

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
On Track: Undergraduate Space Education (3)

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LINX A HANDS-ON APPROACH TO SPACE RESEARCH AND EDUCATION AT
UNDERGRADUATE LEVEL

Abstract

The Laboratory of Space Instrumentation, LINX, was created in 2010 at the Institute of Nuclear Sciences in the National Autonomous University of Mexico in Mexico City. LINX develops stratospheric and space scientific instrumentation, telecommunications systems, nano-satellites and lunar missions. Some of the scientific projects are developed as part of international collaborations and have been coordinated by NASA, CNES, ASI or Roscosmos; most are exclusively developed and operated by LINX, from design to orbit. The lab around 50 undergraduate students at any given time. They become part of the team after a selection process and remain in the team for at least the period of their academic curricular activity (social service, diploma thesis, internship), which can vary between 3, 6 or 12 months. Nevertheless if they desire to stay for longer in the lab as collaborators, they can be accepted depending on their performance – a large percentage request an extended stay in LINX. Students come from a very diverse spectrum of careers: all the engineers, astronomy, physics, mathematics, actuary, chemistry, metallurgy, geophysics, design, psychology, law, arts, economics, international relations, and work in a very multidisciplinary environment. Everything produced in LINX will eventually be flown whether in the stratosphere, LEO or the Moon. Therefore, despite being an academic laboratory function akin to a startup with very well defined objectives, standards of quality, chronogram and budgetary restrictions. Students have also the possibility of testing their subsystems in stratospheric flights that we perform when needed (approximately once every two months). The experience of LINX as an education tool has been a real success: more than 400 students have gone through the system and LINX has become the most active developer of space technology and space human resources in Mexico. In testimony to this success, we launched on January 2024 the first Mexican lunar payload. We also have tight relationships with companies and industrial associations like the Mexican Federation of Aerospace Industry, FEMIA. LINX, its philosophy and strategy for human resources development and the support to the creation of a space ecosystem in Mexico will be presented..