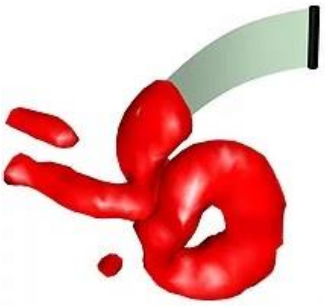
MINISYMPOSIA



Biomechanics of swimming and flying and bio-inspired propulsion

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We have seen in the last decades an increasing interest in the broad field of bio-locomotion and bio-inspired propulsion and in particular in all related to swimming and flying.We would like to bring together a broad scientific and multidisciplinary audience working in the intersection of biological, physical and engineering sciences, with numerical, theoretical or experimental approaches.
Topics may include but are not limited to: Swimming and underwater dynamics, flying and aerial locomotion, fluid-structure interaction phenomena, biomimetics and bio-inspired applications fluid dynamics, cooperative behaviour and collective dynamics.

Session 6

MS Biomechanics 1
DA03 A
Chair: *N.N.*

11:00	Impact of far-field hydrodynamic interactions on fish schooling *C. Eloy, A. Filella, F. Nadal, C. Sire, E. Kanso*
11:15	Maximizing the propulsive efficiency of two flapping plates in tandem at low Reynolds number: A numerical analysis *J. Ortega-Casanova, R. Fernandez-Feria*
11:30	Biomimetic underwater propulsion with flexible plate actuators *A. Alexeev, E. Demirer, D. Tan, P. Yeh, A. Erturk*
11:45	Fluid-structure interaction of a jellyfish model *M.D. De Tullio, G. Pascazio*
12:00	Thrust and drag of a plunging foil *L. Russo, R. Tognaccini*
12:15	The effect of the free surface on the thrust production of a flexible pitching foil *S. Satheesh, F. Huera-Huarte*
12:30	The effect of Strouhal number and Reynolds number on the wake of pitching panels in underwater swimming *A. Hemmati, A.J. Smits*
12:45	Scaling law for the temporal evolution of the normal force on a rotating plate in still fluid *J. David, M. Mathur, R.N. Govardhan, J.H. Arakeri*

Session 9

MS Biomechanics 2
DA03 A
Chair: *N.N.*

11:00	A Robotic Fast-Start Fish Produces Accelerations Comparable to the Fastest Live Fish *T. Currier, Y. Modarres-Sadeghi*
11:15	The performance of a sea lion's foreflipper as a static wing *M. Leftwich, A. Kulkarni*
11:30	Numerical investigation of the effects of the Reynolds number on the flow around an oscillating airfoil *A. Cimarelli, M. Franciolini, A. Crivellini*
11:45	Unsteady aerodynamics of amicro-scale bristled wing *D. Kim, S.H. Lee*
12:00	Drag and added mass in underwater impulsive maneuvers: the example of aquatically foraging snakes *R. Godoy-Diana, M. Segall, A. Herrel*
12:15	Microtransformers: controlled microscale navigation with flexible robots *T. Montenegro-Johnson*
12:30	Comparison of samaras movement between free falls and constrained rotation, using high speed imaging and stereocorrelation *A. Carré, É. Roux, L. Tabourot, P. Vacher, L. Charleux*