

Mini-Symposium on Biomimetic and Bio-Inspired Propulsion

Organizers: Kamran Mohseni and Rajat Mittal

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University of Colorado at Boulder

(All the talks are 20 minutes. There is no Key Speaker Talk)

Session I.

1. J.M. McArthur and G.R. Spedding and M. Rosen (USC), Aerodynamic Instabilities on Small Scale Wings
2. M. Gharib and M. Milano (Caltech), Artificial Evolution of Efficient Flapping Appendages by using a Vortex Formation Parameter
3. J.E. Marsden (Caltech), Lagrangian Coherent Structures and Biocomotion
4. A. Song, X. Tian, S. Swartz, and K. Breuer (Brown University) Unique features of the kinematics and dynamics associated with the flight of bats
5. R.J. Bomphrey (Univ. of Oxford), Insect flight – Visualization and measuring the Flow

Session II.

1. G.V. Lauder (Harvard University), P. Madden, R. Mittal, H. Dong, M. Bozkurtas, N. Davidson, J. Tangorra, and I. Hunter, Pectoral fin function in fishes: Hydrodynamics and construction of a robotic fin thruster
2. R. Mittal, H. Dong, M. Bozkurtas, F. Najjar, A. Loebbeck, and A. Vargas (George Washington University), A Versatile Immersed Boundary Method for Biological Flows with Application to Fish Pectoral-Fin Hydrodynamics
3. J. Dabiri (Caltech), Progress toward the non-invasive determination of animal swimming and feeding dynamics
4. K. Mohseni (University of Colorado), Bio-inspired vortex ring generators for underwater propulsion and maneuvering
5. D.N. Beal and P. Bandyopadhyay (Naval Undersea Warfare Center), Performance and leading-edge separation of rigid flapping fin as maneuvering thruster

Session III.

1. J. Lim and M.E. DeMont (St. Francis Xavier University), Fluid Mechanics of Paddle-assisted walking in atlantic Canadian Lobster
2. J.D. Eldredge (UCLA), Numerical simulation of undulatory swimming at moderate Reynolds number
3. F.E. Fish (West Chester University), Dolphin Flukes as passively self-adjusting flexible propulsors for high efficiency transport
4. P.S. Krueger (South Methodist University), A method for measuring propulsion power and efficiency from a vehicle wake

