

Post-doctoral position opening in advanced modelling and control of flexible aircraft

A post-doctoral research fellow position is open in the Department of Aerospace Engineering at the University of Michigan, Ann Arbor. The position entails conducting research into advanced modelling and control of flexible aircraft towards the development of systematic, theoretically rigorous, effective and experimentally validated framework for the design of control laws for maneuver load alleviation, gust load alleviation and shape control. Such controllers must optimally coordinate conventional and advanced control effectors to deal with complex, nonlinear, uncertain, interactive and high-order aero-elastic aircraft dynamics, while enforcing constraints on loads and elastic deflections during maneuvers and in presence of wind gust disturbances.

The preferred candidate will have a strong background and interest in one or more areas of advanced control, such as model predictive control, nonlinear control and/or adaptive control, and past experience/interest with control experiments. Familiarity with aircraft flight dynamics and control is a plus.

The position is initially for one year, and renewable for subsequent years. The intended start date is January 1, 2018.

Potential applicants should send via e-mail (Subject: PostDoc Applications in Modelling and Controls) a CV and the names of three references to Prof. Ilya Kolmanovsky at ilya@umich.edu and to Prof. Carlos Cesnik at cesnik@umich.edu.



References:

Christopher M. Shearer and Carlos E. S. Cesnik, "Trajectory Control for Very Flexible Aircraft", *Journal of Guidance, Control, and Dynamics*, Vol. 31, No. 2 (2008), pp. 340-357.

Matthew Dillsaver, Carlos Cesnik, and Ilya Kolmanovsky, "Trajectory control of very flexible aircraft with gust disturbance," *Proceedings of AIAA Atmospheric Flight Mechanics (AFM) Conference*, Boston, MA, 2013.