Collective Motions of Animals and Robots
2024, May 27 – 31

https://lstu.fr/collectivecargese24

Preliminary program

Monday 27

Morning
09:00 Welcome
09:15 - 10:30 Iker Zuriguel *Bottleneck flow of macroscopic active matter: animals and robots as a benchmark to understand pedestrian evacuations.*
11:00 - 12:15 Leticia Cugliandolo *Phases and topological defects in passive and active systems in two dimensions.*

Afternoon
14:00 - 15:15 Marina Papadopoulou *Animal groups into the Swarm-Verse: understanding collective motion across species & ecological contexts*
15:30 - 16:30 Short presentations

18:00 Welcome Party

Tuesday 28

Morning
09:15 - 10:30 Franck Rufier *From individual to collective behaviors based on optical flow*
11:00 - 12:15 Kirstin H. Petersen *Collective motion shaped by local environment-agent interactions: from robot swarms to social insects and back*

Afternoon
14:00 - 15:00 Short presentations
15:15 - 17:00 Posters flash presentations

18:00 Posters party

Wednesday 29

Morning
09:15 - 10:30 Bertrand Maury *Paradoxical effects in collective motions: Capacity Drop and Faster is Slower effect*
11:00 - 12:15 Alexandre Nicolas *How to model the dynamics of pedestrians? -- Walking a fine line between game theory, physics and transportation science*

Afternoon
14:00 - 15:15 Julien Pettré *Modelling and simulation of human crowds: the emergence of machine learning models and the question of training data.*
15:30 - 16:30 Short presentations

18:00 – 19:00: Public conference (In French): Clément Sire *Quand de pauvres petits poissons sont confrontés à l'IA, la réalité virtuelle, des robots et des drones!*
Thursday 30

Morning
09:15 - 10:30 Guy Theraulaz *Data-driven modeling of collective behavior in schooling fish*
11:00 - 12:15 Ramiro Godoy-Diana *Collective fish swimming dynamics: insights from laboratory experiments*

Afternoon
14:00 - 15:15 Cécile Cottin Bizonne *Collective Motion: From Active Colloids to Driven Bacteria.*
15:30-16:45 Clément Sire *Measuring the social interactions between fish and a robot-fish*

18:00 Poster & free discussion
20:00 - Barbecue

Friday 31

Morning
09:15 - 10:30 Stefania Melillo *Characterization of lab-based swarms of Anopheles gambiae mosquitoes*
11:00 - 12:15 Hamid Kellay *From active and motile particles to flexible, deformable, and motile superstructures: a new type of soft robot*

Afternoon
14:00 - 15:15 Gil Ariel *Bacterial swarming: experiments and modelling*
15:30-16:30 Short presentations
16:30 General conclusions.