At the WSU AIAA Aerospace Club, we are excited and prepared to compete in the Spaceport America Cup. The opportunity provided to students through this competition via engineering experience and networking is invaluable and will prepare the students for their future careers. This competition allows students at WSU to explore their passions in aerospace through the world of rocketry in a manner they will not find anywhere else.

Learning from past work and building on both our members' knowledge and hands-on skill is extremely important to our Aerospace Club. One area we have been lacking in the past is the transfer of knowledge from older to newer members. Due to this, we had a successful launch during the 2018 Spaceport America Cup competition but, with the addition of factors out of our control, resulted in us not competing during the 2019 competition. We have implemented documentation changes, allowed younger students to be fully involved in the design process, and changed our team organizational structure so we will be able to successfully transfer knowledge to younger students on our team.

An important factor for us participating in this competition is that we will be evaluated on a system we are implementing for the first time in school history. The air brake mechanism we have developed actively adjusts the rocket's trajectory to reach a desired apogee. Our rocket also has a novel payload which deploys 2-3 foldable and connectable drones at apogee that self-charge on descent and setup a 2.4GHz Wi-Fi network. We are extremely passionate about developing these aspects of our rocket to their greatest potential. These will lend us a competitive advantage in the Spaceport competition and standout to industry.

Compared to last year's rocketry team, participation has increased in active members. We have revised the organizational structure of the team to include sub-teams with leads to guide their sub-team and ensure their members' work on the rocket meshes with the other teams seamlessly. We have also been working with industry, such as Siemens, to obtain better software and mentoring for evaluation involved in CAD work, FEA and CFD analysis, and the manufacturing of fiber composites. With the combination of increased student participation, organizational changes, mentoring, and more accurate analysis in all aspects of our design, WSU AIAA Aerospace Club expects to deliver a complete rocket that will showcase a successful air brake system and payload. We plan to place as one of the top teams at the Spaceport America Cup 2020 competition.

Thank you for your time and consideration,

WSU AIAA Aerospace