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The cooperation between ELGRA and ESA education office on student hand-on projects have been successfully expended with the new edition of the program Fly Your Thesis that completes the two other student programs Spin Your Thesis and Drop Your Thesis offered by ESA education office.

ELGRA have during these last years supported ESA education office in the selection of student teams and by offering the support of ELGRA mentors who are providing the student group with expertise in the field of gravity research over the entire duration of their project.

These programs have allowed many students from all over Europe to discover gravity research using ground based facilities as the large diameter centrifuge (LDC, ESA ESTEC centre, NL) for Spin Your Thesis, a 146 meter Drop Tower at ZARM (Bremen, DE) for Drop Your Thesis and parabolic flight for Fly Your Thesis.



Students during parabolic flight during the Fly Your Thesis 2016 campaign (Photo credit: ESA).

### Spin Your Thesis

In October 2016, two enthusiastic student teams have launched their experiment at ZARM. STAR team, from University of Padova, tested a mechanism to deploy and retrieve a filamentous tether, whilst the Break Team from Queen Mary University of London and University of Seville investigated the break-up of colloidal liquids.

### Drop Your Thesis

In October 2016, two enthusiastic student teams have launched their experiment at ZARM. STAR team, from University of Padova, tested a mechanism to deploy and retrieve a filamentous tether, whilst the Break Team from Queen Mary University of London and University of Seville investigated the break-up of colloidal liquids.



Preparing a syringe for hypergravity droplet generation (Photo credit: ESA).

### Fly your thesis 2016

In November 2016, four teams of university students conducted their experiments during the 65th ESA parabolic flight campaign, this project will remain for them an extraordinary experience. The TEPiM team from the Universidad Politécnica de Madrid (UPM) in Spain studied the melting process of Phase Change Materials in weightlessness conditions. The CFVib team, also from UPM, investigated the behaviour of fluids subjected to high frequency low amplitude vibrations. The Italian team PoliTethers from Politecnico di Milano tested the control dynamics and algorithms for tether-based systems, in view of possible future applications to tow space debris to be deorbited, and the team from the Universität Duisburg-Essen in Germany, Anemoi4 examined the wind speeds needed to lift dust in an Martian-like atmosphere.

### Outlook

We are now looking forwards reading about the students' exiting findings that should be soon reported. In the meanwhile, we have been working on the selection of new motivated students for the new edition of these three programs which are already planned for 2017.



For more information, please visit ESA education office website:  
[http://www.esa.int/Education/Fly\\_Your\\_Thesis](http://www.esa.int/Education/Fly_Your_Thesis)

[http://www.esa.int/Education/Drop\\_Your\\_Thesis](http://www.esa.int/Education/Drop_Your_Thesis)  
[http://www.esa.int/Education/Spin\\_Your\\_Thesis](http://www.esa.int/Education/Spin_Your_Thesis)



Fly Your Thesis 2016 selection workshop in The Hague (NL) with the contribution of ELGRA's general secretary Dr. Carole Leguy (Photo: ESA).



Promoting ELGRA in Portugal (Photo: Dr. Carole Leguy).