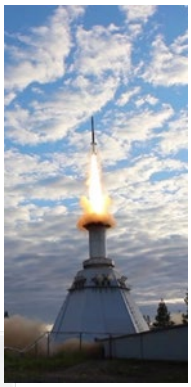
LIMS / DLR
2nd annual
Microgravity workshop

9am-5pm
Monday-Wednesday 4-6 December 2023
TLC level 1
La Trobe University, Bundoora



This workshop is presented by
Dr Jens Hauslage
Institute of Aerospace Medicine
German Aerospace Centre DLR
A/Prof. (Adjunct) La Trobe University

Cost for three days: Students $20; Others $50. Lunch provided.

Gravity, compared with other environmental factors, is the only constant stimulus that has not changed during evolution, and has shaped life. This workshop in Gravitational Biology provides an overview on the impact of gravity on life and current knowledge on gravity-perception in cells, plants, and animals resulting in gravitaxis and gravitropism. Adaptation capacities, demonstrated by plants due to their landfall millions of years ago as well as during exposure of biological systems to altered gravity conditions because of spaceflight and exploration, will be discussed. The lectures and practical sessions will also provide an overview of technical possibilities scientists can use to perform experiments in simulated (Clinostats) or real microgravity (Drop Tower, Parabolic Plane Flights and Sounding Rockets) as well as in hypergravity (Large Centrifuges) on Earth and in space. Besides basic knowledge of how gravity triggers the functioning of biological systems, Gravitational Biologists contribute to building biological life support systems, which are a prerequisite for survival in harsh environments and on extraterrestrial stations and habitats. Finally, current research projects will be presented and their significance in the scientific environment discussed.

Held over three days, this workshop will give a short overview about possible experiments in different areas in life science on microgravity platforms like Drop Towers, Parabolic Plane Flights, Sounding Rockets and Compact Satellites, as well as in ground-based facilities. Performed experiments will be shown in a wide spectrum from artificial membranes, single cells, plants, protozoans up to the simplest animal Trichoplax.

Day 1		**Day 2**		**Day 3**	
Gravity – an Introduction	1h	MAPHEUS and COTS Parts	1h	EuCROPIS and CROP	1h
Gravitational Biology Part I and II	2h	Designing a life science space experiment	2h	Neurospace Group time	2h
Lunch	1h	Lunch	1h	Lunch	1h
Introduction COTS parts / Building a ground control experiment	4h	Microscope Unit – Graviperception in plants Group time/Hands on	4h	Presentation of space experiment plan and design for each group	4h

Please register here or search “Microgravity workshop” in Eventbrite

Enquiries to: LIMS.Research@latrobe.edu.au

This workshop is held on the lands of the Wurundjeri people of the Kulin Nation. We recognise their ongoing connection to the land and value their unique contribution to Australia and beyond. We pay our respects to their Elders, past and present.