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da , N e be 1, 2017 DLC 12:00 P.M.

-wing aerial robotic technology has advanced to the point where platforms fy persistent sions far from remote operators. Likewise, complex atmospheric phenomena can be n near real-time with increasing levels of fdelity. Furthermore, cloud computing enables ted computation on large, dynamic data sets. Combining autonomous airborne sensors with onmental models dispersed over multiple communication and computation channels allows collection information essential for examining the fundamental behavior of complex environmental phenomena.

Dr. Frew will describe progress made over the last decade developing software algorithms and hardware systems for coordinated persistent airborne information gathering. Applications that will be discussed include targeted observation of supercell thunderstorms and tornado formation, persistent sampling of atmospheric fronts for severe storm forecasting, and cooperative control for detecting, localizing, and tracking radio emitters.

Bio: Dr. Eric W. Frew is an associate professor in the Ann and H.J. Smead Aerospace Engineering Sciences Department and Director of the Research and Engineering Center for Unmanned Vehicles (RECUV). Dr. Frew has been designing and deploying unmanned aircraft systems for over fteen years. His research eforts focus on autonomous fight of heterogeneous unmanned aircraft systems; distributed information-gathering by mobile robots; miniature self-deploying systems; and guidance and control of unmanned aircraft in complex atmospheric phenomena. He was co-leader of the team that performed the frst-ever sampling of a severe supercell thunderstorm by an unmanned aircraft.

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