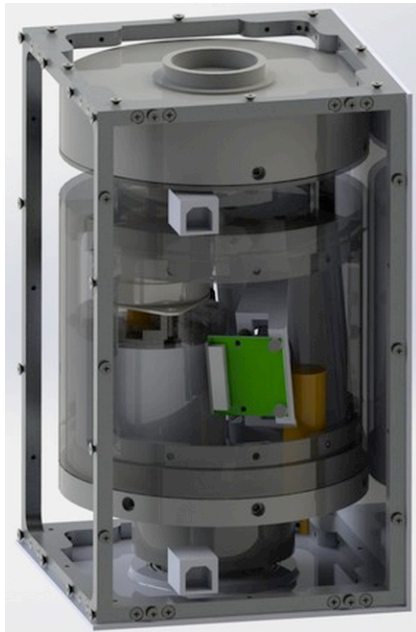


International Space University to send SMiLE to Space Station

Strasbourg, France: The International Space University announced today that their research experiment studying fluid behavior in reduced gravity conditions will fly to the International Space Station (ISS) in 2015 via NanoRacks, LLC under its Space Act Agreement with NASA's U.S. National Lab. The experiment, Spun Microgravity Liquid Experiment (SMiLE), will investigate the physics behind droplet formation in microgravity conditions.



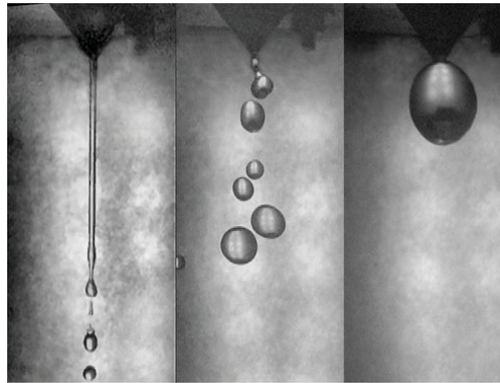
*SMiLE Engineering 3D model (without covers).
15 cm high x 10 cm wide x 10 cm deep (1.5 U)*

SMiLE, led by Dr. Barnaby Osborne and Professor Chris Welch, is the culmination of nearly 10 years of research and testing. It will investigate liquid droplet dynamics, in particular the chaotic behavior of droplet formation in reduced gravity conditions. It will be the first statistically relevant investigation into this phenomenon and provide valuable information to the designers of next generation terrestrial drop-on-demand applications.

To create the experiment, ISU partnered with the Australian Centre for Space Engineering Research (ACSER) at the University of New South Wales, Australia. Beyond the new science that SMiLE will perform, the experiment will be novel in several ways. SMiLE's construction and operation are both in keeping with the new approach to access to space and all aspects of the experiment are designed to make low demands on the ISS and its astronaut crew. To this end, SMiLE is:

- Autonomous: SMiLE will autonomously perform its experiments and process its data. This means that after installation it will operate without any need for interaction with the ISS crew.
- Low-impact: SMiLE uses only 2W continuous power. SMiLE performs data processing onboard to reduce the amount of data needing to be transmitted back to Earth.
- Resource efficient: SMiLE centrifugally recycles its test fluid so that only a very small total amount (20 mL) is required.
- Effectively manufactured: SMiLE uses new manufacturing processes (in particular 3D printing processes such as Selective Laser Sintering and Direct Metal Laser Sintering) to produce complex components economically while reducing its overall part count.

"The ISS provides a critical environment for long-duration microgravity experiments such as SMiLE" says Dr. Barnaby Osborne "In space we will be able gather more data in one week than we would be able to in one year on the ground."



Droplet formation under different gravitational conditions

“Until now, research in microgravity has been very difficult because of the limited range of opportunities” continued Professor Chris Welch. “We are very pleased to be working with NanoRacks on SMiLE because they are the leading provider of rapid and effective access to space.”

“NanoRacks is pleased to make available to the ISU the unique features of the International Space Station. We believe strongly that by lowering the barriers to ISS utilization more and more important ideas like this will emerge,” believes Jeffrey Manber, CEO of NanoRacks.

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The **International Space University (ISU)**, founded in 1987 in Massachusetts, US and now headquartered in Strasbourg, France, is the world’s premier international space education institution. It is supported by major space agencies and aerospace organizations from around the world. The graduate level programs offered by ISU are dedicated to promoting international, interdisciplinary and intercultural cooperation in space activities. ISU offers the Master of Space Studies program at its Central Campus in Strasbourg. Since the summer of 1988, ISU has also conducted the highly acclaimed Space Studies Program at different host institutions in locations spanning the globe. ISU programs are delivered by over 100 ISU faculty members in concert with invited industry and agency experts from institutions around the world. Since its founding, 25 years ago, more than 3900 students from over 100 countries graduated from ISU.

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The **Australian Centre for Space Engineering Research (ACSER)** was launched at the University of New South Wales (UNSW) in November 2010 by former astronaut Dr. Jan Davis. The centre aims to establish UNSW as a significant player in the Federal Government's push to increase Australia's capabilities in space.

The centre draws on the huge expertise of Australia's largest Engineering faculty. ACSER resides in the Faculty of Engineering at UNSW and interacts with most of the Schools in that Faculty: Surveying and Geospatial Engineering, Electrical and Telecommunications Engineering, Computer Science Engineering, Mechanical and Manufacturing Engineering, Civil and Environmental Engineering, Mining Engineering, as well as the Engineering and Information Technology School of UNSW Canberra. Future opportunities are being examined with Photovoltaic and Renewable Energy Engineering and Chemical Engineering, as well as the Faculties of Science, Business and Law.

NanoRacks LLC was formed in 2009 to provide commercial hardware and services for the U.S. National Laboratory onboard the International Space Station via a Space Act Agreement with NASA. NanoRacks' main office is in Houston, Texas, right alongside the NASA Johnson Space Center. The business development office is in Washington, DC. The Company seeks to democratize outer space utilization by owning and marketing its own family of research equipment and by providing low-cost, high quality services in low-earth orbit and beyond. To date over 200 payloads have been deployed by the Company on the International Space Station and our customer base includes the European Space Agency (ESA) the German Space Agency (DLR,) the American space agency (NASA,) US Government Agencies, Planet Labs, Urthecast, Space Florida, NCESS, Virgin Galactic, pharmaceutical drug companies, and organizations in Vietnam, UK, Romania and Israel. Its customer base has propelled NanoRacks into a leadership position in understanding the emerging commercial market for low-earth orbit utilization.