



## ***Cessna Aircraft Company Raytheon Missile Systems AIAA Foundation***

The 2013 AIAA/Cessna Aircraft Company/Raytheon Missile Systems Design/Build/Fly Competition Flyoff was held at TIMPA Field in Tucson, AZ on the weekend of April 19-21, 2013. This was the 17th year the competition was held. Of the 90 entries this year, 81 teams submitted written reports to be judged and were eligible to participate in the flyoff. Sixty teams attended the flyoff, of which 55 completed the technical inspection (five teams attended even though their airplanes had irreparable damage prior to the competition). Over 600 students, faculty, and guests were present. The weather was sunny and warm allowing for non-stop flying. Of the 186 official flight attempts, 95 resulted in a successful score divided among 54 teams. Twelve teams successfully completed 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 the Joint Strike Fighter. The first mission was a Short Take-off mission with no payload followed by a Stealth mission with internal payload only and a Strike mission which consisted of 6 possible payload configurations with various combinations of internal and external stores. The configuration for each mission 3 attempt was determined by a role of the dice by each team immediately prior to their flight attempt. As usual, the total score is the product of the flight score and written report score. More details on the mission requirements can be found at the competition website: <http://www.aiaadb.org>.

First Place went to the University of California Irvine, Second Place went to San Diego State University and Third Place went to Rensselaer Polytechnic Institute. 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 Cornell University with a score of 96.00.

We owe our thanks for the success of the DBF competition to the efforts of many volunteers from Cessna Aircraft, 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 corporate Sponsors: Raytheon Missile Systems and Cessna Aircraft Company, and also to the AIAA Foundation for their financial support. Special thanks go to Raytheon Missile Systems 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.

Russ Althof  
For the DBF Governing Committee

## 2013 Design/Build Fly Competition Final Results

Place	University	Report Score	M 1	M 2	M 3	Flight Score	RAC	Final Score
1	University of California Irvine	93.50	1.25	4.00	3.65	8.90	2.25	369.87
2	San Diego State University	84.50	2.00	2.33	6.00	10.33	2.49	350.68
3	Rensselaer Polytechnic Institute	84.38	1.50	2.67	4.41	8.58	2.28	317.55
4	Massachusetts Institute of Technology	90.50	1.25	4.00	3.09	8.34	2.38	317.03
5	University of Colorado Boulder	87.00	1.00	1.33	3.69	6.02	2.09	250.67
6	San Jose State University	94.50	1.00	2.00	0.00	3.00	1.15	246.50
7	University of Texas at Austin	87.50	1.25	1.33	3.48	6.07	2.25	235.87
8	Cornell University	96.00	1.00	1.33	3.59	5.92	2.80	203.19
9	University of Oklahoma	91.00	1.00	1.67	3.69	6.36	2.86	202.03
10	Middle East Technical University	93.00	1.25	4.00	0.00	5.25	2.65	183.99
11	University of Southern California	93.75	1.75	2.00	0.00	3.75	2.03	172.76
12	Technion - Israel Institute of Technology	88.50	1.00	3.00	3.66	7.66	4.05	167.34
13	Universita di Roma La Sapienza	95.45	1.25	1.33	0.00	2.58	1.58	155.87
14	Oregon State University	68.00	1.00	1.33	4.13	6.47	2.90	151.36
15	Virginia Polytechnic Institute and State University	89.75	1.25	1.33	0.00	2.58	2.03	114.12
16	Istanbul Technical University	84.50	1.00	2.33	0.00	3.33	2.49	113.23
17	University of Illinois at Chicago	82.10	1.00	2.33	0.00	3.33	2.51	108.97
18	Pennsylvania State University	93.10	0.75	1.33	0.00	2.08	1.83	106.11
19	European University of Lefke	73.00	1.00	1.33	2.79	5.13	3.69	101.53
20	Western Michigan University	91.50	1.25	1.33	0.00	2.58	2.44	96.79
21	Hong Kong University of Science and Technology	79.00	1.25	1.67	0.00	2.92	2.39	96.38
22	University of Ljubljana	82.18	1.25	2.00	0.00	3.25	2.78	96.23
23	Cal Poly SLO	80.50	1.25	1.33	0.00	2.58	2.17	95.80
24	Chulalongkorn University	85.75	1.50	1.33	0.00	2.83	2.56	95.05
25	SUNY at Buffalo	84.75	1.00	2.00	0.00	3.00	2.79	91.23
26	Johns Hopkins University	88.75	1.00	1.00	0.00	2.00	1.95	91.16
27	Georgia Tech	92.00	1.25	0.00	0.00	1.25	1.32	87.04
28	University of Maryland	70.85	1.00	1.33	2.55	4.88	4.20	82.43
29	University of Arkansas	92.75	0.75	1.33	0.00	2.08	2.35	82.35
30	Wichita State University	89.00	1.50	0.00	0.00	1.50	2.12	62.96
31	Erciyes University	74.50	1.00	1.33	0.00	2.33	3.11	55.95
32	University of Washington	66.50	1.25	1.33	0.00	2.58	3.18	53.95
33	University of Strathclyde	86.00	0.50	1.33	0.00	1.83	3.56	44.24
34	Politehnica Bucharest	90.00	1.25	0.00	0.00	1.25	2.83	39.72
35	Korea Advanced Institute of Science and Technology	62.00	0.25	2.00	0.00	2.25	3.98	35.09
36	North Dakota State University	69.00	0.50	1.33	0.00	1.83	3.90	32.46
37	New Mexico State University	69.58	0.75	0.67	0.00	1.42	3.16	31.18
38	Clarkson University	78.50	0.75	0.00	0.00	0.75	2.85	20.66
39	Khalifa University	82.00	0.75	0.00	0.00	0.75	3.02	20.39
40	Military Institute of Science & Technology	85.75	0.25	0.67	0.00	0.92	4.11	19.14
41	University of New Hampshire	68.00	0.75	0.00	0.00	0.75	4.13	12.36
42	Columbia University	81.50	0.50	0.00	0.00	0.50	3.68	11.08
43	Monroe Community College	58.25	0.50	0.00	0.00	0.50	2.71	10.73
44	Ghulam Ishaq Khan Institute of Engineering Sciences & Technology	63.50	0.25	0.00	0.00	0.25	2.32	6.84
45	Auburn University	87.50	0.25	0.00	0.00	0.25	3.35	6.52
46	University of California San Diego	89.50	0.25	0.00	0.00	0.25	3.74	5.99
47	University of Massachusetts Lowell	1.00	0.50	0.33	0.00	0.83	2.83	0.29

## 2013 Design/Build Fly Competition Final Results (cont)

Place	University	Report Score	M 1	M 2	M 3	Flight Score	RAC	Final Score
48	University of Central Florida	90.50	0.00	0.00	0.00	0.00	N/A	Flight Attempt
49	University of Illinois at Urbana Champaign	89.50	0.00	0.00	0.00	0.00	N/A	
50	Rose Hulman Institute of Technology	86.00	0.00	0.00	0.00	0.00	N/A	
51	City College of New York	82.00	0.00	0.00	0.00	0.00	N/A	
52	West Virginia University	81.94	0.00	0.00	0.00	0.00	N/A	
53	New Mexico Tech	72.50	0.00	0.00	0.00	0.00	N/A	
54	University of Kentucky Paducah	25.75	0.00	0.00	0.00	0.00	N/A	
55	University of Tennessee Knoxville	79.50	0.00	0.00	0.00	0.00	N/A	*
56	University of California Los Angeles	95.25	0.00	0.00	0.00	0.00	N/A	At Flyoff
57	University of Notre Dame	81.00	0.00	0.00	0.00	0.00	N/A	
58	Concordia University	80.00	0.00	0.00	0.00	0.00	N/A	
59	Syracuse University	66.95	0.00	0.00	0.00	0.00	N/A	
60	Daniel Webster College	64.13	0.00	0.00	0.00	0.00	N/A	
61	University of Florida	88.50	0.00	0.00	0.00	0.00	N/A	Submitted Reports
62	Embry-Riddle Aeronautical University Prescott AZ	87.63	0.00	0.00	0.00	0.00	N/A	
63	Arizona State University	85.75	0.00	0.00	0.00	0.00	N/A	
64	TOBB University of Economics and Technology	85.25	0.00	0.00	0.00	0.00	N/A	
65	University of Nebraska-Lincoln	82.50	0.00	0.00	0.00	0.00	N/A	
66	Bozok University	81.00	0.00	0.00	0.00	0.00	N/A	
67	Southern Illinois University	75.25	0.00	0.00	0.00	0.00	N/A	
68	University of Arizona	75.00	0.00	0.00	0.00	0.00	N/A	
69	Washington State University	73.75	0.00	0.00	0.00	0.00	N/A	
70	Florida A&M University - Florida State University	71.20	0.00	0.00	0.00	0.00	N/A	
71	University of Alabama	68.50	0.00	0.00	0.00	0.00	N/A	
72	Iowa State University	66.50	0.00	0.00	0.00	0.00	N/A	
73	Duke University	61.50	0.00	0.00	0.00	0.00	N/A	
74	Embry-Riddle Aeronautical University	58.50	0.00	0.00	0.00	0.00	N/A	
75	Florida Institute of Technology	56.05	0.00	0.00	0.00	0.00	N/A	
76	Manhattan College	48.50	0.00	0.00	0.00	0.00	N/A	
77	Amity University	45.00	0.00	0.00	0.00	0.00	N/A	
78	University of Colorado at Colorado Springs	44.85	0.00	0.00	0.00	0.00	N/A	
79	Rice University	41.50	0.00	0.00	0.00	0.00	N/A	
80	California State University Long Beach	38.30	0.00	0.00	0.00	0.00	N/A	
81	Instituto Politecnico Nacional	36.15	0.00	0.00	0.00	0.00	N/A	

## First Place – University of California Irvine



## Second Place – San Diego State University



## Third Place – Rensselaer Polytechnic Institute

