

IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
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A DECADE OF ESA RESEARCH AND RESULTS FROM COLUMBUS AND THE ISS

Abstract

The European Columbus Laboratory reached a major milestone in 2018, celebrating ten years as the key focus of European research activities in low-earth orbit and the European Space Agency's (ESA's) principal contribution to the International Space Station (ISS). With respect to European space endeavours, ESA's research programme on Columbus and the ISS covers the most diverse areas of scientific enquiry which positively impact life on earth and in space. This paper provides an overview of some of the major highlights stemming from ESA's ISS research over the past decade across a variety of different research disciplines in the life and physical sciences and technology with a principal focus on results obtained in the Columbus laboratory. These results not only provide an insight into the value of research performed by ESA in low-Earth orbit, they also provide a foundation and validation for research activities in the future. These future research activities aim to provide socio-economic benefits in terms of (fundamental) knowledge and Earth applications whilst supporting global goals and inspiration and preparing for future exploration missions beyond Low Earth Orbit.