

IAF/IAA SPACE LIFE SCIENCES SYMPOSIUM (A1)  
Astrobiology and Exploration (6)

Author: Dr. Jason Armstrong  
Boeing, Australia, jason.w.armstrong@boeing.com

Prof. Michael Monteiro  
University of Queensland, Australia, m.monteiro@uq.edu.au

ANTI-MICROBIAL POLYMER DEVELOPMENT FOR SPACECRAFT CABIN DISEASE & SYSTEM  
CONTAMINATION**Abstract**

*In 2015 NASA awarded a US\$1.18 billion contract to Boeing as the International Space Station's prime contractor, to continue the development of the station's life support system environment provides a series of challenges in regard to microbial infection and contamination. On top of crew health,*

The following mix of factors make this topic relevant to space travel and the return to Earth by crew safely: - Astronaut immunosuppression - Higher microbial replication and biomass in microgravity - Increased virulence of microbes due to microgravity and ionizing radiation - Risk of returning mutated microbes to Earth - Microbial fouling of filters and fluid systems.

The novel polymer technology under development in a collaboration between Boeing and the University of Queensland is aimed at both spacecraft and aircraft, with the consideration of the role aviation plays in pandemics. The polymers under development will have the capability to respond to environmental cues for viral and bacterial targeting.