applications to concurrency theory*

14:30-14:50 Coffee Break

14:50-15:50 Sanjeevi Krishnan (U.S.Naval Lab), *The spacetime geometry of rewriting*