

AGENCY

ESEC-Galaxia becomes operational with the ESA/ELGRA Gravity-Related Research Summer School 2018

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The brand-new ESA Education Training Centre, [ESEC-Galaxia](#), in Belgium, hosted its inaugural event: the ESA/ELGRA Gravity-Related Research Summer School 2018 (25 – 29 June 2018).

Thirty university students (bachelor and master students in scientific or engineering disciplines), from 15 different [ESA Member and Associate States](#), participated in the event.

The Summer School was a collaboration between ESA and ELGRA (European Low Gravity Research Association). Nineteen ELGRA and ESA experts from across Europe were on-hand to offer tuition, guidance, and a wealth of experience to the participating students. A Dutch student from the Erasmus University College was particularly impressed: *"The inspirational lectures given by enthusiastic experts from various scientific fields greatly contributed to a clearer understanding of the multiple possibilities for interdisciplinary gravity-related research. The staff and fellow students were so lovely as well and made the summer school an experience to treasure for a lifetime!"*

To begin with, the participating students gained a foundation of understanding about the interest and benefits of performing scientific research at different g levels. An overview was then given of current research under micro and hypergravity conditions within the fields of life and physical sciences. Dropping in to answer questions and offer their perspectives were team members from previous editions of the ESA Educational programmes [Spin](#), [Drop](#), and [Fly Your Thesis!](#)

The students were then issued with a challenge: working in teams, they had to devise their own idea for an experiment. It would need to contribute to the fields of human physiology, biology, physics, or technology, and be performed in altered-gravity conditions using a gravity-related platform, such as a parabolic flight, human centrifuge, or on-board the International Space Station. The ESA and ELGRA experts were available to facilitate and discuss the students' ideas.

The agenda of the event included a visit to ESEC-Redu and the [Euro Space Center](#) next to ESEC-Galaxia.

— Experts discussing with Team C about their ideas of experiments

The challenge concluded on the final day, when students presented their projects to a panel of experts. The panel quizzed the students on their choice of gravity-related platform, the experiment set-up and procedure, feasibility, and the scientific relevance of their experiments. The students proposed a highly diversified set of projects, with subjects including, for instance: testing the ability of bees to pollinate in microgravity, examining the solidification of thermoplastics in microgravity, and investigating the motility of immune cells in hypergravity.

"I truly enjoyed the ESA Gravity-Related Research Summer School" said an Italian student from the University of Bath. "It allowed me to meet passionate students across multiple disciplines who were all gazing towards the stars but also looking for ways to improve our lives here on Earth. Collaborating with them exposed our individual limitations but showed us that great scientific research can be developed by working in synergy. The course gave us great insights in current areas of research and the means to develop future experiments that can be carried on different platforms. I would highly recommend it to anyone who is interested in space and is aspiring to contribute to space exploration."

Before returning home, the students received their certificates of participation. Then came perhaps the most important task: posing for the first photo under the new ESA Education Training Centre logo!

"This ESA/ELGRA Gravity-Related Research Summer School opportunity was a life-changing experience," explained a Canadian student from the University of Ottawa. "Coming in to the week I didn't have a substantial knowledge about research in space, but by the end of the Summer School, I felt I had a clear understanding and new awareness about it. I learnt from some of the best in the space industry! Not only were the days full of great, interesting lectures, but the people I was surrounded by really made it a greatest experience. This summer school brought together students of different nationalities and education backgrounds in a unique manner. I will never forget the friendships I made during the week. This ESA/ELGRA Gravity-Related Research Summer School 2018 was a wonderful, once in a lifetime opportunity!"

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