

Suzanne W. Smith and Sean C.C. Bailey

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Dr. Suzanne Weaver Smith is the UK Donald and Gertrude Lester Professor of Mechanical Engineering. She began her 38-year career in aerospace R&D at Harris Corporation in 1980 where she led integration and cross-country mobility testing of the anti-jam communications ground systems of a U.S. DoD unmanned aircraft. Since 2002, she has led UK's Unmanned Aircraft Systems (UAS) flight testing projects advanced deployable-wing and autonomous technologies for Mars exploration and, with industry partners, DoD interests in high-altitude long-endurance (HALE) UAS. She is the UK PI for NSF's 2015-2019 CLOUD-MAP, a 4-university multidisciplinary research project integrating efforts of 16 engineering and science researchers and over 120 graduate and undergraduate students. CLOUD-MAP research used sUAS for surface layer process observations during a total solar eclipse, and, in partnership with NCAR, CLOUD-MAP contributed the majority of the 262 hours of UAS atmospheric boundary layer observations for the pioneering 2018 LAPSE-RATE campaign for improved weather forecasting.

Professor Smith is a frequent collaborator with Dr. Sean Bailey, an Associate Professor of Mechanical Engineering. Dr. Bailey conducts experimental research investigating turbulent flows with focus on the role of coherent structures in boundary layers, unsteady vortex flows, interaction between coherent structures and homogeneous turbulence, scaling of wall-bounded flows at high Reynolds numbers and the development of experimental methods. In 2014 he received an NSF CAREER award to fund research developing and using autonomous unmanned aerial vehicles to measure turbulence in the atmospheric boundary layer.