James Senft

**Award:** Aerospace Outreach K12 Program K12; $5000.00

**Title:** Director of Aviation, Astronautics Corporation of America

**Project:** Central High School STEM Aviation

**Abstract:** (Project Goal in Proposal) This program meets the Natural Science Foundation (NSF) and the NASA Directorate by expanding the number of student’s involved in STEM education. This program will help improve the STEM pipeline by including underserved and/or underrepresented students in the project. As part of the NSF goal, this program will provide training to young woman and man to pursue career in aviation field. Our program using a modified engineering design model process. This process is a STEM-driven hands-on curriculum. We use the building of the Van’s RV-12 aircraft as the activity to engage learners at every level and provide real-world learning opportunities that expose students to careers in science and technology. Our program also stresses critical 21st-century skills, such as communication and teamwork. Our curriculum involves both student-directed and teacher-led curricula to create a powerful and effective STEM experience.

**Biography:** Mr. James Senft and together with Mr. Kan Pai we run the Central High School STEM Aviation Program. I have degrees in Chemistry and Physics, Master’s degree in Curriculum and Instruction, and a Master’s degree in Aeronautical Science. I hold an FAA Private Pilot, FAA Advance Ground School Instructor, FAA Light Sport Repairman Inspector, and a commercial UAS pilot certificate. I taught AP physics for 10+ years at Grayslake High School and I am currently the Director Technology at College of Lake County in Grayslake Illinois. Mr. Kan Pai graduated from the University of Texas at Austin with a Bachelor's in Chemical Engineering. Upon graduation, he worked at the ExxonMobil Beaumont Olefins and Aromatics Plant as a Process Engineer. Eventually, Mr. Pai changed careers and embarked onto the wonderful world of education. Mr. Pai has since taught all levels of Chemistry and Principles of Engineering. We provide a unique venue for developing knowledge and skills in the areas of STEM, by the building of a Van’s RV-12 real flying aircraft. This grant has allowed us to accomplish something wonderful and also ensure that the excitement, challenge, and fun of personal aviation carries on to the next generation. This is a life-changing program.

**Congressional District**: 1

**Congressional Representative**: Paul Ryan