



CESSNA/ONR / **STUDENT
DESIGN/BUILD/FLY
COMPETITION**
An ALAA Student Activity

The 2005 Cessna/ONR Student Design/Build/Fly competition was held at the Webster Field annex of the Patuxent Naval Air Station in St. Inigoes Maryland over the weekend of 22-24 April. Thirty six teams from the United States, Canada, Italy, Israel and Turkey attended the contest fly-off weekend. Of the 36 teams attending the fly-off competition, 20 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 rain, which seems to be a DBF tradition, held off until after the end of the day's flying and only brief sprinkles on Sunday interfered with otherwise perfect flying weather.

The design objective for this years competition was to create an airplane that would fit in a 2 x 4 x 1 foot shipping container and was scored on the best two of three possible different missions. The 2005 missions included a simulated Sensor Deployment and repositioning mission; a Maximum Utilization and precision flight planning mission; and a Re-supply mission. Each mission was assigned its own Degree of Difficulty multiplier factor. The total score for each team is comprised of their flight performance on their best single flight of each of two different mission types, their 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.

Continuing this year the Design Engineering Technical Committee sponsored prizes for the top five teams in the form of 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 very close battle between the two teams from Oklahoma State University, with Team Black the final victor. Oklahoma State University Team Orange placed second. The Washington State University team Wazzugar Flieger placed third. The highest written report score, 98.0, was the submission from the University of Illinois team (Un)Stable Mable. The aircraft with the lowest RAC which obtained at least one scoring flight was the tri-plane from Mississippi State University team Skeletor. The final positions and scores for all of the competing teams are listed in the table below.



First Place: Oklahoma State University, Team Black



Second Place: Oklahoma State University, Orange Team



Third Place: Washington State University, Wazzugar Fieger

More details on the 2005 competition objectives and rules can be found at the contest web site at <http://www.ae.uiuc.edu/aiaadbf> .

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 the Office of Naval Research. A special thanks goes to the Patuxent River Naval Air Station and Webster Field personnel for hosting this years event and providing access to their facilities and the flying field. A final thanks goes to VC-6 for providing the food service to 500 hungry college students.

Overall the 2005 Cessna/ONR 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

University	Entry Name	Paper Score	RAC	Flight Score	Total Score	Positions
Oklahoma State University	OSU Team Black	91.00	7.82	25.84	300.85	1
Oklahoma State University	OSU Orange Team	91.75	7.59	24.59	297.26	2
Washington State University	Wazzugar Flieger	88.15	7.12	20.36	252.19	3
Virginia Polytechnic University	Orange Effect	95.65	7.56	14.48	183.32	4
University of California, San Diego	TLARExtreme	72.50	9.51	23.53	179.43	5
Utah State University	Lady Satan	91.90	7.75	9.58	113.66	6
University of Southern California	Cardinal & Gold SChlager	86.75	8.16	9.51	101.05	7
University of Florida	Gator-Raid	79.50	9.10	10.63	92.85	8
Istanbul Technical University	Hezarfen	64.00	8.36	9.93	76.00	9
Technion	ALBATROS	87.50	7.41	5.84	69.04	10
Middle East Technical University	ANATOLIAN-CRAFT	89.25	9.47	7.20	67.80	11
University of California, Irvine	AntEaterOne	86.00	15.11	10.60	60.33	12
University of Illinois, Urbana-Champaign	(Un)Stable Mable	98.00	7.06	2.00	27.77	13
West Virginia University	Sally II	61.65	11.94	4.00	20.65	14
Western Michigan University	FUBAR	86.63	9.76	2.00	17.76	15
Wichita State University	DCM-006	91.75	10.77	2.00	17.03	16
Mississippi State University	Skeletor	87.73	6.23	1.00	14.07	17
University of California, Los Angeles	Kamikaze	88.40	12.94	2.00	13.67	18
West Virginia University	Mindy	39.85	10.55	2.00	7.55	19
University of Texas at Arlington	Dawdling Pelican	39.00	16.33	2.00	4.78	20
University of Colorado at Boulder	Alpine Storm	82.07	6.76	0.00	0.121	21
Istanbul Technical University	ATA - 6	85.95	7.54	0.00	0.114	22
California State Polytechnic University, Pomona	Cal Poly Pomona, AeRecon	80.00	7.30	0.00	0.110	23
Georgia Institute of Technology	GT6	92.50	8.79	0.00	0.105	24
San Diego State University	Monty's Pride	84.25	9.87	0.00	0.085	25
University of Washington	HuskyWorks - Sirius	77.05	9.50	0.00	0.081	26
University of Texas at Austin	The Mother Shrew	88.50	12.16	0.00	0.073	27
Queen's University	Goose	78.75	10.95	0.00	0.072	28
University of Oklahoma	Gordo	72.75	10.66	0.00	0.068	29
University of Texas at Austin	Bevo XIV	83.25	12.42	0.00	0.067	30
Purdue University	Boilermaker Bomber	82.50	13.04	0.00	0.063	31
Università degli Studi di Napoli	Eracle	73.00	11.75	0.00	0.062	32
University of Arizona	Quit Stalling	80.25	13.15	0.00	0.061	33
University of Central Florida	The Reaper	60.00	18.23	0.00	0.033	34
US Military Academy	The Spicy Chicken	61.90	21.67	0.00	0.029	35
The State University of New York at Buffalo	Gilbird	42.50	20.59	0.00	0.021	36
University of Maryland, College Park	Turtle Dynamics	79.98	100.00	0.00	0.000	37
Syracuse University, NY	The Orange Knight	77.50	100.00	0.00	0.000	38
Case Western Reserve University	Project Mayhem	72.79	100.00	0.00	0.000	39
City College of New York	SPECIAL DELIVERY	72.25	100.00	0.00	0.000	40
University of Alabama-Tuscaloosa	BAMA B.A.L.D.	69.50	100.00	0.00	0.000	41
The State University of New York at Buffalo	SOBA Lawn Dart	52.00	100.00	0.00	0.000	42
Arizona State University	Air Devils	40.25	100.00	0.00	0.000	43
Columbia University, NY	Flyin' Lion	37.53	100.00	0.00	0.000	44