I. Introduction

ROAVcopters is focused on leveraging emerging quadcopter technology to teach crucial 21st century skills while providing students with a fun and exciting way to experience quadcopters through after school competitions at the elementary, middle, high school, and college level.

These competitions include the following skill challenges: manual flight, autonomous flight, relay race, and remote data acquisition (computational thinking).

This project sought to fully fund teams from four Region I NIFA schools, or partially fund teams from eight Region I institutions.

II. Project Objectives

• Create a collegiate level ROAVcopter Challenge
• Pilot a collegiate ROAVcopter competition event with NIFA schools
• Establish a national ROAVcopter Collegiate competition through NIFA.

III. Competition Platform

2017‐2019
• Drones: Parrot Mambo/Bebop
• Data Collection System: ROAVcopter Sensor Kit

2019‐2020
• Drones: Parrot Anafi/DJI Tello EDU
• Data Collection System: ROAVcopter Sensor Kit

IV. Results

All of the teams who competed were extremely excited regarding the competition. The NIFA ROAVcopter demonstration event generated excitement similar to that of a spectator event which has not previously been observed at NIFA competitions. As the inherit risk associated with flying, NIFA competitions typically occur at a distance and are unobservable to nonparticipants.

Since the ROAVcopter event occurred in a hanger, comradery amongst teams was observed. This led to NIFA program directors expressing interest in establishing ROAVcopters as a national competition.

As a result of the success of the NIFA demonstration event, ROAVcopters has created a formal and permanent college level ROAVcopter competition.