



Textron Aviation
Raytheon Missile Systems
AIAA Foundation

The 2018 AIAA/Textron Aviation/Raytheon Missile Systems Design/Build/Fly Competition Flyoff was held at Cessna East Field in Wichita, KS on the weekend of April 19-22, 2018. This was the 22nd year for the competition. A total of 134 entries were received along with proposals with each entry. The 134 proposals were judged and 101 teams were invited to submit a formal report for the next phase of the competition. 91 teams submitted design reports to be judged, and 77 teams attended the flyoff (16 international), a new DBF record! About 750 students, faculty, and guests were present. The cold and rainy weather reduced the number of flying hours on Saturday, but we still had 245 flight attempts over the weekend. Of the 245 official flight attempts, 153 resulted in a successful score with 50 teams achieving at least one successful flight score and 24 teams successfully completing all three missions. The quality of the teams, their readiness to compete, and the execution of the flights continues to improve each year.

The contest theme this year was a Regional and Business Aircraft. The aircraft was required to fly a combination of passengers and payload as well as demonstrate the ability to conduct LRU replacement in the field. The first mission was a Staging Flight with no payload for three laps. Prior to attempting the second mission, each team was required to successfully complete the first mission and the ground mission. The ground mission consisted of replacing a randomly selected simple LRU followed by a complex LRU all within 8 minutes. The second mission was a Short Haul of Max Passengers with the passengers being a randomly selected distribution of five different sizes of bouncy balls and the score based on the # of passengers selected by each team divided by the time to fly three laps. The third mission was a Long Haul of Passengers and Payload where each team selected the number of passengers with at least 50% of the number carried in Mission 2 as well as payload blocks with the score being the product of the number of passengers times the total payload weight times the number of laps flown. The total score is the product of the total mission score and design report score divided by the RAC, which was empty weight times the wingspan. More details on the mission requirements can be found at the competition website: <http://www.aiaadb.org> .

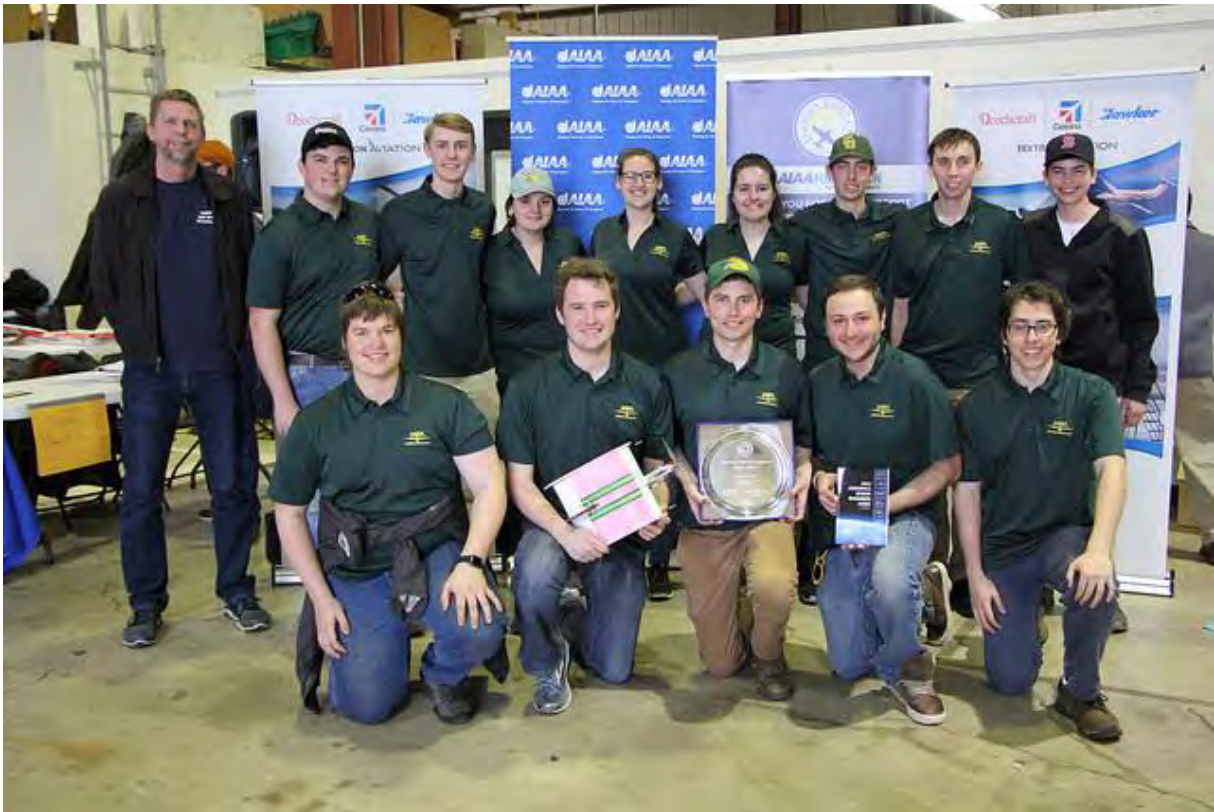
First Place went to the Clarkson University, Second Place went to Virginia Polytechnic Institute and State University and Third Place went to Georgia Institute of Technology. A full listing of the results is included below. The Best Paper Award, sponsored by the Design Engineering TC for the highest report score, went to University of Southern California with a score of 93.20.

We owe our thanks for the success of the DBF competition to the efforts of many volunteers from Textron Aviation, Raytheon Missile Systems, and the AIAA sponsoring technical committees: Applied Aerodynamics, Aircraft Design, Flight Test, and Design Engineering. These volunteers collectively set the rules for the contest, publicize the event, gather entries, judge the written reports, and organize the flyoff. Thanks also go to the Premier Sponsors: Raytheon Missile Systems and Textron Aviation, and also to the AIAA Foundation for their financial support as well as our Gold sponsors this year – Airbus, Aerovironment, Aurora Flight Sciences, General Atomics, Lockheed Martin, and MathWorks. Special thanks go to Textron Aviation for hosting the flyoff this year.

Finally, this event would not be nearly as successful without the hard work and enthusiasm from all the students and advisors. If it weren't for you, we wouldn't keep doing it.

Brian Richardet
For the DBF Organizing Committee

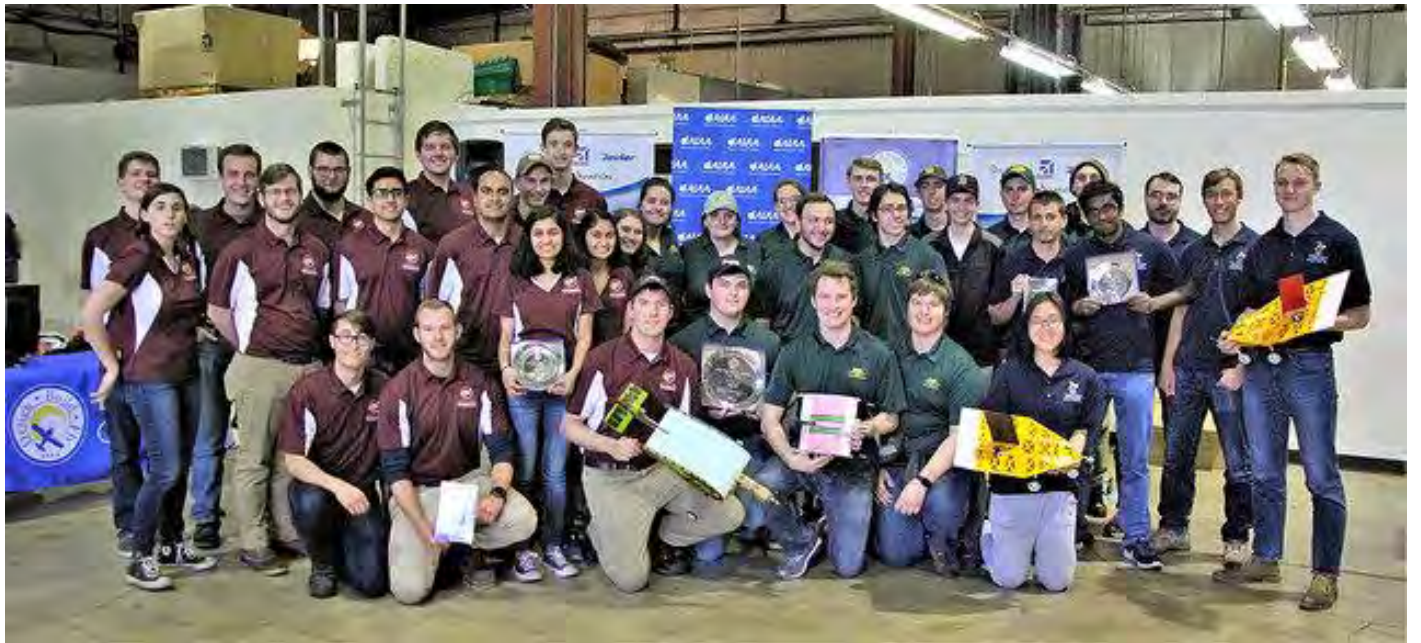
First Place – Clarkson University



Second Place – Virginia Tech



Third Place – Georgia Tech



Past Winners

Year	Team
2018	Clarkson University
2017	University of Southern California
2016	San Jose State University
2015	University of Ljubljana
2014	University of Southern California
2013	University of California Irvine
2012	San Jose State University
2011	Georgia Tech University
2010	Oklahoma State University Team Orange
2009	Oklahoma State University Team Black
2008	Oklahoma State University Team Black
2007	Massachusetts Institute of Technology
2006	Oklahoma State University Team Black
2005	Oklahoma State University Team Black
2004	Oklahoma State University Team Black
2003	San Diego State University
2002	University of California San Diego
2001	Oklahoma State University Team Orange
2000	Utah State University
1999	Utah State University
1998	University of Southern California
1997	University of Illinois at Urbana-Champaign



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