

13th Australian Space Forum

Thursday 3 March 2022
Adelaide, South Australia

Preliminary Program



Adelaide Convention Centre and Online

Facilitated by Adjunct Professor Nicola Sasanelli AM, CEO, The Andy Thomas Space Foundation

Time Session

8.00	Registration open Tea and coffee on arrival
8.45	Opening session including a welcome from the Premier of South Australia – The Hon Steven Marshall MP (TBC), and a welcome from The Hon Melissa Price MP, Minister for Defence Industry, and Science and Technology (TBC)
9.05	International Space Trends <ul style="list-style-type: none">– Enrico Palermo, Head of Agency, Australian Space Agency– Lisa Campbell, President, Canadian Space Agency– Pier Bargellini, Head of the Ground Facilities Operations Division, European Space Agency
9.45	Morning tea

Time Session

10.30 **Research and Development Panel: Defence Space Update - Securing Australia's Use of Space in a Changing World**

Keynote by Air Vice-Marshal Catherine Roberts, AM, CSC, Head of Air Force Capability, RAAF
Facilitated by Group Captain Martin Nussio, Defence Liaison Officer, Australian Space Agency

— The world is critically reliant on space-enabled technologies for its prosperity and security, however, risks to the ongoing use of space are escalating as it becomes increasingly congested, contested, and competitive.

Defence is implementing an ambitious multi-billion-dollar space capability acquisition program and is transforming as an organisation to better utilise space.

As they continue to build and strengthen Australia's many international partnerships, including sourcing and operating high technology space systems in collaboration with these partners, Defence also works closely across Government, particularly with the Australian Space Agency, on priorities to develop industry and grow Australian sovereign space capability, enabling greater innovation and resilience for the future.

This session will update and explore Defence's approach to assuring Australia's access to space in a fast-changing world.

— **Panelists:**

Air Vice-Marshal Catherine Roberts, AM, CSC, Head of Air Force Capability, Royal Australian Air Force

Enrico Palermo, Head of Agency, Australian Space Agency

Professor Tanya Monro, Australia's Chief Defence Scientist, DSTG (TBC)

Professor Andy Koronios, CEO, SmartSat Cooperative Research Centre

Jim McDowell, CEO, Nova Systems

12.00 Lunch

13.30 **Research & Development Panel: Space Traffic Coordination and Management: The Next Step in Space Situational Awareness**

Keynote by Professor Moriba Jah, Aerospace Engineering and Engineering Mechanics at The University of Texas at Austin

Facilitated by Professor Tat-Jun Chin, Professorial Chair of Sentient Satellites, The University of Adelaide

— Significant efforts and investments are being poured into building space situational awareness (SSA) capabilities, which are aimed at generating comprehensive and continuous understanding of the space environment and the objects therein.

Although work is still ongoing, it is nevertheless useful to ask at this juncture, "what next after SSA?" Arguably a major application of SSA is space traffic coordination and management, which are global tasks that require international cooperation on multiple fronts, not least in technological innovation, policy and framework development, stimulation of industry and consensus building.

This panel aims to discuss the progress, challenges and outlook on space traffic coordination and management from the perspectives of international experts on these areas. The role of individual nations, such as Australia which is a relatively new player in the space sector, in this global mission will also be a talking point.

— **Panelists:**

Professor Moriba Jah, Aerospace Engineering and Engineering Mechanics at The University of Texas at Austin

Tim Flohrer, Head of Space Debris Office, European Space Agency Space Operations Centre

Jason Held, CEO, Saber Astronautics

Dr. Cassandra Steer, Mission Specialist, ANU Institute of Space (InSpace)

Elizabeth Pearce, Assistant Manager Program and Capability, Australian Space Agency

Group Captain Andrew Gillman, Royal Australian Air Force

Time Session

14.50	Afternoon tea
15.30	<p>Research & Development Panel: Life Science Research enabling long-term Space Habitation</p> <p>Keynote by Dr. Gioia Massa, Lead food provision for ISS and long term missions, Kennedy Space Centre, NASA</p> <p>Facilitated by Professor Matthew Gilliham, Director, Waite Research Institute, The University of Adelaide</p> <p>— Long-term off-Earth habitation is on the horizon. By 2025, humans will have established the new Lunar Gateway Space Station as a necessary precursor to crewed Mars missions, however, critical technologies to enable remote habitation, where re-supply of resources from Earth is not a viable option, lag in their development.</p> <p>Unlike water, oxygen and fuel, food is not available for harvest on the Moon or Mars. Providing a nutritious, varied food supply to sustain physical and mental wellbeing for long-term Space habitation is one of the greatest obstacles for mission planners, as the current mass and volume of required food prohibit overall mission feasibility.</p> <p>Beyond food supply, clinical strategies are needed to ensure humans remain healthy and perform optimally off-Earth. The changeable, and not entirely predictable, conditions on long-term Space missions will also require robust, reconfigurable, on-demand generation of resources such as pharmaceuticals and construction materials. The technological 'grand challenges' of sustainable extra-terrestrial life support are inherently complex, highly interconnected, and yet to be tackled holistically.</p> <p>This panel will explore the life science, psychology and clinical research translation into practice that is needed to support life off-world in the long-term.</p> <p>— Panelists:</p> <p>Dr. Gioia Massa, Lead food provision for ISS and long term missions, Kennedy Space Centre, NASA</p> <p>Jitendra Joshi, Chief Technologist, New Energy, Woodside Energy</p> <p>Dr Gordon Cable AM, Associate Professor in Space Medicine, The University of Adelaide</p> <p>Professor Sally Gras, Department of Chemical and Biomolecular Engineering at The University of Melbourne</p> <p>Christine Escobar, Vice President & CBO at Space Lab Technologies, LLC</p> <p>Cesare Lobascio, Space Exploration & Science Innovation Lead, Thales Alenia Space</p>
17.00	<p>13th Australian Space Forum Conclusion</p> <p>Adj Prof Nicola Sasanelli AM, CEO, The Andy Thomas Space Foundation</p>
17.05	Networking hour

Please note that this is a preliminary program and changes are likely to be made in the lead up to the event as speakers are confirmed.

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