



Cessna Aircraft Company Raytheon Missile Systems AIAA Foundation

The 2007 Cessna Aircraft Company/Raytheon Missile Systems Student Design/Build/Fly competition was held at the TIMPA flying field in Tucson Arizona over the weekend of 20-22 April. Thirty six teams from the United States, Israel, Scotland and Turkey attended the contest fly-off weekend. Of the 36 teams attending the fly-off competition, 18 made at least one successful scoring flight attempt, with several teams completing all of their allowed five flight attempts during the two days of competition. The Saturday morning rain ended by the morning pilots briefing, with excellent flying weather for the rest of the weekend.

The design objective for this years competition was to create an airplane that would fit in a 2 x 4 x 1.5 foot shipping container and was scored both ground and flight tasks. The 2007 flight missions included a simulated Air Sampler System task and a simulated Surveillance System task. The two ground tasks were a minimum time for assembly and preparation of the aircraft for mission deployment, and a minimum time to reconfigure the aircraft from one mission configuration to the other. Each ground mission had a maximum possible score of 50 points, each flight mission had a maximum possible score of 100 points. The total score for each team is comprised of their flight performance and their ground task performance, the score on a written report documenting their aircraft design and selection, and a "Rated Aircraft Cost" representing the complexity and manufacturing costs of their design.

Cash prizes are \$2500 for 1st, \$1500 for 2nd and \$1000 for 3rd place. The winning team will be invited to present their design at an AIAA conference hosted by the sponsoring technical committees. Continuing this year the Design Engineering Technical Committee sponsored prizes for the top ten teams presenting copies of their Aerospace Design Engineering Guide handbook. This additional support, above and beyond their participation as one of the administering Technical Committees, is greatly appreciated.

The final results showed a significant scoring advantage from the extremely low RAC of the Massachusetts Institute of Technology "OBOSU" team with a final score of 279.85. Second place was taken by the Oklahoma State University "Orange" Team at a score of 111.12. Third place was the Purdue University team "Spirit of Amelia" with 95.05 points. The positions and scores for all of the competing teams are listed in the table below.

1st Place Team – MIT



1st Place Aircraft



2nd Place Team Oklahoma State University – Orange



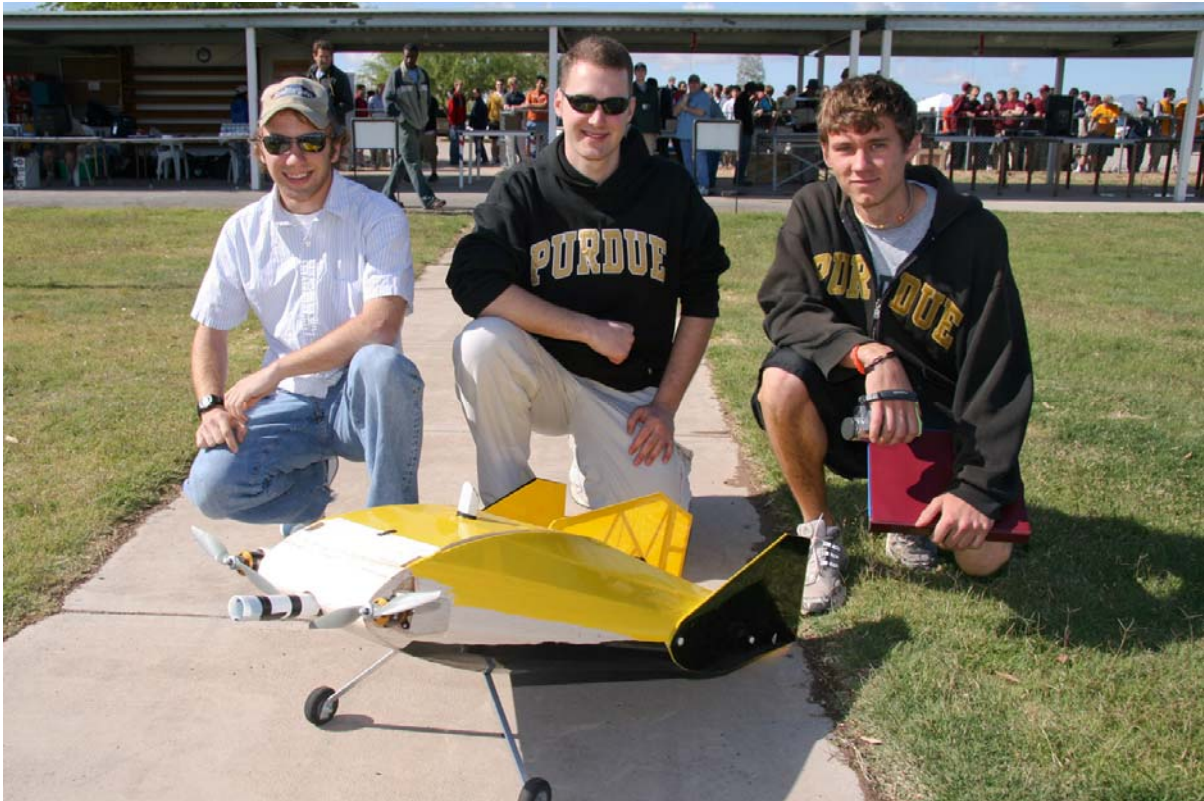
2nd Place Aircraft



3rd Place Team – Purdue University



3rd Place Aircraft



More details on the 2007 competition objectives and rules can be found at the contest web site at <http://www.ae.uiuc.edu/aiaadbfbf> .

The success of the competition required the efforts of many individuals. Our first thanks goes to the judges who assisted in the operation, technical inspections and scoring of the flight competition, and to the many judges who evaluated and scored the teams written reports. Thanks also go to the Applied Aerodynamics, Aircraft Design, Design Engineering, and Flight Test Technical committees of the AIAA who organized and manage the competition, and the AIAA Foundation for their administrative support. Thanks are also due to the competitions corporate supporters, the Cessna Aircraft Company and Raytheon Missile Systems. A special thanks goes to the members of the TIMPA flying field for hosting this years event and providing access to their facilities and the flying field.

Overall the 2007 Cessna/Raytheon Missile Systems Student Design/Build/Fly competition marked another very successful event, allowing the participating students to mix a highly enlightening educational experience with a good dose of fun. Congratulations to all the teams who participated for your great enthusiasm and achievement.

See you next year.

Greg Page for the DBF Governing Committee

Final Results

University	Entry Name	Paper Score	RAC	Flight Score	Total Score	Positions
Massachusetts Institute of Technology	OBOBU	92.25	45.13	136.89	279.85	1
Oklahoma State University	OSU Orange	95.50	159.13	185.16	111.12	2
Purdue	Spirit of Amelia	93.00	130.81	133.69	95.05	3
Oklahoma State University	OSU Black	86.00	193.56	143.29	63.66	4
Wichita State University	Shockin' Surveyor	97.50	274.58	124.92	44.36	5
University of Texas at Austin	Channel 4 News Team	85.00	163.84	80.92	41.98	6
University of Colorado -- Boulder	Buffalo Wings	85.00	267.36	117.67	37.41	7
University of Illinois at Urbana/Champaign	Tuscon Terror	91.00	364.71	149.22	37.23	8
University of California, Los Angeles	Los Blue Angeles	90.00	305.07	118.48	34.95	9
University of Florida	InvestiGator	89.00	277.56	99.36	31.86	10
Virginia Tech	Maroon Baron	86.50	366.24	134.30	31.72	11
The Pennsylvania State University	The Nittany Griffin	76.50	280.99	110.77	30.16	12
Istanbul Technical University	Ata-8 Kaan	75.00	279.83	109.73	29.41	13
University of Washington	Purple Haze	84.00	381.00	104.80	23.11	14
West Virginia University	WVU GOLD	74.00	454.48	81.97	13.35	15
West Virginia University	WVU BLUE	61.50	624.75	100.00	9.84	16
University of Arizona	University of Arizona DBF	70.25	687.62	84.33	8.62	17
University of Strathclyde	The Flying Scotsmen	78.50	719.71	65.30	7.12	18
University of Southern California	SChock and Awe	98.00	202.28	0.00	0.00	19
University of Texas at Austin	Flipper!	82.00	103.20	0.00	0.00	20
Washington State	Cat's Eye	84.25	258.50	0.00	0.00	21
University of California, San Diego	TLAR VIII: Levitas	81.50	466.17	0.00	0.00	22
University of Central Florida	UCF Black Team	73.00	411.73	0.00	0.00	23
Rose-Hulman Institute of Technology	Daedalus	75.75	1080.04	0.00	0.00	24
MIDDLE EAST TECHNICAL UNIVERSITY	ANATOLIAN CRAFT	84.00	442.94	0.00	0.00	25
University of Maryland College Park	Maryland Marauders	83.50	423.00	0.00	0.00	26
San Diego State University	Spirit of Monty II	81.00	1612.50	0.00	0.00	27
San Jose State University	Spartan Stealth	75.30	824.12	0.00	0.00	28
Clarkson University	Knighthawks	58.75	898.80	0.00	0.00	29
Rensselaer Polytechnic Institute	Rensselaer Redhawks	47.50	649.03	0.00	0.00	30
Auburn University	AUAV-2 Eagle Eye	89.25	162.75	0.00	0.00	31
Cal Poly SLO	SLO Blow	87.00	288.00	0.00	0.00	32
University of California, Irvine	Furious George	86.50	97.65	0.00	0.00	33
Technion – Israel Institute of Technology	B-BUG	95.00	221.36	0.00	0.00	34
Western Michigan University	SNAFO	92.25	409.28	0.00	0.00	35
Saint Louis University	Parks College	63.50	1112.65	0.00	0.00	36
Georgia Institute of Technology	GT-8	92.75	9999.00	0.00	-1.00	37
Wichita State University	AfterShock	92.00	9999.00	0.00	-1.00	38
City College of NY	Infinite Janus	85.00	9999.00	0.00	-1.00	39
Columbia University	A Hard Day's Flight	72.00	9999.00	0.00	-1.00	40
University of Central Florida	Knight Ryder	67.50	9999.00	0.00	-1.00	41

University of Oklahoma	ASY	66.50	9999.00	0.00	-1.00	42
Mississippi State University	(Optimus)'	62.40	9999.00	0.00	-1.00	43
American University of Sharjah	Saker	55.50	9999.00	0.00	-1.00	44
Case Western Reserve University	Hopscotch	49.00	9999.00	0.00	-1.00	45
United States Military Academy	The Dodo Squad	48.50	9999.00	0.00	-1.00	46
Auburn University	AUAV-3 Jangle Leg	45.00	9999.00	0.00	-1.00	47
University of Arkansas, Fayetteville	Global Hawg	45.00	9999.00	0.00	-1.00	48
University of Tennessee, Knoxville	VOLocity	42.15	9999.00	0.00	-1.00	49
Arizona State University	Airdevils	33.25	9999.00	0.00	-1.00	50