

Abstract Submitted
for the DFD15 Meeting of
The American Physical Society

Modifying Airfoils for Low Reynolds Flight CHRISTOPHER ONG,
MARIA-ISABEL CARNASCIALI, University of New Haven — There has been increased interest in Micro Air Vehicles (MAV) by both the private and government sectors. MAVs are miniature classed-UAVs that can operate in tighter spaces in urban or wooded regions. Sizes vary – from that of an insect to that of small bird – depending on intended functionality and usually operate at much lower speeds. Studies have shown that the aerodynamic performance of well-known airfoils can change significantly at low Reynolds numbers. In this work, we examine via parametric CFD analysis tools the behavior of airfoils at low Reynolds values. Furthermore, we investigate the impact of adding bio-inspired features to the airfoils such as humps or dimples. Results will be presented in comparison to established values.

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Date submitted: 31 Jul 2015

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