

4 novembre



It's been a long and intense day, indeed. Everything has gone quite well and the team is getting some well earned rest, slowly assimilating today's experiences.

We arrived at Novespace early in the morning. The prototype had to be prepared for its definitive test, thirty periods of weightlessness and twice as much of demanding hypergravity. Nevertheless, that wasn't the big challenge for us. We were aware of what we had been developing so thoughtfully during the past year and its limitations. The real adventure was to discover what would we feel once in microgravity, how were we going to react to

weightlessness?

Around 8:45 we were already inside the A300 Zero G. Finally in an official ESA parabolic flight campaign, along with other three student teams, we were three of the four fortunate Spanish students that were about to see their dreams come true.

We took off with all preparations completed. To avoid motion sickness, we all had gotten an anti-motion sickness injection and by take off time we were beginning to feel a little bit tipsy and dizzy, a very strange feeling that caused some hilarious situations.



After approximately thirty minutes of flight into the Atlantic Ocean, we were cleared stand up from our seats, switch on our experiments and begin preparations for the first parabola, the so-called, zero parabola. Everything performed as expected, the machine was ready, so were we? We stared at each other and begun laughing probably because a mixture of nervousness and excitement.

The first six parabolas were planned to be a warm up, the only thing to do was to get used to such new environment.



Here we go on the first parabola! Flight engineer announced the "PULL UP" manoeuvre and the plane begun climbing. Back into the cabin, we were smashed against the floor.

30! 40! INJECTION!

Amazing, awesome!

What a great feeling, what a new sensation! As if it was a great magic trick, everyone and everything in the plane, rose from the floor lifted by some invisible and untouchable force. There was no longer up and down, right or left, we

were free floating on the airplane's cabin with no clear references, unable to say a word. Far from feeling sick we were amazed by this new sensation. At that point all efforts during the last year were worth.

One after another, we experienced weightlessness, up to thirty times. Enjoying the feeling but working hard as well. Our experiment consisted on evaluating certain human cell drug transporter that helps us clean our cells and our body from drugs and toxics. Samples had to be warmed up to 37°C from their storage temperature at 2°C. ATP (Adenosine Triphosphate) had to be added to provide required chemical energy for the transport reaction to occur in microgravity. Timing was a strict requirement, so was fluid mixing quantities and temperature, and our system performed remarkably. Good point for our engineers! Unfortunately, one of our experimentation units (we have 4 in total working at the same time) began leaking. One could think this could have been a problem, but as required by Novespace and ESA our prototype had been designed with enough watertight barriers that ensure containment in case of contingency. Although we were forced to stop the unit, thus reducing a little bit the possible scientific outcome of the experiment, we were able to continue performing more experiments with the remaining ones.



After 25 parabolas, all samples had been used and it was time for some microgravity leisure! We head to the free floating area were people from the CEV (Centre d'Essais en Vol) spun us and put us in very weird positions, like sitting on the ceiling!

Disappointingly, all good things come to and end. Time arrived to go back to our seats for landing. Approximately 3 hours after take off we were back at Novespace. The rest of the team and

media were at the same door of the aircraft welcoming us, waiting to know how did we enjoy the experience and what did we feel.

Probably, none of the words we said at that moment represented what that flight represented to us and we might probably never have a proper word to describe such an experience...

