

# Space Health Symposium

“How to thrive, not just survive”

Sponsored by the [ad astra vita project](#) and [Mars Society Australia](#) (in conjunction with the [Jus Ad Astra project](#)) to celebrate [World Space Week 2020](#) (a free virtual Symposium).

**Monday 5 October and Tuesday 6 October 2020**

Time zone conversion table:

<b>AEDT / A...</b> Australian Ea...	<b>8:30 a - 9:30 p</b> Mon, Oct 5 Mon, Oct 5	MON OCT 5 1 am 2 am 3 am 4 am 5 am 6 am 7 am 8 am 9 am 10 am 11 am 12 pm 1 pm 2 pm 3 pm 4 pm 5 pm 6 pm 7 pm 8 pm 9 pm 10 pm 11 pm
<b>-15 EDT / EST</b> Eastern Dayli...	<b>5:30 p - 6:30 a</b> Sun, Oct 4 Mon, Oct 5	MON 9 am 10 am 11 am 12 pm 1 pm 2 pm 3 pm 4 pm 5 pm 6 pm 7 pm 8 pm 9 pm 10 pm 11 pm OCT 5 1 am 2 am 3 am 4 am 5 am 6 am 7 am 8 am
<b>-9 CEST / C...</b> Central Europ...	<b>11:30 p - 12:30 p</b> Sun, Oct 4 Mon, Oct 5	MON 3 pm 4 pm 5 pm 6 pm 7 pm 8 pm 9 pm 10 pm 11 pm OCT 5 1 am 2 am 3 am 4 am 5 am 6 am 7 am 8 am 9 am 10 am 11 am 12 pm 1 pm 2 pm
<b>-5.5 IST</b> India Standar...	<b>3:00 a - 4:00 p</b> Mon, Oct 5 Mon, Oct 5	MON 6:30 pm 7:30 pm 8:30 pm 9:30 pm 10:30 pm 11:30 pm OCT 5 1:30 am 2:30 am 3:30 am 4:30 am 5:30 am 6:30 am 7:30 am 8:30 am 9:30 am 10:30 am 11:30 am 12:30 pm 1:30 pm 2:30 pm 3:30 pm 4:30 pm 5:30 pm

TIME (AEDT)	Monday 5 October	TIME (EDT) (15 hours behind)	TIME (CEST) (9 hours behind)
<b>Morning Session 1</b>	Opening session: Keynote presentations Theme: Space4Health and #Satellites improve life Session Chair: Dr Rowena Christiansen		
08:45-09:00 AEDT	<ul style="list-style-type: none"> <li>Welcome (RC)</li> <li>Acknowledgment of Country (RC)</li> <li>Special welcome message/s</li> </ul>	17:45-18:00 EDT <b>Sunday October 4</b>	23:45-00:00 CEST <b>Monday October 5</b>
09:00-09:30	Aude Vignelles (Australian Space Agency)	18:00-18:30	00:00-00:30
09:30-10:00	Dr Josef Schmid (NASA): <i>NASA Flight Surgeon: Medicine in Extreme Environments (and Flying with your Patients!)</i>	18:30-19:00	00:30-01:00
10:00-10:30	Professor Andy Koronios (SmartSat CRC): <i>SmartSat CRC: Building the Australian space ecosystem through cooperation, collaboration and partnerships</i>	19:00-19:30	01:00-01:30
10:30-11:00	Space4Health: <ul style="list-style-type: none"> <li>John Haynes (NASA): <i>Utilizing Earth Observations to Inform Health and Air Quality Management</i>, and</li> <li>Dr Helena Chapman (NASA): <i>Using Earth Observations to Enhance Public Health Surveillance</i></li> </ul>	19:30-20:00	01:30-02:00
11:00-11:15 AEDT	Break	20:00-20:15 EDT	02:00-02:15 CEST
<b>Morning Session 2</b>	Theme: Space Surgery Session Chair: Dr Tovy Kamine		
11:15-12:45 AEDT (90 minute <b>PANEL</b> session)	<ul style="list-style-type: none"> <li>Professor George Pantalos (University of Louisville): <i>A brief history of efforts to develop surgical capabilities for exploration spaceflight</i></li> <li>Dr Danielle Carroll (University of California): <i>Prophylactic Surgery and Deep Space Travel</i></li> <li>Dr Danyal Fey (University of California): <i>How Can We Do Surgery on Mars?</i></li> <li>Dr Arthur Formanek</li> </ul> (Two other speakers awaiting confirmation) (5 min introduction + 4 x 17 min presentations + 15 min panel discussion/Q&A)	20:15-21:45 EDT <b>Sunday October 4</b>	02:15-03:45 CEST <b>Monday October 5</b>
12:45-13:30 AEDT	(Lunch) Break	21:45-22:30 EDT	03:45-04:30 CEST
<b>Afternoon Sessions</b>	Theme: How to live on the Moon and Mars Session Chair: Earl White		
13:30-14:30 AEDT (120 minute session: 2 x 60 minute <b>PANEL</b> segments)	<ul style="list-style-type: none"> <li>Dr Jonathan Clarke (Mars Society Australia): <i>Selecting sites for the first crewed missions to Mars P1</i></li> <li>Dr Michaela Musilova (HI-SEAS): <i>Missions to the Moon and Mars at the HI-SEAS research station P2</i></li> </ul>	22:30-23:30 EDT <b>Sunday October 4</b>	04:30-05:30 CEST <b>Monday October 5</b>

	<ul style="list-style-type: none"> <li>Guy Murphy (Mars Society Australia): <i>Expedition Boomerang P3</i> P1, P2, P3 (14 mins each) + 15 mins panel discussion/Q&amp;A</li> </ul>		
14:30-15:30	<ul style="list-style-type: none"> <li>Dr James Kurrle P4</li> <li>Dr Siddharth Pandey (Amity University, India): <i>Analogue Research in India P5</i></li> <li>Dr Shane Usher (University of Melbourne): “Rowing in Space”: <i>Proposed research at the Institute of Biomedical Problems, Moscow P6</i></li> </ul> P4, P5, P6 (14 mins each) + 15 mins panel discussion/Q&A	23:30-00:30	05:30-06:30
15:30-15:45 AEDT	Break	00:30-00:45 EDT	06:30-06:45 CEST
15:45-16:45 (60 minute WORKSHOP)	Annalea Beattie (Mars Society Australia): <b>Workshop on Living on Mars:</b> <i>The Draft Constitution for Off-Earth Settlement</i> <ul style="list-style-type: none"> <li>Introduction/presentation (~15-20 mins)</li> <li>Breakout rooms (15-20 mins in total)</li> <li>Plenary discussion with participants/panel (~20 mins)</li> </ul>	00:45-01:45 Monday October 5	06:45-07:45 Monday October 5
16:45-17:00 AEDT	Break	01:45-02:00 EDT	07:45-08:00 CEST
Twilight Session	Theme: How to live on the Moon and Mars Theme: Space Psychology and Space Physiology <i>Session Chair: Dr James Kurrle</i>	Monday 5 October	
17:00-17:30 AEDT	Konstantin Chtereov (SAGA Space Architects): <i>LUNARK: A Marriage of Architecture and Psychology</i>	02:00-02:30 EDT	08:00-08:30 CEST
17:30-18:15	Professor Thais Russomano (Kings College London): <i>How humans live in outer space – challenges and achievements</i> (30 min plus Q&A)	02:30-03:15	08:30-09:15
18:15-19:00 (45 minute MINI-PANEL session)	<i>Space physiology mini-panel: Bed-rest studies</i> <ul style="list-style-type: none"> <li>Dr Bergita Ganse (Manchester University): <i>Musculoskeletal research in bedrest studies</i></li> <li>Vienna Tran (University of Adelaide): <i>The Effects of Centrifugation on the Gluteal Muscles During 60-Day Bed Rest</i></li> </ul> (2 x 15 min presentations + 15 min panel discussion/Q&A)	03:15-04:00	09:15-10:00
19:00-19:30 AEDT	(Dinner) Break	04:00-04:30 EDT	10:00-10:30 CEST
Evening Session	Theme: How to live on the Moon and Mars – human rights and governance considerations <i>Session Chair: Dr Bergita Ganse</i>	Monday 5 October	
19:30-20:15 AEDT	<ul style="list-style-type: none"> <li>Dr Thomas Cheney (The Open University): <i>Space Governance and Settlements</i></li> <li>Antonino Salmeri (The University of Luxembourg): <i>Human Settlements in Space Between Space Law and Fundamental Rights</i></li> </ul> (2 x 20 min presentations)	04:30-05:00 EDT	10:30-11:00 CEST
20:15-21:00 (45 minute WORKSHOP)	Workshop: <i>Human rights in the space environment</i> (Coordinator: Deepika Jeyakodi) <ul style="list-style-type: none"> <li>Introduction (~5 minutes)</li> <li>Breakout rooms (~20 minutes)</li> <li>Plenary discussion with participants/panel (~20 mins)</li> </ul>	05:15-06:00	11:15-12:00
21:00-21:30	OVERFLOW TIME AVAILABLE IF NEEDED	06:00-06:30	12:00-12:30

TIME (AEDT)	Tuesday 6 October	TIME (EDT) (15 hours behind)	TIME (CEST) (9 hours behind)
08:45-09:00 AEDT	<ul style="list-style-type: none"> <li>Welcome (RC)</li> <li>Acknowledgment of Country (RC)</li> <li>Any administrative matters (RC)</li> </ul>	17:45-18:00 EDT <b>Monday October 5</b>	23:45-00:00 CEST <b>Tuesday October 6</b>
<b>Morning Session 1</b>	<b>Theme: Human Rights in the Space Environment</b> <b>Session Chair: Dr Shane Usher</b>		
09:00-10:00 AEDT (60 minute <b>PANEL</b> session)	Members of the <i>Jus Ad Astra</i> Project: <ul style="list-style-type: none"> <li>Jonathan Lim: <i>The Right to a Breathable Atmosphere</i></li> <li>Hardam Tripathi: <i>Human rights violations within the Chinese space program</i></li> <li>Andrew Simon-Butler: <i>Freedom of Movement and Mobility Rights in Outer Space</i></li> <li>Theodore Nastase: <i>Human rights violations within the Soviet space program</i></li> </ul> (4 x 10 min presentations + 20min panel discussion/Q&A)	18:00-19:00 EDT <b>Monday October 5</b>	00:00-01:00 CEST <b>Tuesday October 6</b>
10:00-10:15 AEDT	<i>Break</i>	19:00-19:15 EDT	01:00-01:15 CEST
<b>Morning Session 2</b>	<b>Theme: Space Radiation Research</b> <b>Session Chair: Dr Jon Clarke</b>		
10:15-12:15 AEDT (120 minute <b>PANEL</b> session)	<i>(Planned 120-minute space radiation and research panel session including discussion/Q&amp;A at the end)</i> <ul style="list-style-type: none"> <li>Dr Anne Weiss (Educator Professional Development Specialist, NASA Langley Research Center): <i>Countdown to NASA Artemis – One Small Step to the Moon, One Giant Leap to Mars</i></li> <li>Professor Christopher Porada (Wake Forest Institute for Regenerative Medicine): <i>TRISH-supported work investigating the effects of Mars mission-relevant doses and ions of simulated space radiation on the hematopoietic and gastrointestinal systems</i></li> <li>Dr Gail Iles (RMIT University): <i>Lightweight, active shielding technologies to protect astronauts against radiation</i></li> <li>Dr Shane Usher (University of Melbourne): <i>“Radiation, Vacuum and Microgravity”: Addressing the shortcomings of terrestrial space analogues</i></li> <li>Dr Daniel Liang (CSIRO): <i>Space Radiation Shielding</i></li> </ul> (5 x 20 min presentations + 20 min panel discussion/Q&A)	19:15-21:15 EDT <b>Monday October 5</b>	01:15-03:15 CEST <b>Tuesday October 6</b>
12:15-13:00 AEDT	<i>(Lunch) Break</i>	21:15-22:00 EDT	03:15-04:00 CEST
<b>Afternoon Session 1</b>	<b>Theme: Breaking down silos: how cross-discipline STEAM education benefits us all</b> <b>Session Chair: Assoc. Prof. Alice Gorman</b>		
13:00-13:20 AEDT	Adrienne Provenzano: <i>Arts and Humanities: Their Vital Place in Space Exploration Ecosystems</i>	22:00-22:20 EDT	04:00-04:20 CEST
13:20-15:00 (100 minute <b>PANEL</b> session)	<ul style="list-style-type: none"> <li>Professor Phil Bland (Curtin University)</li> <li>Professor Virginia Kilborn (Swinburne University of Technology)</li> <li>Dr Gail Iles (RMIT University): <i>The BSc Space Science at RMIT</i></li> <li>Dr Siddharth Pandey (Amity University, India): <i>Breaking down silos: cross-discipline STEAM education</i></li> <li>Naomi Norris (University of Melbourne Medical School)</li> <li>Adrienne Provenzano: <i>Imagining Possibilities for 21st Century STEAM Education: Inclusive, Diverse, Equitable, and Accessible</i></li> </ul> (6 x 12 minute presentations + 20 min discussion/Q&A)	22:20-00:00 EDT <b>Monday October 5</b>	04:20-06:00 CEST <b>Tuesday October 6</b>
15:00-15:15 AEDT	<i>Break</i>	00:00-00:15 EDT	06:00-06:15 CEST

Afternoon Session 2	Theme: Being human: exploring the intersection between health and culture Session Chair: Annalea Beattie		
15:15-16:45 AEDT (90 minute <b>PANEL</b> session)	<ul style="list-style-type: none"> <li>Associate Professor Alice Gorman (Flinders University)</li> <li>Associate Professor Justin Walsh (ISS Archaeology Project)</li> <li>Dr Angelo Vermeulen (Delft University of Technology): <i>Spreading Colonization and Culture War through Space: A Deconstruction</i></li> <li>Rabbi Dr Aviva Kipen: <i>Space and Spirituality</i></li> <li>Dr Rowena Christiansen (University of Melbourne): <i>Human reproduction in the space environment – challenges and conundrums</i></li> </ul> (5 x 15 min presentations + 15 min discussion/Q&A)	00:15-01:45 EDT <b>Tuesday October 6</b>	06:15-07:45 CEST <b>Tuesday October 6</b>
16:45-17:00 AEDT	Break	01:45-02:00 EDT	07:45-08:00 CEST
Twilight Session	Theme: Human Factors Theme: Space4Health Session Chair: Vienna Tran	Tuesday 6 October	
17:00-17:30 AEDT	Dr Ilaria Cinelli: <i>Enabling access to space through human factors requirements</i> (Presentation + Q&A)	02:00-02:30 EDT	08:00-08:30 CEST
17:30-18:00	Hussain Bokhari (International Space University ISP 2020 Team Project): <i>Using space-enabled capabilities for monitoring, mitigation and prevention of pandemics</i> (Presentation + Q&A)	02:30-03:00	08:30-09:00
18:00-18:30	Dr Ali Nasser (International Space University SSP 2014 Team Project): <i>Space4Health: Using space assets and disruptive innovations in support of public health during disasters (and beyond)</i> (Presentation + Q&A)	03:00-03:30	09:00-09:30
18:30-19:00	(Dinner) Break	03:30-04:00	09:30-10:00
Evening Session	Theme: Space4Health Theme: Looking to the Future... Session Chair: Dr Rowena Christiansen	Tuesday 6 October	
19:00-19:15 AEDT	Dr Astrid-Christina Koch (European Commission): <i>Copernicus and COVID-19</i> (Presentation + Q&A)	04:00-04:15 EDT	10:00-10:15 CEST
19:15-19:30	Markus Woltran (UNOOSA): <i>International cooperation on Space and Global Health</i> (Presentation + Q&A)	04:15-04:30	10:15-10:30
19:30-19:45	Ana Cristina Galhego Rose (Dipteron UG) : <i>Developing a Dengue Outbreak Prediction Model in a Smart City Platform</i> (Presentation + Q&A)	04:30-04:45	10:30-10:45
19:45-20:15	Associate Professor Rachel Lowe (London School of Hygiene and Tropical Medicine): <i>Linking Earth observations to infectious disease decision support systems</i> (Presentation + Q&A)	04:45-05:15	10:45-11:15
20:15-21:00	Dr Angelo Vermeulen (Delft University of Technology): <i>Regenerative Synthetic Ecosystems and Evolving Asteroid Starships: Crafting Resilient Futures in Space</i> (~30 minute presentation + ~15min Q&A)	05:15-06:00	11:15-12:00
21:00-21:15	<ul style="list-style-type: none"> <li>Vienna Tran: <i>Overall summation of Symposium</i></li> <li>Collective word cloud from participants</li> <li>Dr Rowena Christiansen: <i>Thanks and conclusion</i></li> </ul>	06:00-06:15	12:00-12:15
21:15-21:30	OVERFLOW TIME AVAILABLE IF NEEDED	06:15-06:30	12:15-12:30