

PRESS RELEASE

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1st BARCELONA AEROBATICS ZERO-G CHALLENGE WINNERS

The winners of the 1st Barcelona Aerobatics Zero-g Challenge educational campaign, led by Prof. Antoni Pérez-Poch from UPC Barcelona Tech, will have the opportunity to fly their experiment in zero-gravity at Sabadell Airport on the next 31st October.

The winners were publicly announced during the International Astronautical Congress held recently in Prague, Czech Republic. Alexandra Kindrat (Canada) – coordinator, Heather Allaway (Canada), Jagruti Pankhania (UK), Alexander Melynshyn (Canada) and Jonathan Muller (France) will fly their experiment with UPC and the Aerobatics Team of Aeroclub Barcelona-Sabadell. The experiment is entitled ‘Perspective-Reversible Figures in Parabolic Flight’ and has been mentored by Prof. Gilles Clément (France), a leading expert in microgravity research.

The Barcelona Aerobatics Zero-g Challenge is an international contest in which graduate and undergraduate students from different countries worldwide are challenged with the problem of designing and building a zero-g experiment in a limited period of time. The winners are offered the unique opportunity of flying their own experiment with the UPC Microgravity Aerobatics Platform held in Sabadell Airport. This innovative infrastructure is a result of a research led by Prof. Antoni Pérez-Poch from CRAE, Space Research Group at UPC since 2007, and the first of its kind in Europe.

This inspirational campaign has made possible after a joint venture between UPC Barcelona Tech, the Aeroclub Barcelona-Sabadell and BAIE, Barcelona Aeronautics & Space Association. In this first edition students and alumni of the ISU, International Space University were invited to take part. During the ISU Summer Space Program 2010 held recently in Strasbourg, Prof. Antoni Pérez-Poch conducted a workshop in which students were given the requirements for their designs. Students of different backgrounds and culture, working in teams, submitted later their complete zero-g experiment designs.

Parabolic flights of big jet airplanes are a well-established way of achieving microgravity. Space agencies like NASA and ESA conduct every year expensive campaigns both for researchers and students worldwide. Up to 20 seconds per parabola are achieved and a number of experiments are tested in the big jet airplanes used.

The research led by Prof. Antoni Pérez-Poch, a pilot himself and member of ELGRA (European Low-Gravity Researchers Association) since 2007, and Mr Daniel Ventura González, aerobatics licensed pilot; has shown that it is possible to achieve up to 8 seconds of zero gravity with smaller, light single-engined aerobatic planes, with a significant reduction of cost and easier access to the platform, compared with conventional parabolic flight campaigns. An example of previous experiments conducted with this innovative platform is the validation of NELME (Numerical Evaluation of Long-Term Microgravity Effects), a computer model of the zero gravity effects on the cardiovascular system, developed at CRAE.

European researchers from ELGRA now can submit their professional research experiments to the platform established in Catalonia in order to take advantage of this innovative facility. Students from UPC now can also benefit from flying their experiments.

Results from the calibration, and tests of these aerobatics parabolic flights along with the educational activities being conducted, have been published in the Proceedings of the 61st International Astronautical Congress.

Flight Day Schedule :

31st October
Aeroclub Barcelona-Sabadell Building
Sabadell Airport, Catalonia, Spain.

9h Participants Reception
9,30h Pre-Flight Safety Briefing
10,30 Parabolic Flight Campaign
13-14h Students, pilots and organizers available for interviews.

References:

UPC Announcement of Opportunity for Parabolic Flights:

<http://recerca.upc.edu/crae/news/acrobatic-flight-an-innovative-access-to-microgravity-from-a-centennial-sport-announcement-of-opportunity-for-upc-students-researchers>

CRAE Aeronautics and Space Research Center: <http://recerca.upc.edu/crae>

BAIE Announcement: <http://www.bcnaerospace.org/public/new.php?id=51>

Aeroclub Barcelona-Sabadell: <http://www.aeroclub.es>

International Space University: <http://www.isunet.edu>

ELGRA: www.elgra.org

61st International Astronautical Congress: <http://www.iac2010.cz>

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