

Join the Northwest Florida AIAA Section on

Wednesday, February 23rd from 1300-1500 CT
for two technical talks in celebration of Engineering Week

Multiple-Time-Scale Nonlinear Output Feedback Control of Systems With Model Uncertainties* by **Dr. John Valasek*



Abstract: The Geometric Singular Perturbation theory is a powerful control law development tool for multiple-timescale systems because it provides physical insight into the evolution of the states in more than one timescale. This presentation presents the theory for a nonlinear, multiple-time-scale, output feedback tracking controller for a class of nonlinear, nonstandard systems with slow and fast states, slow and fast actuators, and model uncertainties. The class of systems is motivated by aircraft with uncertain inertias, control derivatives, engine time-constant, and without direct measurement of angle-of-attack and sideslip angle.

Information front-end of aerospace systems: recent advances and experiences* by **Dr. Manoranjan Majji*

Abstract: Recent advances in information fusion and smart sensing technologies for relative navigation of aerospace vehicles are discussed. Sensor physics and information processing principles to integrate vision-based sensor data with inertial measurements are presented, along with discussions associated with signal processing of an ultra-precise optomechanical accelerometer being developed at Texas A&M. The talk also discusses aeromagnetic sensing and localization approaches as potential alternatives to the global positioning system based approaches for localization.



Zoom connection information:

Meeting ID: 924 0230 4679

Passcode: 513278

Phone: 888 475 4499