

IAF SPACE PROPULSION SYMPOSIUM (C4)  
Joint Session between IAA and IAF for Small Satellite Propulsion Systems (8-B4.5A)

Author: Prof. Paulo Lozano  
Massachusetts Institute of Technology (MIT), United States, plozano@mit.edu

KEYNOTE: CHALLENGES AND OPPORTUNITIES IN SPACE PROPULSION FOR SMALL  
SATELLITES

**Abstract**

Space science and technology is clearly trending towards systems based on the use of small spacecraft, in part because of their reduced costs and development times, but also because of the benefits these systems could provide in terms of their potential for multispectral, persistent and robust data collection. Propulsion is a critical subsystem that is required to achieve the maximum capability of small vehicles, but it is also one of the most challenging to develop and implement, for technical and programmatic reasons. In this talk we present an overview of efforts to provide propulsion to small spacecraft, spanning different technologies and their readiness levels. We focus on electric propulsion as an option for efficient mobility that could enable applications ranging from main propulsion for scientific missions to the deployment of massive small satellite constellations.