

Event Report

# Space Generation Fusion Forum 2021



SPACE GENERATION  
FUSION FORUM 2021

Colorado Springs, Colorado, U.S.A  
21 – 23 August, 2021

Virtual Day - 7th August, 2021



SPACE GENERATION  
ADVISORY COUNCIL



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**IN SUPPORT OF THE UNITED NATIONS PROGRAMME ON SPACE APPLICATIONS**

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## Foreword from the Event Managers

Dear Space Generation Fusion Forum Delegates,

On behalf of the 2021 Organising Team, it is our great pleasure to welcome you to the 9th Space Generation Fusion Forum held in conjunction with the Space Foundation's 36th Space Symposium! So much time, creativity, and love for all things space have gone into crafting this programme behind the scenes. We hope that you will enjoy it as much as we enjoyed putting it together.

SGFF has been designed to provide a comprehensive and diverse programme that brings to the forefront pertinent topics across the current global space industry. SGFF will be dynamic, stimulating, and fun. We encourage thoughtful conversations, lively debates, creative exchange of ideas, and, most importantly, connection with your peers from around the world. We are blown away by the quality of this year's delegate applicants. As you grow up in your careers together, you just might find yourself across the table signing a business deal with someone who you met at SGFF or through the SGAC. After all, space is big, but our industry is small!

This past year has been a particularly challenging time for our Organising Team to put together an event like the SGFF, and, with travel restrictions still in place across most of the world, bring together the internationally diverse community which our events are known for. Fortunately, 2020 provided us with plenty of learning opportunities for engaging all of you in new ways, and while we wish you could all be here, in Colorado Springs in-person, we are glad that at least you can tune in to all of our proceedings.

With that in mind we would like to personally thank the Organising Team for putting in such an immense effort to make this year's conference a reality, ever aware that it might be cancelled at any time. We'd also like to thank each of you for making the journey to Colorado, or putting in the effort to join us online.

We would also like to extend a special thank you to the Space Foundation Team and our sponsors, all of whom have stepped up to show their support for the next generation and make the Space Generation Fusion Forum possible despite this year's challenges.

We hope that you enjoy the event and can't wait to meet you virtually and in-person!

Kristin Shahady  
SGFF 2021 Manager

Tasman Powis  
SGFF 2021 Deputy Manager



**Kristin Shahady**  
Manager



**Tasman Powis**  
Deputy Manager



## Space Generation Fusion Forum Overview

The **Space Generation Fusion Forum (SGFF) 2021** was the **2021 version of the annual Space Generation Fusion Forum**, held in conjunction with the Space Symposium. The SGFF2021 included three days of in-person events, as well as a “virtual day” open to delegates and streamed to the public on August 7th. The virtual day included introductions to breakout sessions and a virtual networking event. The in-person/streamed event included breakout sessions, lightning talks, keynotes, and other special dinner events.



## Programme

Virtual Day - August 7, 2021		
Event	Speakers	Sponsors
Breakout Sessions	David Murrow Al Tadros; Nathan O'Konek Lesley Conn Dave Fischer Jamil Castillo Connie Walker Peter Martinez Ian Christansen Kathleen Codere	Lockheed Martin Redwire Space Foundation Astroscale Coalition for Deep Space Exploration Virtual: AAS Virtual: SWF Virtual: Lockheed Martin
Keynote	Peter Beck <i>Founder, CEO, Chief Engineer, Rocket Lab</i>	Rocket Lab
NASA SCaN Networking Session	Rosa Avalos Warren	NASA SCaN

## Day 1 - Saturday, August 21, 2021

Remarks from Space Foundation	Steve Eisenhart <i>VP, Strategic &amp; International Partnerships, Space Foundation</i>	Space Foundation
Speed Sponsor Networking	N/A	Masten Analytical Space Relativity Space Rocket Lab Orbit Fab First Mode URSA
Opportunities with SGAC	David Petrillo <i>SGAC Executive Director</i>	SGAC
Day One Breakout Sessions		Lockheed Martin Redwire NOAA NESDIS Astroscale Coalition for Deep Space Exploration Virtual: AAS Virtual: SWF Virtual: Lockheed Martin
Entrepreneurship in Space Panel	Debra Facktor Brant Arseneau Lisa Rich Jonathan Fentzke Katherine Monson	Airbus 9Point8 Capital Xplore, Inc. TechStars Space Accelerator Analytical Space
Ball Aerospace Dinner at the Cheyenne Mountain Resort	Careers at Ball Aerospace Panel	Ball Aerospace

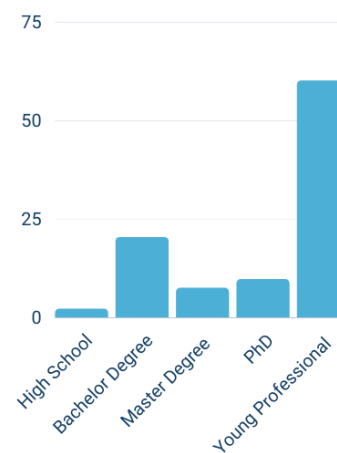
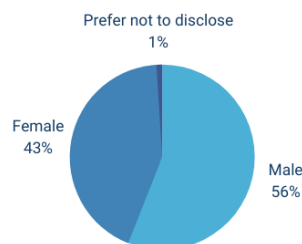
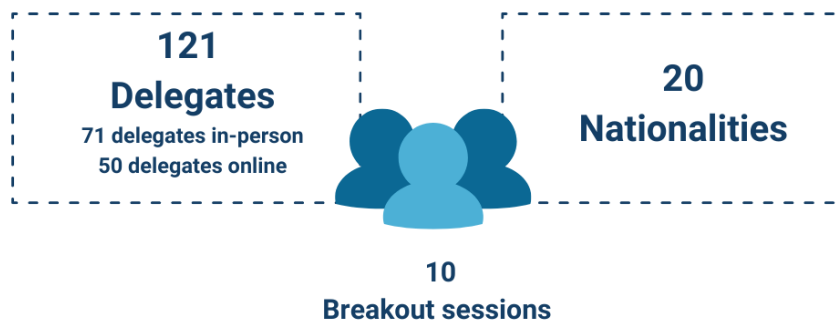
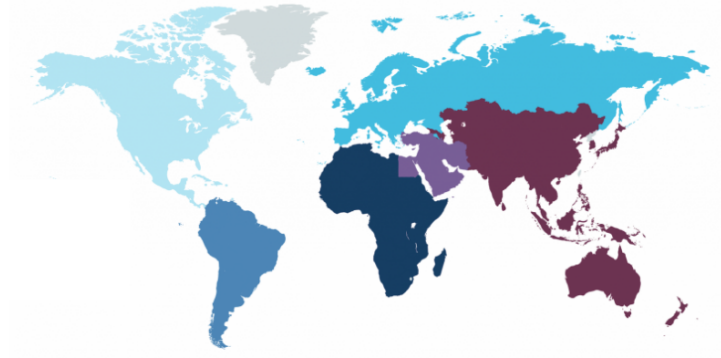
Day 2 - Sunday, August 22		
Keynote Talk - Career Development	Rob Meyerson <i>Founder</i>	Delalune Space
Lightning Talk	John Galer <i>Director, National Security Space</i>	AIA
Lightning Talk	Kyle Acierno	iSpace
Day Two Breakout sessions		Lockheed Martin Redwire NOAA NESDIS Astroscale Coalition for Deep Space Exploration Virtual: AAS Virtual: SWF Virtual: Lockheed Martin
Keynote	Karen Cox <i>Vice president of government relations &amp; public policy at Maxar Technologies</i>	MAXAR technologies
Lunch Keynote	Joseph Anderson <i>Vice president of operations and business development for SpaceLogistics, LLC</i>	Northrop Grumman
LEO to Lunar Panel	Dr. Mary Lynne Dittmar Rick Mastracchio Jeremy Schiel Michael Provenzano Rachel McNeal Bretton Alexander	Axiom Space Northrop Grumman Orbit Fab, Inc. Astrobotic Maxar Technologies Blue Origin
Lockheed Dinner	Kirk Shireman <i>Vice President, Lunar Exploration Campaigns, Lockheed Martin Commercial Civil Space</i>	Lockheed Martin

Day 3 - Monday, August 23		
Keynote	Lt. Gen. Nina Armagno <i>USSF</i>	USSF
United Vision for Space Panel	Ariel Ekblaw Lt. Col. Anna Gunn-Golkin Michael Dodge Alvin Harvey	MIT Space Exploration Initiative USSF
Keynote	Clay Mowry <i>Vice president of sales, marketing, &amp; customer experience at Blue Origin</i>	Blue Origin
Astronaut Closing Keynote	Frank L. Culburtson Jr. ( <i>Capt, USN, Ret.</i> ), NASA	Space Foundation





## Event Statistics







## Virtual Day - Event Recap

### 7th August 2021

Program	Keynote Speaker	Highlights	Youtube Link (max 1)
Rocket Lab Keynote	Peter Beck	Peter Beck gave an insightful talk on being an entrepreneur in space, the rocket market outside of the US, and answered insightful delegate questions.	<a href="https://www.youtube.com/watch?v=sUZ6aOZLSf0">https://www.youtube.com/watch?v=sUZ6aOZLSf0</a>
NASA ScAN Keynote	Rosa Avalos Warren	Rosa Avalos Warren spoke to the delegates on the future of communications in space. She showed a fantastic video of the future for human space exploration.	<a href="https://www.youtube.com/watch?v=wdoeXzXD2_M">https://www.youtube.com/watch?v=wdoeXzXD2_M</a>
NASA ScAN Gather Town Session	NASA ScAN	NASA ScAN hosted our first virtual networking session with all delegates to get to know one another, play games and get excited for the event.	N/A



## Day 01 Highlights

### ENTREPRENEURSHIP IN SPACE PANEL

Entrepreneurship and Investing — Funding the Next Generation



Brant Arseneau

Founder & Partner at  
9Point8 Capital  
Founder at Spaced  
Ventures  
Founder & CIO at Gravity  
Capital Partner



Lisa Rich

Founder & COO at  
Xplore, Inc.  
Founder & Managing  
Partner at Hemisphere  
Ventures



Jonathan Fentzke

Managing Director at  
TechStars Space  
Accelerator



Katherine Monson

CCO at Analytical Space,  
Inc.

Moderator



Debra Facktor

Airbus U.S. Space and  
Defense, Inc.

Over the past decade, funding in the space sector has exponentially grown, culminating in increased year-over-year growth of the overall space market. In 2020 space technology companies raised over \$5.5B in private funding and are on pace to break that number this year. With new sources and levels of fundraising now open to space companies, this panel explored different paths to building and funding a space company from the perspective of a startup, tech accelerator, and venture capitalist. The goal of this panel was to examine the current state of unprecedented financing and growth for startups and NewSpace companies.



### OPPORTUNITIES IN SGAC

Davide provided the delegates with a full overview of all of SGAC activities including project groups, regional events, webinars, mentoring, and more!

Davide Petrillo  
Executive Director, SGAC



## Day 02 Highlights

### LEO TO LUNAR PANEL

#### Building the New In-Space Economy

The goal of this panel was to discuss current and anticipated developments in the commercial space industry, considering both more established areas such as LEO, the ISS, and the pathway to novel sectors and emerging areas, such as commercial space stations, cislunar space and lunar surface activities.

Moderator



Dr. Mary Lynne

Dittmar, Axiom Space



Rick Mastracchio

Director, Strategy and Business Development, Human Exploration and Operations, Tactical Space Systems at Northrop Grumman



Michael Provenzano

Director of Planetary Mobility at Astrobotic



Jeremy Schiel

Chief Development Officer at Orbit Fab, Inc.



Rachel McNeal

Government Relations Manager at Maxar Technologies



Bretton Alexander

Vice President of Government Sales at Blue Origin



### CAREER KEYNOTE

Rob gave tips and tricks to the delegates in the audience about how to advance their careers throughout different areas of the space industry.

Rob Meyerson

Founder and CEO of Delalune Space



## FIRESIDE CHAT

Lockheed Martin and NOAA captivated the audience with SGFF's first fireside chat about climate monitoring and awareness.

Adrián Cuadra, director of weather & earth science at Lockheed Martin; Rob Redmon, chief scientist at NOAA SWFO Science Center



## KEYNOTE WITH MAXAR TECHNOLOGIES

Maxar discussed the new ways to innovate technologies and the future of working with them.

Rachel McNeal, Manager of Government Relations, Maxar



## KEYNOTE WITH NORTHROP GRUMMAN

Joseph Anderson from Northrop Grumman showed our delegates the different applications to the Mission Extension Vehicle and how we can keep LEO sustainable. He really excited our young professionals about the future of LEO.



## Day 03 Highlights

### UNITED VISION FOR SPACE PANEL

A Community Based Discourse on the Future of Space



Ariel Ekblaw

Founder & Director at  
MIT Space Exploration  
Initiative



Lt. Col. Anna Gunn-  
Golkin

Commander, 3rd Space  
Experimentation  
Squadron at U.S. Space  
Force



Michael Dodge

Assistant Professor &  
Director of Graduate  
Studies, Department of  
Space Studies at the  
University of North  
Dakota



Alvin Harvey

Ph.D. Student at MIT  
President of MIT Native  
American Student  
Association

Moderator



Daniel Reynolds

Space Generation  
Advisory Council

This panel sought to bring together young professionals representing industries that are not often given the space for collaborative public discourse, paving the way for an increased understanding on how we, as a global community, could continue towards our unified goal of a peaceful future in space. We will explore the similarities, differences, (mis)perceptions, and challenges that exist between our communities in achieving this goal. Simultaneously, we hope to create a dialogue within the delegate base (here and thereafter) on how we, as a global democratic community comprised of a diverse set of backgrounds, can create a collaborative space domain of the future.



### KEYNOTE WITH IAF

The IAF president Dr. Pascale Ehrenfreund spoke to the Space Generation Fusion Forum delegates and delivered an engaging keynote address.

Dr. Pascale | IAF President



## KEYNOTE WITH THE SPACE FORCE

This was one of the highest acclaimed keynotes of the event. Lt. General Armagno broke down what the US Space Force is, and encouraged our delegates to ask many questions from an international perspective.

Lt. Gen. Nina M. Armagno | Director of Staff,  
Headquarters – U.S. Space Force



## KEYNOTE WITH BLUE ORIGIN

Clay inspired our delegates and asked what future generations of astronauts will look like. He answered their questions for most of the keynote.



## CLOSING ASTRONAUT KEYNOTE

Frank took the time to discuss his experience as an astronaut, but also engaged our delegates to discuss the future of the astronaut program and where all of the young professionals in the audience were headed next.

## Breakout Sessions Outcomes

# IF MARK WATNEY BROUGHT BACK LUGGAGE: SCIENCE & DISCOVERY ENABLED BY A MARS SAMPLE RETURN

## Description

*Sponsor:* Lockheed Martin



*In-person focus:* Scientific needs

*Virtual focus:* International implications

The Mars Sample Return mission is a proposed international collaboration to return samples from the surface of Mars to Earth for the first time. The sample return mission architecture is designed to continue the work begun by NASA's Mars 2020 rover which will collect samples on Mars and stash them on the planet's surface, for subsequent return to Earth. NASA and ESA are studying a follow-on campaign that would include a NASA-led Sample Retrieval Lander that would launch the retrieved samples into Mars orbit, and an ESA-led Earth Return Orbiter that would rendezvous with the samples in Mars orbit and bring them back to Earth. The mission involves multiple complex architectural elements that cross the fields of science, technology, and policy. This breakout session challenged the delegates to analyse the needs of the program in addressing these fields.

## Questions

What science investigations can be conducted with the samples returned from Mars and how should these investigations be prioritised?

## Outcomes

The session discussed how to divide samples up proportionately among core & non-core funding participants as well as different ways Martian rocks can be used to help life on Earth.

- They also focused on how this mission will support the human exploration of our solar system. They asked key questions such as will astronauts be safe there? Is there anything we need to do to protect humans from Mars? Or protect Mars from humans? Ultimately, they agreed that Mars needs a framework organisation or agreement analogous to AA for ethical protection.

# BASICS OF CISLUNAR SPACE DEVELOPMENT

## Description

*Sponsor:* Coalition for Deep Space Exploration



### *In-person*

Plans to return humans to deep space include a vision for a sustained presence on and around the Moon, which calls for strategies to develop that region of space in ways that generate value – scientific, commercial, diplomatic. Establishing goals for what comes after landing humans on the lunar surface through programs such as NASA's Artemis initiative has the potential for driving economic development in the future and providing continuity of purpose in space. Developing the space beyond low Earth orbit, however, will require addressing technology and policy challenges as well as gaps in the current knowledge of cislunar space.

## Questions

What objectives should guide the development of this environment? What activities that support these objectives will likely yield value in the cislunar space?

## Outcomes

- The working group proposed the formation of a cislunar forum, operating within UN COPUOS, with a similar function to the Convention for the Conservation of Antarctic Marine Living Resources.
- The forum oversaw the development of interoperable standards, put in place designated 'heritage regions' to preserve areas of scientific and historic value, and allowed nations to brief each other on proposed lunar activities and coordinate their respective plans to deconflict lunar activities.



## ORBITAL DEBRIS AND MITIGATION

### Description

*Sponsor:* Astroscale



*In-person*

Space sustainability has become a hot topic across the international space industry, and for good reason. To date, governments and satellite operators have launched an estimated 11,670 satellites into space, many of which have been positioned in low-Earth orbit (LEO). According to the European Space Agency, only 4,300 of the remaining 7,200 orbiting satellites are still active, leaving nearly 3,000 non-maneuverable vehicles racing through space. The orbital environment is set to change further with the emergence of large satellite constellations. Space is a notoriously harsh environment and satellite failures happen. So, with the exponential rise of constellations already underway and set to continue, what can we do to simultaneously benefit from revolutionary LEO broadband networks whilst guaranteeing a sustainable space environment for future generations? The delegates worked with top experts from Astroscale to discuss the newest solutions to orbital debris. This breakout session challenged the delegates to analyse the geopolitical implications from orbital debris removal, methods to remove debris, and ways to move forward globally to have a clean space environment.

### Questions

What can we do to simultaneously benefit from revolutionary LEO-broadband networks whilst guaranteeing a sustainable space environment for future generations?

### Outcomes

- The UN should add specific language emphasising serviceability guidelines to the existing "Space Debris Mitigation Guidelines" document written by Committee on the Peaceful Uses of Outer Space (COPUOS)
- Using Economic Pressure and Peer Pressure to identify how space is foundational to assumed diversity within investment portfolios and corral investors to synchronise the investment strategies of sustainability and growth potential.
- Encouraging and promoting the Space Sustainability Ratings by World Economic Forum and MIT which would enable transparency for consumer decision making without disclosing mission-sensitive or proprietary information.

## SATELLITE TRANSPORTATION

### Description

*Sponsor:* Atomos Space



*In-person*

The primary body of law governing the use of outer space is the Outer Space Treaty. While this landmark document has provided excellent guidance for nation-state space actors, it falls short when considering the activities of private operators. Atomos is working to provide on orbit servicing capabilities, most critically the manoeuvring of space assets in orbit via efficient solar-electric (and in the future possibly nuclear-electric) space tugs. New regulations are required which will enable safe on-orbit and proximity operations, while not being overly stifling to new space actors, ranging from nations to start-ups. The delegates gave their opinions on how such regulations might look. They also helped suggest to the United Nations and U.S. lawmakers some regulations critical to the future of the in-space economy.

### Questions

What is the focus on on-orbit authority and the lack of clear policy or directive currently driving the growing on-orbit servicing, assembly, and manufacturing (OSAM) market?

### Outcomes

- Groups like the department of commerce, the UN, or an independent 3rd party arbiter (such as the ITU or Aerospace Corporation) should work to enable proper sanctions, language, and collaboration in the field.
- These groups must define a “zone of inclusion” for satellites. This zone of inclusion would allow both government and commercial companies to establish “rules of the road” for quicker, safer OSAM operations.

## INNOVATION WITH SPACE INFRASTRUCTURE

### Description

*Sponsor:* Redwire



*In-person*

The path to true commercialization in low-Earth-orbit will hinge on innovative technologies and mature business models. How can the burgeoning commercial space industry scale beyond public-private partnerships to grow profitable businesses in space? What are new opportunities on the horizon? What are the roadblocks that inhibit the acceleration of space commercialization? Redwire's representatives discussed the key drivers for building a sustainable space economy and the market opportunities that could catalyse increased investments in the industry. Justin formerly worked for Made-in-Space (acquired by Redwire in 2020), and has extensive experience in the areas of micro-gravity 3D printing and on-orbit manufacturing.

### Questions

Should we expand the perceived definition of what it means to be in the space industry?

### Outcomes

- Being in the space industry is not limited to being an aerospace, mechanical, or thermal engineer. In fact there are many applicable roles for experts in video game design, knowledge management, and other, seemingly non-space-related, fields.
- The definition of a space company can also be expanded beyond rocket and satellite companies to companies that use space as a medium. For example data analytics companies that use space assets but do not control space assets themselves.

## COMMUNICATION WITH THE PUBLIC + STEM OUTREACH

### Description

*Sponsor:* Space Foundation



*In-person*

The last thing science should be is boring. Proper science communication connects the everyday person to the wonders of the universe. It is our duty as scientists, engineers, and science communicators to share the discoveries that are shaping our future. An effective and credible science communicator is more important than ever in this age of misinformation. For this breakout session, delegates discussed the do's, and especially the don'ts, to successful #SciComm. The Space Foundation is experienced in communicating science to the general public and working with industry partners to promote space activities to leaders in government. Combined with their experience and fresh perspectives from the delegates, they discussed how to better communicate the importance of space to the public and leaders of the sector.

### Questions

How do we better communicate the value and importance of space to those on Earth?

### Outcomes

- The key takeaway from the group were that space communicators should do better to make outreach a conversation.
- It is not enough to simply explain and express the benefits of space, or the value of investment into space.
- Space communications should be about mutual and empathetic understanding between the space community and those outside it, rather than a one-way dialogue or sales pitch.

## INNOVATION FOR TECHNOLOGIES

### Description

*Sponsor:* Secure World Foundation



*Virtual*

The unknown potential of new technologies and new military domains, the emergence of new global actors, the return of great power competition and the crisis of multilateralism, further aggravated by the ongoing global pandemic, are among the key characteristics of this difficult security and arms control environment. This breakout session looked to the delegates who discussed confidence and security building in new domains, head hunting for tomorrow's arms control, and using emerging technologies for arms control and verification. The delegates worked with Secure World Foundation's experts to discuss possible solutions to these ever-growing challenges.

### Questions

How can we ensure space is usable for future generations and users?

### Outcomes

- Each of us should publicly advocate for sustainable business and sustainable space and demand responsibility from our leaders.
- Include private actors in the UN discussions.
- Include cislunar, lagrange (and other strategy points) in the outer space treaty to make sure sustainability can be guaranteed in future exploration.

## SPACE ETHICS AND SUSTAINABLE DEVELOPMENT GOALS

### Description

*Sponsor:* Secure World Foundation



*Virtual*

As space technology continues its forward progress into a state of ubiquity in our daily lives, it has become critical to reflect on the intersection of this technology and issues of ethics. Given that the SGAC operates in support of the United Nations Programme on Space Applications, the organisation seeks to be ahead of the curve on issues of space technology and its application in relation to, or support of, basic human rights in alignment with the UN Sustainable Development Goals (SDGs). Finally, as a representation of young professionals around the world, SGAC offers a unique environment to discuss, and envision, a diverse and inclusive future for the space sector. This discussion track explored these issues through a discussion on: emerging ethical issues for space technology; the potential for space activities to support the UN's human rights agenda, and a visioning exercise for the future of the space sector.

### Questions

How can all space activities include the concepts of sustainability, diversity and ethics?

### Outcomes

The recommendations included encouraging space organisations to more broadly promote the benefits of space to the general public, and working with companies to create space-specific environmental, social and governance principles, and to the United Nations, to create a system for proposed development notices and a rating system for ethics and ethical behaviour.

# MEGA SATELLITE CONSTELLATION INTERFERENCE WITH GROUND ASTRONOMY

## Description

*Host:* Satellite Constellations Workshop experts

*Virtual*

In May 2019, small satellite constellations became the new engineering solution to communications and wifi connectivity for people around the globe. While this solution seemed cheap and effective, it had an unforeseen consequence: impacts on the quality of astronomical observations from ground-based telescopes.

The delegates in this breakout session learned from experts who are dedicated to studying and finding solutions to mitigate the impacts of the ever-expanding constellations. Delegates also saw real-life examples of how the satellites negatively impact ground-based observations and then learned about the current solutions in hardware, software, and policy. Most importantly, this breakout session challenged delegates to propose solutions to the next generation of problems identified by the presenting experts.

## Questions

How do we ensure that the up-and-coming solutions benefit the astronomical community, the space industry, and the people around the world who need better, more reliable communications as provided by the satellites?

## Outcomes

The delegates explored the existing and planned large constellations of bright satellites in LEO and their effects on astronomical observations at optical and near-infrared (NIR) wavelengths.

- The policy group recommended establishing astronomy as an essential and protected space activity on a global level and Establish low-Earth Orbit as a resource and the night sky as part of that environment that needs to be protected.
- The technology group recommended a design for faintness and for flares that are visible to the naked eye and a deorbit policy for every year for these constellations.

## Appendix

### Speakers and Panelists



**Kyle Acierno**  
ispace Technologies U.S.

Kyle Acierno is CEO of ispace Technologies U.S. in Denver, Colorado. Kyle joined ispace in 2015 and has held leadership positions at ispace offices in Tokyo, Luxembourg and now the United States.

Kyle is an international expert in commercial space and a specialist in lunar exploration. Over the past decade, he has developed broad knowledge extending into space science, engineering, law, policy, finance, and business development.

Kyle is a frequent contributor to legal debates surrounding space resources and space policy and is an active member of the aerospace community. He sits on the Board of World Space Week and was the Chairman of the Technical Committee for The Hague International Space Resources Governance Working Group. He has been a member of the International Aeronautical Federation's Industrial Relations Committee since 2018.

With both Canadian and Italian citizenship and a passion for exploration, Kyle has visited over 100 countries and lived in 13. He received a Bachelor's in International Security from Simon Fraser University in Canada and a Master of Science in Space Studies from the International Space University in France.



**Kendall Ackerman**  
Ball Aerospace

Kendall Ackerman is a Project Manager for the Ball Enterprise Intelligence (BEI) team, which sits within Ball Aerospace's Systems Engineering Solutions business unit. She is responsible for taking SES's broad capabilities in advanced software and data analytics/intelligence to commercial markets by working directly with external clients to define business problems, then bringing those back to the BEI team to develop novel solutions that can be repeated and expanded.

Ackerman started at Ball Aerospace as an intern and was later hired full time within the Marketing and Communications team. She shifted to her current role in 2016. At Ball Aerospace, she was a co-lead of the Young Professionals Ball Network and helped start the Design Revolution Ball Interest group. Ackerman is also an active mentor at Ball and with students interested in career guidance.

Ackerman received a B.S. in business with a focus in computer information systems, a B.A. in technical journalism, and is currently pursuing an M.S. in data analytics, all from Colorado State University.





**Bretton Alexander**  
Ball Aerospace

Bretton (Brett) Alexander is Vice President, Government Sales for Blue Origin, a developer of rocket engines and space transportation capabilities, which he joined in 2011. Mr. Alexander is a recipient of the NASA Exceptional Public Service Medal and, from October 2009 to October 2011, was a member of the NASA Advisory Council (NAC). Mr. Alexander served as a member of the FAA's Commercial Space Transportation Advisory Committee (COMSTAC) from 2008 to 2019.

Mr. Alexander previously served as a senior policy analyst for space issues in the White House Office of Science and Technology Policy where he played a central role in development of the Vision for Space Exploration announced by President Bush in 2004. From December 2006.

(Bretton Alexander continued) to May 2011, Mr. Alexander served as president of the Commercial Spaceflight Federation, the industry association of businesses and organizations working to make commercial human spaceflight a reality.

From 2008 to 2011, Mr. Alexander was also a consultant in the space industry. From 2007 to 2008, he served as the executive director for space at the X PRIZE Foundation. Mr. Alexander was senior advisor to Transformational Space Corporation (t/Space) from 2005 to 2007. Prior to the White House, he held positions in the Federal Aviation Administration's Office of Commercial Space Transportation, The Aerospace Corporation, and ANSER Corporation. Mr. Alexander holds Master and Bachelor of Science degrees in aerospace engineering from the University of Virginia in Charlottesville, Virginia.



**Joseph Anderson**  
SpaceLogistics, LLC  
(Northrop Grumman)

Joseph Anderson is the Vice President of Operations and Business Development for SpaceLogistics, LLC, a wholly owned subsidiary of Northrop Grumman. He has more than thirty years of satellite engineering, management and leadership experience including nine years with Northrop Grumman and twenty years at Intelsat. In his current role, Mr. Anderson is responsible for managing the technical, operational, licensing and insurance aspects of Space Logistics' satellite servicing fleet, as well as business development for commercial and government satellite servicing. Mr. Anderson earned an MBA from George Washington University, an M.S. in Engineering from Stanford University and a B.S. in Aerospace Engineering from the University of Minnesota.



**Lieutenant General  
Nina M. Armagno**  
U.S. Space Force

Lt. Gen. Nina M. Armagno is the Director of Staff, Headquarters, U.S. Space Force, the Pentagon, Arlington, Virginia. In this role, she synchronizes policy, plans, positions, procedures, and cross functional issues for the U.S. Space Force headquarters staff.

Lt. Gen. Armagno earned her commission and graduated from the U.S. Air Force Academy in June 1988. She is a career space operator with more than 32 years of operational experience. She is the only person to have commanded both launch wings in the United States Air Force, and she is the first woman general officer commissioned in the United States Space Force.

Prior to her current assignment, Lt. Gen. Armagno was the Director, Space Programs, Office of the Assistant Secretary for Acquisition, Arlington, Virginia. She directed the development and procurement of space programs to Air Force major commands, product centers and laboratories. Her responsibilities included crafting program

strategies and options for representing Air Force positions to Headquarters U.S. Air Force, the office of the Secretary of Defense, Congress and the White House. She has also served as Director of Plans and Policy, U.S. Strategic Command, Offutt Air Force Base, Nebraska. She was directly responsible to the USSTRATCOM Commander for the development and implementation of national security policy and guidance, military strategy, space and weapons employment policy and concepts and joint doctrine as they apply to the command and the execution of its mission.



**J. Brant Arseneau**  
9Point8 Capital

J. Brant Arseneau is an entrepreneur and executive, best known for his work in both the fintech and space industries. He is generally known in finance for his work in electronic trading, renewable energy derivatives, and capital markets technology. Brant began his career in academia, researching computational intelligence, but then transitioned to commercial ventures in technology including; consulting, product development, strategy and capital raising. He has been both a Chief Information Officer (CIO) for large banks and an entrepreneur, having started several fintech start-ups. Arseneau is now financing the NewSpace industry and is currently a founding partner at 9Point8 Capital and a founder of Spaced Ventures.



**Rosa Avalos-Warren**  
NASA

Rosa Avalos-Warren is a Human Space Flight Mission Manager, managing and overseeing concepts of operations, system requirements, pre-mission integration, operations, and post-mission evaluation. She supports the International Space Station (ISS), Commercial Crew Program (CCP), and the Artemis program.

Before joining Human Space Flight, Rosa worked as a project manager in launch and flight operations at NASA's Wallops Flight Facility, where she provided telemetry support, as well as range support to Rocket Lab and multiple Air Surveillance-HEOMD (Human Exploration and Operations Mission Directorate) projects. Prior to working at Wallops, Rosa worked for NASA's Johnson Space Center (JSC) as a contractor, supporting the ISS Program as a Mechanical and Operations Engineer, in addition to a multitude of other engineering and management roles. Back in 2009, she began working with NASA Langley Research Center, National Institute of Aerospace (NIA), and Virginia Tech on the Multidisciplinary Design Optimization – Truss braced wing project. NASA has awarded Avalos-Warren a number of awards including the Space Flight Awareness Team Award for her work on restructuring ISS flight rules. Her STEM outreach abroad and in the United States have earned her the recognition from former NASA Administrator, Charles Bolden.

Outside of NASA, Rosa is a TEDx speaker, participates in the U.S. State Department outreach program and is a Solar System Ambassador, regularly talking to students around the world about the importance of science, technology, engineering and math (STEM). She earned her Bachelor's Degree in Aerospace Engineering from Virginia Polytechnic Institute and State University, and her Master's Degree in Mechanical Engineering from Rice University.



**Peter Beck**  
Rocket Lab

Peter Beck is the founder, CEO and chief engineer of Rocket Lab, the leading end-to-end space company that develops and launches advanced rockets, satellites and spacecraft. Peter founded the company in 2006 with the goal of making space more accessible as a platform for innovation, exploration and infrastructure. Peter led the development of the Electron rocket, an industry-defining launch vehicle that unlocked frequent, reliable and cost-effective access to orbit for small satellites. First launched in 2017, Electron is now the second most frequently launched U.S. orbital rocket. Under Peter's leadership, Rocket Lab has established launch sites in the United States and New Zealand and expanded into space systems, delivering market leading satellites and spacecraft for low Earth orbit and interplanetary missions. An acclaimed engineer, Peter has been awarded with the Meritorious Medal, Cooper Medal, Pickering Medal and Gold Medal from the Royal Aeronautical Society. Peter is an adjunct professor in aerospace engineering at the University of Auckland.



**Greg Bonn**  
Ball Aerospace

Greg Bonn is a Software Strategist in the Strategic Engineering group at Ball Aerospace. He is responsible for assessing market and industry software trends, directing software research activities, and leading software special projects and strategy.

Bonn started at Ball Aerospace as an intern in 2004 and has been challenged by a number of different roles since joining the team full time. These past roles include Software Developer, Team Lead, Functional Manager, Hiring Manager, and New Business Lead.

Bonn received a B.S. in computer systems engineering from Arizona State University.



**Zack Bookbinder**  
Analytical Space, Inc.

Zack Bookbinder is a Business Development Associate for Analytical Space, Inc. Analytical Space is an aerospace company that is building a hybrid RF and Optical relay network. This dynamic communications infrastructure enables the growing space industry to provide low- latency data to commercial and government end users here on earth.

Prior to joining Analytical Space, Zack served as a Financial Analyst Intern for Deloitte, a global provider of professional services to corporations and government organizations. He has also co-authored and edited several case studies on the topic of technology strategy at Harvard Business School.

Zack is an avid runner, cyclist, and hiker and relishes any opportunity to explore the great outdoors. He recently picked up photography as a method to share travel stories and recommendations with family and friends. He resides in Philadelphia, Pennsylvania.



**Jamil Castillo**  
Coalition for Deep Space  
Exploration

Jamil Estéfani Castillo is the Space Policy and Digital Communications Manager at the Coalition for Deep Space Exploration, where she is the development lead of space policy white papers and blogs and co-lead of the Deep Space Podcast, and writes for the organization's digital products, including the daily Deep Space Extra newsletter. Prior to the Coalition, Jamil worked at BryceTech, where she participated in projects related to the economic development of low Earth orbit, cybersecurity policy adaptable to space systems, and private investment in start-up space companies. She also contributed her research on anti-satellite capabilities to the Space Security Index Project in 2018. Jamil received her master's degree in air and space law from McGill University. Before starting her career in space, she was an aviation lawyer working on drone and safety policy, teaching air regulations to air traffic control students, and serving as a volunteer adviser on the International Civil Aviation Organization (ICAO) Safety Management Panel.

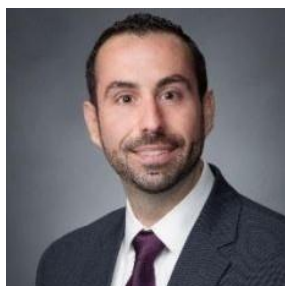


**Kat Coderre**  
Lockheed Martin

Kat Coderre joined Lockheed Martin (LM) in 2007 and is the Deputy Manager for LM's Deep Space Exploration Advanced Programs where she leads a team of engineers and scientists for research and early spacecraft development efforts. Kat is also the Lockheed Martin Principal Investigator for the AstroRad Vest; a radiation protection vest for astronauts in the deep space environment which is currently being tested on the International Space Station. Kat holds a dual undergraduate degree in Aeronautical and Mechanical Engineering from Rensselaer Polytechnic Institute in New York, and a Master's in Space Systems Engineering from Steven's Institute of Technology in New Jersey.

Kat has 14 years of experience working in space exploration, first as a contractor at NASA's Johnson Space Center in Houston and now in Denver. Most recently she has been working on returning humans to the Moon in various systems engineering disciplines such as System Architect, interfaces lead, and requirements and verification, through her roles on the HLS, Gateway, and Orion programs. Throughout her career she has worked on several Lockheed Martin contracts supporting NASA's Space Shuttle and International Space Station programs.

Outside of work, Kat enjoys playing sports such as soccer, softball, hiking and skiing in the beautiful Colorado mountains, and taking her dogs for nice long walks. She also works with a dog rescue where she helps rehabilitate dogs and adopt them out to their forever homes. Kat loves to travel, both domestically and internationally, and holds a private pilot's license.



**Adrián Cuadra**  
Lockheed Martin

Adrián Cuadra is the Director of the Weather & Earth Science Market Segment, responsible for execution of the GOES-R Weather Satellite Program and other portfolio programs, growing the business, and working with our NASA and NOAA Customers to solve their hardest problems.

Previously, Adrián was the Deputy Program Manager for Lockheed Martin's first three next-generation commercial communications satellites, responsible for delivery of highly complex spacecraft for our international Customers in the Kingdom of Saudi Arabia and Japan. Adrián was also the spacecraft systems manager on the Advanced EHF Program responsible for Systems & Satellite Integration, Launch Systems Integration, Flight Sciences, and Specialty Engineering.

Adrián graduated with honors from Santa Clara University with a Bachelor of Science in Electrical Engineering and a Masters degree in Engineering Management. He was



the President of Tau Beta Pi, an INROADS scholar, and executive board member for the Latino- based fraternity Sigma Lambda Beta.

He remains actively involved as a mentor focused on minority and underrepresented future leaders.



**Frank L. Culbertson, Jr.**  
**(Captain, USN, Ret.)**  
NASA

Frank L. Culbertson, Jr. (Captain, USN, Ret.) graduated from Annapolis in 1971 and served aboard the USS Fox (CG-33) in the Gulf of Tonkin prior to reporting to flight training in Pensacola, Florida. After designation as a Naval Aviator at Beeville, Texas, in May 1973, he flew F-4 Phantom aircraft in VF-121, NAS Miramar, California, in VF-151 aboard the USS Midway (CV-41), permanently homeported in Yokosuka, Japan, and with the USAF in the 426th TFTS at Luke Air Force Base, Arizona, where he served as Weapons and Tactics Instructor. Culbertson then served as the Catapult and Arresting Gear Officer for the USS John F. Kennedy (CV-67) until May 1981 when he was selected to attend the U.S. Naval Test Pilot School, Patuxent River, Maryland. Following graduation with distinction in June 1982, he was assigned to the Carrier Systems Branch of the Strike Aircraft Test Directorate where he served as Program Manager for all F-4 testing and as a test pilot for automatic carrier landing system tests and carrier suitability. He was engaged in fleet replacement training in the F-14A Tomcat at VF-101, NAS Oceana, Virginia, from January 1984 until his selection for the astronaut candidate program. He has logged over 6,000 hours flying time in 40 different types of aircraft, and 350 carrier landings.

Culbertson's space flight experience includes STS-38 Atlantis (November 15-20, 1990), a five-day mission during which the crew conducted Department of Defense operations. The mission concluded after 80 orbits of the Earth in 117 hours, 54 minutes, 28 seconds, the first Shuttle to land in Florida since 1985.

Further, STS-51 Discovery (September 12-22, 1993) was a ten-day mission during which the crew deployed the U.S. Advanced Communications Technology Satellite (ACTS/TOS), and the Shuttle Pallet Satellite (ORFEUS/SPAS) carrying U.S. and German scientific experiments, including an ultraviolet spectrometer. A seven-hour EVA was also conducted to evaluate Hubble Space Telescope repair tools and methods. After the SPAS spacecraft had completed six days of free flight some 40 miles from Discovery, the crew completed a successful rendezvous and recovered the SPAS with the Shuttle's robot arm. The mission concluded with the first night landing of the Shuttle at the Kennedy Space Center. Mission duration was 158 Earth orbits in 236 hours and 11 minutes.

Culbertson is a member of the following organizations: Senior Fellow of the American Institute of Aeronautics and Astronautics, Association of Naval Aviators, Aircraft Owners & Pilots Association, the Aviation Boatswains Mate's Association, and the Association of Space Explorers.



**Mary Lynne Dittmar**  
Axiom Space

Dr. Mary Lynne Dittmar is Executive Vice President of Axiom Space, which is building the world's first commercial space station. An internationally-known expert in human space exploration beginning with her work on the International Space Station, in 2015 she founded and served for over 5 years as President and CEO of the Coalition for Deep Space Exploration, an industry group supporting NASA's programs in deep space exploration and science. A Fellow of the National Research Society Sigma Xi and Associate Fellow of the AIAA, she served from 2012-2014 on the Human Spaceflight Committee of the National Research Council and recently completed a 6-year appointment to the Space Studies Board at the National Academies of Sciences, Engineering and Medicine. Currently she serves on the U.S. National Space Council's Users' Advisory Group and the Commercial Space Transportation Advisory Committee (COMSTAC) for the FAA. Mary Lynne enjoys the outdoors near her home in North Carolina, and travels frequently to Washington, D.C. and to Axiom Space Headquarters in Houston, TX.



**Michael Dodge**  
University of North Dakota

Michael S. Dodge currently serves as an Assistant Professor & Director of Graduate Studies in the Department of Space Studies at the University of North Dakota. Prior to joining the faculty at UND, Prof. Dodge was Research Counsel & Law Instructor at the University of Mississippi School of Law's program in Air & Space Law. Before teaching at UoM Law, Prof. Dodge received his LL.M. degree in Aviation & Space Law from McGill University in the Fall of 2011 (thesis: "Global Navigation Satellite Systems (GNSS) and the GPS-Galileo Agreement"). Before attending McGill, he obtained his J.D. in 2008 from the University of Mississippi School of Law, where he was also the first recipient of the Certificate in Remote Sensing, Air, and Space Law. He obtained dual degrees in B.S. (in Biological Sciences) and B.A. (in Philosophy) in 2005, from the University of Southern Mississippi.

Prof. Dodge teaches several courses for Space Studies, including Space Politics and Policy (SpSt 560), Space Law (SpSt 565), Remote Sensing Law and Policy (SpSt 575), and Space & the Environment (SpSt 545). These courses include a multitude of historical, political, and legal facets to space activities, and cover subjects such as legal issues in space exploration; regulation, privacy law, and constitutional concerns surrounding the use of remote sensing technology; licensing and regulatory requirements for space activity; the historical and evolutionary nature of space policy (both nationally and internationally); public international law; and domestic United States legal governance of space activity.

Prof. Dodge's research has included GNSS law, remote sensing law & regulation, environmental regulation of outer space, Space Traffic Management (STM), concepts of sovereignty and ownership rights in space, and the nexus of remote sensing technology with global humanitarian law and disaster relief law. Future studies include examination of future environmental regulatory structures for orbital space, as well as domestic United States legislation and its relationship with the precept of non-appropriation in outer space, including an analysis of the ownership of celestial resources from potential asteroid mining operations.



**Christy Edwards**  
Lockheed Martin

Dr. Christine Edwards is the Deputy Exploration Architect at Lockheed Martin Space. She co- leads the Commercial Civil Space Advanced Programs team in architecture and technology development for future human spaceflight missions. Previous positions include serving as Principal Investigator for weather and remote sensing research and development, lead systems engineer and associate manager for Mars Reconnaissance Orbiter (MRO) operations, guidance navigation and control (GN&C) operations for the GRAIL, Mars Odyssey, and Stardust missions, launch support for Juno, and autonomous rendezvous, proximity operations, and docking (ARPOD) development for the Orion. She holds a Ph.D. in systems engineering from Stevens Institute of Technology, Bachelor and Master of Science degrees in aerospace engineering from MIT, is a Research Associate at the Denver Museum of Nature and Science, and was recognized by Aviation Week & Space Technology in their 40 under 40 in Aerospace and Defense.



**Ariel Ekblaw**  
MIT Space Exploration  
Initiative

Ariel Ekblaw is the founder and director of the MIT Space Exploration Initiative, a team of over 50 graduate students, staff, and faculty actively prototyping the artifacts of our sci-fi space future. Founded in 2016, the Initiative includes a portfolio of 40+ research projects focused on life in space, and supports an accelerator-like R&D program for payload development and flight testing across MIT. For the Initiative, Ariel drives space-related research across science, engineering, art, and design, and charts an annually recurring cadence of parabolic flights, sub-orbital, and orbital launch opportunities. Ariel graduated with a B.S. in Physics, Mathematics and Philosophy from Yale University and defended her MIT Ph.D. in autonomously self-assembling space architecture for future habitats and space stations in orbit around the Earth, Moon, and Mars. Ariel's work has been featured in WIRED (March 2020 cover story), MIT Technology Review, Harvard Business Review, the Wall Street Journal, the BBC, CNN, NPR, IEEE and AIAA proceedings, and more. Ariel serves on the NASA Lunar Surface Innovation Consortium (LSIC) Executive Committee and is the author/editor of the forthcoming ["Into the Anthropocosmos: A Whole Space Catalog from the MIT Space Exploration Initiative"](#) with MIT Press (September 2021). Humanity stands on the cusp of interplanetary civilization and space is our next, grand frontier. This opportunity to design our interplanetary lives beckons to us—Ariel strives to bring our space exploration future to life.



**Debra Facktor**  
AIRBUS U.S. Space and  
Defense, Inc.

Debra Facktor is the Head of U.S. Space Systems for Airbus U.S. Space & Defense, Inc. As such, she is responsible for managing the two businesses within U.S. Space Systems: National Security Space and Space Exploration. Debra is also on the board of Airbus OneWeb Satellites, a joint venture operating a state-of-the-art satellite manufacturing facility.

Prior to joining Airbus U.S., Debra was Vice President and General Manager of Strategic Operations for Ball Aerospace, leading the company's Washington DC operations, strategic development, and marketing and communications. Her extensive business experience includes serving as President and Owner of AirLaunch LLC, and as Vice President of Business Development and Strategic Planning for Kistler Aerospace Corporation.

Debra is actively engaged as an advisor and mentor in the aerospace community and is a fellow of the American Institute of Aeronautics and Astronautics (AIAA) and the American Astronautical Society (AAS). She sits on the University of Michigan aerospace engineering Industrial Advisory Board, the Advisory Committee for the Intelligence and National Security Alliance (INSA), and the Future Space Leaders

Foundation board. She is also an academician of the International Academy of Astronautics (IAA).

Debra received her bachelor's and master's degrees in aerospace engineering from the University of Michigan, and is an alumna of the International Space University summer session program in Strasbourg, France.



**Jonathan Fentzke**  
TechStars Space  
Accelerator

Dr. Jonathan Fentzke is a space scientist by training and an experienced entrepreneur, mentor and investor. He is currently a Deeptech investor and managing director at Techstars. He was a co-founder and Board Director at OmniEarth and InSpace.



**Elizabeth Frank**  
First Mode

Dr. Elizabeth Frank is a Senior Applied Planetary Scientist at First Mode, a Seattle-based engineering firm that designs and implements complex systems in aerospace and mining. She earned her Ph.D. in planetary geochemistry from the University of Colorado at Boulder, following which she worked on NASA's MESSENGER mission to the planet Mercury. On MESSENGER, she analyzed data from the X-Ray Spectrometer to elucidate the origin and evolution of Mercury's geological history.

After MESSENGER, Elizabeth became a geospatial analyst at Planetary Resources, Inc., the asteroid mining company, where she processed ground truth data to validate a mid-wave infrared imaging system. She later led the science definition for an asteroid prospecting mission concept. Since joining First Mode in 2018, Elizabeth has managed multiple concept- phase projects and specializes in helping customers define their problems and goals using the principles of systems engineering. She also is the chair of the Lunar Exploration Analysis Group's Commercial Advisory Board, which provides input from industry to NASA programs and policy regarding the Moon.





**John Galer**  
Aerospace Industries  
Association

John Galer is the Assistant Vice President for National Security Space at the Aerospace Industries Association, providing policy leadership and representing industry consensus on national security space matters.

John is a former active duty Air Force space operations officer experienced in leading dynamic teams in space operations, strategy, communications, and policy. During his career, he has served as a satellite operator and integrator and a trusted advisor and strategic communicator for chief executives in the Department of Defense, intelligence community, and U.S. Congress. In his last assignment, he was a Legislative Liaison for U.S. Strategic Command.

Galer holds a B.S. in Journalism from the University of Illinois at Urbana-Champaign and an M.B.A. from Florida State University.



**Lieutenant Colonel  
Anna Gunn-Golkin**  
U.S. Space Force

Lt. Col. Anna Gunn-Golkin is the Commander of the 3rd Space Experimentation Squadron at Schriever Air Force Base in Colorado Springs, Colorado. The 3rd Space Experimentation Squadron is the Space Force's premier organization for conducting space-based demonstrations and experimentation. Utilizing innovative and scientific methodologies, the 3rd is accelerating the transition of research and development concepts into operational space capabilities. Lt. Col. Gunn-Golkin received her commission from the U.S. Air Force Academy in 2005 and is a distinguished graduate of the U.S. Air Force Test Pilot School.

Her background includes various duties in space launch operations, fighter, helicopter, and unmanned system flight test, instructing astronautics and rocket propulsion at the United States Air Force Academy, developing national space policy, and leading advanced multi-domain systems acquisition and fielding. Lt. Col. Gunn-Golkin has served as a Service Chiefs Fellow at the Defense Advanced Research Projects Agency (DARPA) and a Strategic Policy Fellow at the National Aeronautics and Space Administration (NASA). She was detailed as initial cadre at the inaugural Space Test Fundamentals course at the USAF Test Pilot School.

(Lt. Col. Anna Gunn-Golkin continued) Prior to her assignment to the 3rd Space Experimentation Squadron, Lt. Col. Gunn-Golkin was the Chief of Staff, Department of the Air Force Rapid Capabilities Office where she directed program integration and served as legislative liaison for a \$40B classified portfolio, including the X-37B, B-21, and other high priority programs.

Lt. Col. Gunn-Golkin's experience in air and space test and operations includes over 600 flight hours in the HH-60U and F-16D, F/A-18F and more than 35 other aircraft, FalconSat 3 and 6, multiple unmanned aerial systems, Minotaur launch vehicle, and Ground Based Missile Defense.



**Alvin Harvey**  
Massachusetts  
Institute of Technology

Alvin Donel Harvey is a MIT Ph.D. candidate in the Aeronautics and Astronautics department's Human Systems Lab and a member of the Navajo Nation. He is of the Tó-baazhni'ázhi (Two Who Came To the Water) clan and born for the Honágháahnii (One-walks-around) clan. His current Ph.D. research focuses on developing virtual reality systems for satellite constellation development, operation, and management; as well as developing methods of analyzing space technology as tools for tribal sovereignty. Prior work of Alvin includes research in partial gravity biomechanics and simulation, applied thermodynamics, and extensive historical research examining cases of conflict between Indigenous Nations and space agencies and entities. His current historical work also includes examining MIT's ties to Indigenous land and lives through the Morrill Land Grant Acts, MIT's relationship with its own Indigenous students, and its associations with local Indigenous Nations.

As the president of the MIT Native American Student Association he continues to be an advocate for Indigenous students at MIT, working together with MIT's chapter of the American Indian Science and Engineering Society to have MIT celebrate its first Indigenous Peoples' Day, create an on-campus space for Indigenous students, and address historical concerns and conflicts between MIT and Indigenous people. He studied mechanical engineering at New Mexico State University (B.S.), while attaining his private pilot's license, and Aeronautics and Astronautics at MIT in the Human Systems Lab (SM '20, Ph.D. in progress). As Alvin continues his technical research he also continues to concentrate on advocating for Indigenous viewpoints and space policy throughout the various space exploration fields.



**Lars Hoffman**  
Rocket Lab

As Senior Vice President, Lars Hoffman is responsible for Rocket Lab's global business and government affairs. With more than 30 years of experience in national security and aerospace, Lars brings a deep knowledge of the global space industry and U.S. Government space requirements.

Before joining Rocket Lab, Lars was an executive at SpaceX, from 2014 to 2018. At SpaceX, Lars facilitated certification of the Falcon 9 and Falcon Heavy launch vehicles and he led the capture of more than \$2 billion of national security space business.

Prior to joining industry, Lars completed a distinguished career in the United States Air Force, as a U-2 reconnaissance pilot, a test pilot, and in senior leadership roles at The Pentagon.

Lars holds advanced engineering degrees from the United States Air Force Academy, U.S. Air Force Institute of Technology, and U.S. Air Force Test Pilot School. Lars also earned national security degrees from MIT, Air University, and National Defense University, and a Master of Business Administration degree from UCLA.



**Matthew Kuhns**  
Masten Space Systems

With over a decade of experience in aerospace and startups, Matthew Kuhns has co-founded several companies and has a passion for finding innovative solutions to difficult problems. As a NASA NIAC Fellow with five patents, Kuhns plays a key role in Masten's technology development and advanced concepts. He is a leader in enabling space technologies, including LOX/Methane propulsion systems, electric pumps, and advanced additive manufacturing. Prior to Masten he worked on the Pratt & Whitney (P&W) Geared Turbofan engine, long endurance UAVs, and commercial aircraft fuel systems.



**Sean Mahoney**  
Masten Space Systems

As CEO of Masten Space Systems, Sean Mahoney has been instrumental in building a sustainable, customer-funded business and establishing Masten as a rising star in the NewSpace movement. He joined Masten in 2010 as Director of Business Operations, served as COO from 2011 to 2012, and was named CEO in 2013. Mahoney brought more than 15 years of corporate leadership and technology experience to Masten. He founded and led a number of technology startups and raised multiple rounds of private funding. Mahoney received his MBA from Emory University's Goizueta Business School and serves in a leadership capacity for a number of entrepreneurship and environmental non-profit organizations.



**Rick Mastracchio**  
Northrop Grumman

Rick Mastracchio is the Director of Business Development for Northrop Grumman's Human Exploration and Operations unit. He has held previously positions as a Program Manager and as the Director of Cygnus Operations.

Prior to joining Northrop Grumman Mr. Mastracchio spent 20 years as a NASA Astronaut. He has flown three Space Shuttle Missions, a Soyuz mission and was a crew member on two International Space Station Expeditions, logging a total of 227 days in space as well as nine spacewalks. Mr. Mastracchio has held numerous leadership positions at NASA including lead for Space Shuttle cockpit displays update, crew office rep to the Orion program office, instructor astronaut and lead spacewalker on numerous missions.

Mr. Mastracchio has degrees from The University of Connecticut, Rensselaer Polytechnic Institute and the University of Houston. Mr. Mastracchio has received numerous honors including NASA Space Flight Medals, and the NASA Distinguished Service Medal.



**Lisa May**  
Lockheed Martin

Lisa May is currently Chief Technologist for Lockheed Martin's Commercial and Civil Space Advanced Programs. Lisa is responsible for leading technology strategy development in support of all market segments and is the principal advisor on CCS technology investments and partnerships. Prior to assuming the Chief Technologist role, Lisa served as the Deputy Space Exploration Architect. She supported Lockheed Martin's technical response to NASA's call to take humans safely to the surface of the Moon by 2024. Before joining Lockheed Martin in 2019, Lisa was CEO and principal consultant for Murphian Consulting. She provided systems engineering and management consulting services to technology entrepreneurs in such diverse fields as nuclear, forensics, space, and transportation technology.

From 2002 to 2015, Lisa was at NASA Headquarters, where she managed NASA's diverse portfolio of Mars missions, led advanced studies, contingency planning, risk analyses, and conducted Program-level planning including Mars communications. Lisa chaired the International Mars Exploration Working Group, leading spacefaring nations in cooperation for Mars sample return and initiated Mars-related challenges and student competitions. Concurrently, Lisa was the Program Executive for the Mars Atmosphere and Volatile Evolution (MAVEN) mission, the Mars Technology Program, and Mars Sample Return. Prior to joining NASA Headquarters, Lisa worked at NASA Goddard Space Flight Center, founded Jackson- May Associates, and was Director of Business Development at Aurora Flight Sciences.

Lisa holds a master's degree in mechanical engineering and a bachelor's degree in speech communication, both from the University of Virginia. In addition to her being an AIAA Associate Fellow, Lisa is an IEEE Senior Member, and an INCOSE Expert Systems Engineering Professional.



**Rachel McNeal**  
Maxar Technologies

Rachel McNeal is a Manager of Government Relations at Maxar Technologies. In this role, Rachel is responsible for the company's national security portfolio including managing relationships with Congress, representing the company with trade associations, as well as advocating for programs and public policies.

Before joining Maxar, Rachel was an analyst on Northrop Grumman's Legislative Affairs team where she supported the company's advocacy for national security and civil space programs. Rachel has served in various roles in state and federal government. She served as a Gubernatorial Fellow in Florida's emergency management agency where she lead an effort to implement virtual disaster response, and as a researcher for Florida State University's Center for Disaster Risk Policy where she worked alongside an international team to lead workshops on emergency management topics in Nepal.

Rachel received a master's in Public Administration with a certificate in Emergency Management and Homeland Security from Florida State University.



**Rob Meyerson**  
Delalune Space

Rob Meyerson is the founder and CEO of Delalune Space, a management consulting company focused on the aerospace, mobility, technology and investment sectors. Rob serves as a director or advisor to companies in the hypersonics, space, mobility, technology, and telecommunications industries.

Rob is an Operating Partner with C5 Capital, a specialty investment firm focused on companies working at the intersection of space, cybersecurity, cloud computing, and AI; and represents C5 as a Director for Axiom Space.

Rob serves as the Executive Producer for ASCEND, a new platform and event created by AIAA that is focused on building our off-world future. See [ascend.events](https://ascend.events) for details.

As the president of Blue Origin, Rob oversaw the steady growth of Jeff Bezos' aerospace development company from 2003 to 2018, leading it from its founding into a more than 1500-person organization. Under Rob's leadership, Blue Origin developed the New Shepard system for suborbital human and research flights, the liquid rocket engine business, the New Glenn launch vehicle and the company vision for humanity in space; including the Blue Moon lunar lander, human spacecraft, habitats and in-space tugs. During this time, Rob oversaw

(Rob Meyerson continued) Blue's growth in staff (10 to 1500+), budget (\$10M to \$1B), revenue (zero to confidential) and facilities (one location to six, 50K to 1M+ sq ft).

Prior to joining Blue Origin, Rob was a Senior Manager at Kistler Aerospace, where he contributed to the development of a two-stage reusable launch vehicle. Rob began his career as an aerodynamicist at NASA's Johnson Space Center (JSC), working on the Space Shuttle, X-38 Crew Rescue Vehicle, and several other programs.

Rob earned a B.S. degree in aerospace engineering from the University of Michigan and a master's degree in industrial engineering from the University of Houston. He is an AIAA Fellow, a Trustee at the Museum of Flight, and a member of the University of Michigan College of Engineering Leadership Advisory Board.

In 2016, Rob and the New Shepard team were awarded the Robert J. Collier Trophy for their accomplishments by the National Aeronautic Association; and in 2017 Rob was awarded the Space Flight Award by the American Astronautical Society.



**Katherine Monson**  
Analytical Space, Inc.

Katherine Monson is the Chief Commercial Officer (CCO) for Analytical Space, Inc. Analytical Space is an aerospace company that is building a hybrid RF and Optical relay network. This dynamic communications infrastructure enables the growing space industry to provide low- latency data to commercial and government end users here on earth.

Prior to joining Analytical Space, Katherine served as the CEO of KSAT Inc. for Kongsberg Satellite Services (KSAT). KSAT is a world-leading provider of ground station services for satellites, rocket launchers, and experimental spacecraft, and supported over 96% of commercial satellites launched into NGSO during Katherine's tenure.

Katherine is an avid hiker, and enjoys learning new languages and exploring new places. She lives in Boulder County, Colorado.





**David Murrow**  
Lockheed Martin

Dave Murrow is the Senior Manager of Deep Space Exploration Strategy and Business Development for Lockheed Martin's Corporation Space. In his current role he is responsible for positioning the company to support NASA robotic exploration missions in the planetary, lunar, astrophysics and heliophysics arenas. In this role he works with the science, engineering, and programmatic stakeholders to build responsive and compelling mission solutions. He is focused on extending Lockheed Martin's proven heritage in robotic and human spaceflight into the next phase of exploration missions.

Dave previously served as capture manager for NASA proposals, in both the science and human space flight areas. Dave has worked on space science and exploration missions in various roles such as navigator and systems engineer at Lockheed Martin, the Jet Propulsion Laboratory, Ball Aerospace, and as the owner of a small business. He was responsible for the launch campaigns of the Mars Climate Orbiter, Mars Polar Lander, and the Stardust spacecraft, which were all successfully launched in December 1998, January 1999, and February 1999.

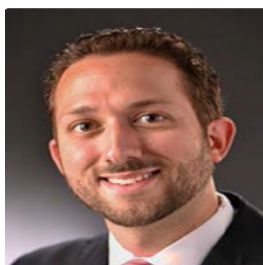
Dave has a Master's and Bachelor's degrees in Aerospace Engineering from the University of Texas at Austin ('87) and the University of Colorado ('84). In Austin, he also worked at the University's Center for Space Research, supporting high precision Earth gravity field development for the Topex mission.

(David Murrow continued) A Colorado native, Dave lives in Highlands Ranch, Colorado with his wife and has frequent visits from his two grown daughters. He spends his free time reading, skiing, and hiking in the mountains.



**Sarah Pollock**  
Relativity Space

Sarah Pollock is the University Recruiter on the People Team at Relativity Space. Sarah is an experienced talent acquisition professional with a demonstrated history of working in the aerospace, digital marketing, and creative staffing industries. At Relativity, Sarah leads University Recruiting efforts by managing the Relativity interns, managing all university relations, sponsoring and attending university recruiting events, and more! She is a graduate of Indiana University, Bloomington where she studied management and the arts.



**Daniel Porpora**  
Ball Aerospace

Daniel Porpora is the Program Manager for the Microwave Instrument on the Weather System Follow-on - Microwave (WSF-M) mission at Ball Aerospace. This mission will provide critical weather data to protect the nations warfighters and improve weather forecasting. Porpora is responsible for supporting a team of world-class engineers and technicians as they develop the space instrument, and ensure that Ball Aerospace delivers the government's data on-time and on-budget.

Porpora came to Ball Aerospace right out of college, but served as an engineering aide and independent researcher at the National Institute of Standards and Technology (NIST) in Boulder, CO during school. He also worked at Bicycle Village as a bike builder in middle school, sparking a passion for engineering at a young age.

Porpora currently leads the Mines Aerospace Interest Group (MAIG) for the Colorado School of Mines Alumni Association, providing opportunities for students to connect

with the local aerospace community and learn about the universe of available careers. He is also a member of several professional societies including the Society of Women Engineers (SWE), the Project Management Institute (PMI), the International Council of Systems Engineers (INCOSE), and the International Society of Optics and Photonics (SPIE).

Porpora received a B.S. in engineering physics and an M.E. in microelectronic materials engineering, both from the Colorado School of Mines. He also holds professional certifications in Systems Engineering (CSEP) and Project Management (PMP).



**Michael Provenzano**  
Astrobotic

Mike Provenzano is responsible for leading the development of Astrobotic's planetary rover product lines and generating mobile payload sales. He leads a mixed team of professionals and students to develop the world's first and smallest commercial lunar rover, the CubeRover. Mike is also responsible for leading the development of Astrobotic's MoonRanger and Polaris rovers, a 13 kg lunar rover and 390 kg lunar rover, respectively.

An emerging entrepreneur, formerly selected as Forbes' Top 100 Global MBAs, Mike specializes in making early technologies marketable. Mr. Provenzano has a history of managing complex technical projects, including work on the Boeing Space Launch System (SLS), and leading the development of an NSF-funded I-Corps Site Team at Carnegie Mellon University researching electromagnetic transportation from the lunar surface.



**Ryan Quinn**  
Relativity Space

Ryan Quinn is a Lead Mechanisms Engineer on the vehicle structures team at Relativity Space. At Relativity he has led the design of various Terran 1 primary structure and mechanisms projects – the Stage 1 thrust structure, the development Aeon rocket engine thrust structure, and the Stage Separation System. Prior to joining Relativity, Ryan worked on various structural and fluid system problems at SpaceX and Divergent3D. He is a graduate of Georgia Tech's School of Aerospace Engineering.



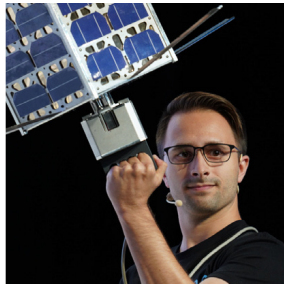
**Lisa Rich**  
Hemisphere Ventures

Lisa Rich is a successful investor, strategist, communicator and operator. She is founder and Managing Partner of Hemisphere Ventures, an early stage venture capital firm focused on frontier tech: synthetic biology, robotics, drones and space. Hemisphere is a Top VC in the NewSpace sector and has invested in 200+ U.S. companies since 2014; their portfolio includes 30 space companies including: Axiom Space, Umbra, PlanetIQ, Lynk, OrbitFab and Made In Space (acquired by Redwire). Separately, Lisa serves on the Board of Directors of Aurvandil Acquisition Corp., a \$250M space-based SPAC.

Lisa is founder and Chief Operating Officer of Xplore, a commercial space exploration company providing infrastructure solutions and low-cost access to space with advanced missions to Earth orbit and beyond via their highly-capable Xcraft, designed to orbit the Moon, Mars, Venus, Lagrange points and near-Earth asteroids. Xplore



customers include NOAA, NASA, and the USAF. Her dedicated efforts to advance commercialization for the space industry include serving on the Board of Patrons for the Commercial Spaceflight Federation and representing Xplore as a member of the Space Enterprise Consortium. An accomplished speaker and subject matter expert, Lisa is frequently invited to educate the public, industry, investors and family offices on advancements in the frontier tech and space industry in particular.



**Jeremy Schiel**  
Orbit Fab, Inc.

We can change the world in monumental ways, with leaders' strong visions and execution of what many deem to be impossible. As a forward-thinking international business professional with an unwavering vision and passion for the space industry, Jeremy Schiel brings his business development experience from tier-one automotive manufacturing.

He currently sits as the Vice-Chairman of CONFERS, a DARPA-funded consortium establishing best practices for satellite servicing. Jeremy previously worked on new business development at Deep Space Industries and Brand Delta-V. As an advocate for the Space Frontier Foundation, and as former Program Director of the Center for Space Commerce and Finance, Jeremy is working to push the boundaries of the final frontier and contribute to the growth of the industry.

Jeremy holds a dual degree in International Business (IB) and Management from Eastern Michigan University where he founded the International Business Alumni Chapter connecting Eastern IB alumni from across the globe.



**Jim Schier**  
NASA

Jim Schier is the Chief Architect for NASA's Space Communications and Navigation Program at NASA Headquarters. He leads analysis and studies on the evolution of NASA's space networks including Position, Navigation, and Timing (PNT) services to meet the needs of future science and human exploration missions, particularly to the Moon. He joined NASA in 2004 after 25 years in industry where he worked on civil, defense, intelligence, and commercial space systems. At Northrop Grumman, he led system engineering on commercial satellite systems and was a lead system engineer on the Orbital Space Plane. Mr. Schier was Chief System Engineer on the International Space Station at Grumman. At TRW, he managed flight software development on the MILSTAR Communications Satellite and led integration of materials processing experiments for the 1985 Shuttle Spacelab 3 mission. He has degrees in Computer Science and Electrical Engineering. He received a Silver Snoopy award for Spacelab 3, a NASA Administrator's Group Award for redesigning the Space Station, and the NASA Exceptional Service Medal.



**Lisa Stojanovski**  
Rocket Lab

Lisa Stojanovski is Rocket Lab's Business Development Administrator. Her role ranges from maintaining and upgrading customer databases and selling CubeSat rideshare launch slots, to conference & events management and proposal writing. Prior to Rocket Lab, Lisa led science programming for the online space news Youtube channel, 'TMRO', and has interviewed multiple industry leaders such as Virgin Orbit's William Pomerantz, astronaut Nicole Stott, and Tim Dodd: The Everyday Astronaut.

Lisa trained as a molecular biologist and has published research on the metabolic savings of daily hibernation in mice, and the feasibility of low pressure atmospheric greenhouses on Mars. In 2018, she served as an analog astronaut for HI-SEAS Mission IV in Hawaii. She holds a Bachelor of Advanced Science (Honours) from Western Sydney University, a Master of Science Communication Outreach from the Australian National University, and a Graduate Certificate in Space Studies from the

University of South Australia. She is an alumnus of International Space University's Southern Hemisphere Space Studies Program (2016), and was Australia's National Point of Contact for SGAC from 2016-2018.



**Chelsea Waddill**  
Ball Aerospace

Chelsea Waddill is an Engineering Manager in the Security & Mission Assurance organization at Ball Aerospace. She is responsible for providing portfolios of programs with risk-based consultation across all phases of the product development lifecycle to ensure mission success. She functionally manages a team of resources for leadership in mission assurance requirements, bringing the highest value solution to programs that apply radio-frequency and electro-optical technologies.

Prior to this role, Waddill held other positions at Ball Aerospace including Hardware Quality Engineer and Project Engineer. She was a Ball Go Beyond® Excellence Award Recipient in 2015 and 2019. She was once a junior Olympic athlete in an individual sport and attributes her heavy focus on continuous improvement and iterative refinement as a natural transition into her role in Mission Assurance. Her role has evolved from working within defined edges to challenging herself and her team to describe what the new edges are.

Waddill received a B.S. in aerospace engineering and minored in business and dance at Arizona State University, Tempe. She also received an MBA from the University of Colorado, Boulder.



**Alexandria Ware**  
Laboratory for  
Atmospheric and Space  
Physics (LASP)

Alexandria Ware has worked at the Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado for 15 years, most recently as the Deputy Manager of the Data Systems Group. During her time at LASP, she managed the Science Data Centers for the Emirates Mars Mission and NASA's MAVEN mission to Mars, leading international teams in the design, implementation, and operations of scientific data processing pipelines. Alex served as the first director of the Python in Heliophysics Community Initiative, bringing together Python developers around the world to collaborate and share ideas. In 2017 she founded LASP's Diversity and Climate Committee to address issues of diversity, equity, and workplace culture. In September, she will begin a new chapter at Maxar, where she will be a Senior Manager of Software Engineering in the Analytics Engineering team. Prior to moving to Colorado, Alex studied ancient Middle Eastern languages at Johns Hopkins University and managed a teaching lab at Princeton. She worked on both the Chandra X-ray Observatory and the XMM-Newton telescope. As a Peace Corps Volunteer, she taught science and computing classes in Apia, Samoa. She holds a BA in astronomy from Wellesley College.



**Lisa Wood**  
Ball Aerospace

Lisa Wood is the Director of Strategy Implementation, supporting Ball Aerospace's Civil Space business unit. In this role, Wood works across the organization to develop plans and processes in support of Civil Space's strategic goals and new opportunities. She started at Ball as the Director of Space Sciences, where she was responsible for key customer and stakeholder engagement in the Washington D.C. area and beyond.

Wood joined Ball after a distinguished 30-year career of government service at NASA. Most recently, she served as a Senior Technologist in the Office of the Chief Technologist at NASA Headquarters in Washington, DC. In this role, Wood was the liaison to the NASA Science Mission Directorate, providing strategic planning to ensure technology investments within each science division were aligned with current space policy, Decadal Survey recommendations and Agency priorities. Prior to that role, Wood was the Associate Director of Mission Planning and Technology Development at NASA's Goddard Space Flight Center for the NASA Earth Sciences Division, where she directed the Division's activities associated with the definition, development and implementation of airborne and space mission concepts for competed and directed opportunities.

Wood holds a B.S. in aerospace engineering from the University of Michigan, an M.A. in science, technology and public policy from George Washington University and an M.A. in secondary education, mathematics from Trinity College.

## Organising Team



**Kristin Shahady**  
Manager

Kristin Shahady is a systems engineer at Ball Aerospace in Colorado working as a data analyst for satellite mission data. She has a bachelor's degree in astrophysics from Florida Institute of Technology and is pursuing her space studies master's at the University of North Dakota. In 2015, Kristin worked for Lockheed Martin Missiles and Fire Control as a systems engineer. In 2016, she was accepted as a delegate for Space Generation Fusion Forum where she landed her current job at Ball Aerospace. Since then, she's served on many SGFF organising teams, won the 2017 Move an Asteroid competition, and was NPoC for the U.S. from 2018-2020.

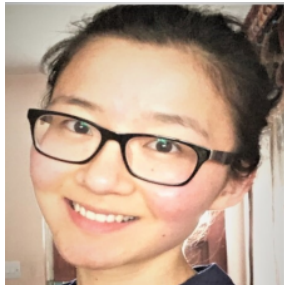
Previously, she worked for the Kennedy Space Center's education program. She interned with Space Telescope Science Institute working with top scientists in the field to optimize Hubble archived data. Throughout school she researched the orbital geometry of circumbinary planets using Kepler data. She is on the employment committee for the American Astronomical Society encouraging astrophysicists to participate in the aerospace industry.



**Tasman Powis**  
Deputy Manager

Tasman Powis is an Australian expat currently completing his Ph.D. at Princeton University within the Mechanical and Aerospace Engineering Department and in collaboration with the Princeton Plasma Physics Laboratory. His research focus is on the physics of fusion energy and the modeling of advanced spacecraft propulsion concepts. He is also involved in researching the regulations and policy regarding the use of nuclear power and propulsion systems in outer space, with the aim of motivating their peaceful, safe and reliable application.

Tasman has been a member of SGAC since 2012 when he attended the Space Generation Congress in Naples. He has since attended numerous SGAC events and contributed for several years as a member of the Space Generation Fusion Forum organizing team. Tasman is looking forward to working with the SGFF manager, and team, to build on the hard work of previous years in organizing an exciting and engaging SGFF 2021.



**Zhen Cahilog**  
Delegates Team

Zhen Cahilog is a medical doctor working in London, England. She has a keen interest in space medicine and is a member of SGAC's Space Medicine and Life Sciences (SMLS) project group, participating in several active research projects.

Zhen is committed to increasing diversity within the STEM field through her ongoing involvement in science outreach at Imperial College London, where she graduated, and the UN Space4Women network.



**Vera Demchenko**  
Delegates Team

Vera Demchenko is currently a systems test engineer at Lockheed Martin. In 2019, she completed her B.A. in astrophysics at the University of Colorado Boulder. A class of 2019 Brooke Owens Fellow, she is passionate about commercial space programs and astronomy outreach.

Previously, Vera completed an internship at NASA Goddard Space Flight Center as an outreach coordinator and has worked as a public presenter at the Fiske Planetarium.

She encourages young people from all backgrounds to pursue their professional development goals and takes great pleasure in being a mentor for the next generation. Vera's goal is to be an aerospace business development leader.



**Ekaterina Seltikova**  
Delegates Team

Ekaterina Seltikova is currently a Ph.D. student at the Fluid Mechanics Laboratory of Lille – Kampé de Fériet, France, which was created by five different institutions (Arts et Métiers Paristech, CNRS – French National Centre for Scientific Research, Lille University, Ecole Centrale Lille, and ONERA – The French Aerospace Lab) to advance aerospace science. Her research focuses on wall turbulence, dynamics of turbulent energy dissipation, Reynolds stress, and skin friction. She received her B.Sc. and M.Sc. in physics from Bashkir State University, Russia, and her M.Sc. in fluid mechanics and energetics from the Grenoble Institute of Technology, ENSE3, France.

Ekaterina is a team player with a multi-disciplinary background in academia, industry, and the nonprofit sector. She has experience in a range of fields and took on roles within research, engineering, strategy planning, fundraising, team and project management, and event organization. She has been an active member of SGAC since 2019 as part of the Space Exploration Project Group.





**Nicole Beale**  
Logistics Team

Nicole Beale is a project manager at Ball Aerospace working on knowledge management. Previous to this role, she worked within marketing and communications at Ball Aerospace. She has been involved in some form of planning for the Space Symposium over the last four years. She is really excited and honored to be a part of the SGFF planning team.

Nicole's work in knowledge management has led her to believe that networking and sharing stories are the best way for people to learn and connect. She understands getting young professionals together to discuss and share about all things space is important and imperative to our progress as a society. Beyond that, Nicole thinks space is awesome and loves learning something new every day!



**Manwei Chan**  
Logistics Team

Manwei Chan is an NSF Fellow and Ph.D. candidate in aerospace engineering at MIT. He wants to mature the commercial space ecosystem, eventually allowing more people and projects to utilize space. For his master's degree, he wrote a guidance algorithm that would allow satellite servicing vehicles to dock with a tumbling object. While in graduate school, he consulted for OrbitFab, a start-up working to establish an in-space gas station infrastructure.

He is also a 2019 Matthew Isakowitz Fellow, and while at NanoRacks, developed strategies for commercial space station applications. Outside of academia, he is involved with STEM outreach, running the MIT Space Seminar and other events to get the community excited about space. In his free time, he likes to ski, hike, and play football (soccer).



**Alyssa Deardorff**  
Programs &  
Sponsorship Team

Alyssa Deardorff works as a systems engineer at the NASA Jet Propulsion Laboratory (JPL) in Pasadena, California. At JPL, she is a sequencing integration engineer for Mars 2020 Perseverance Rover surface operations, Mars 2020 flight system systems engineer for sequencing, and is on the project systems team for the Multi-Angle Imager for Aerosols (MAIA) studying how air quality impacts human health. She has an M.S. in aerospace engineering from Georgia Institute of Technology, as well as a B.S. double major in renewable energy engineering and systems engineering from Oregon Institute of Technology.

She is a passionate space advocate and loves helping with and leading events and outreach activities in the community to build awareness of our space endeavors, and provide educational opportunities for youth. Alyssa has previously held many SGAC roles including being an SGFF delegate and organizing team member, SGC delegate, helping organize various events, and U.S. NPoC. She is excited to return to help this year on the organizing committee for SGFF 2021!



**Andrew Lesh**  
Programs &  
Sponsorship Team

Andrew Lesh is a recent chemical engineering M.S. graduate from Stanford University, aspiring astronaut, and current materials engineering intern at Relativity Space in Long Beach, California. He also serves as a systems lead for the Stanford Student Space Initiative's BRIC experiment (Biopolymer Research for In-situ Capabilities), which will operate aboard the International Space Station next year and test the formation of a sustainable concrete analog material in microgravity. His primary interests are in-situ resource utilization, planetary surface infrastructure, nuclear energy, and archaeology.

In 2017 and 2018, he worked as a field archaeologist at the Chavin de Huantar temple complex in Andean Peru, where he helped discover a network of subterranean chambers with custom-built camera masts. In 2019, he served as a co-lead and founder of the Stanford Student Space Initiative's Mars Team and has since interned with the USRA Center for Space Nuclear Research, Made In Space, Ultra Safe Nuclear Corporation – Technologies (USNC-Tech), and NASA Ames Research Center.



**Zaid Rana**  
Programs &  
Sponsorship Team

Zaid Rana is a junior program scientist at the Canadian Space Agency working on mission systems. At SGAC, he acts as a National Point of Contact for Canada. In 2020, he joined the leadership team at Zenith Canada Pathways Foundation where he aspires to co-create a community of diverse and thoughtful leaders in the aerospace industry.

Zaid has previously completed a traineeship at the European Space Agency in space resources and space operations. Over the years, he has contributed to the development of over six space missions and strategic exploration planning within the International Space Exploration Coordination Group.



**Daniel Reynolds**  
Programs &  
Sponsorship Team

Daniel Reynolds currently serves as a spacecraft test engineer in the United States Space Force. A 2019 graduate of the Massachusetts Institute of Technology (MIT) (SM, Aeronautics and Astronautics) and a 2017 graduate of the U.S. Air Force Academy (B.S., Astronautical Engineering), Daniel has accumulated several years of experience working in the academic, defense, not-for-profit, and non-profit sectors of space exploration.

While an undergraduate student at the Air Force Academy, Daniel served as the systems engineering team lead for the DoD's FalconSAT program, which included oversight of FalconSAT-6 (launched December 2018) and FalconSAT-8 (launched May 2020). After commissioning into the U.S. Air Force in May 2017, Daniel went on to conduct his graduate school research at the Charles Stark Draper Laboratory. As a Draper Fellow, Daniel spearheaded research efforts into the selection, design, testing, and evaluation of flight control strategies for NASA's Gateway.

Daniel's desire to serve on the SGFF organizing team is rooted in gratitude. Being a delegate to the SGFF in 2017 not only introduced him to SGAC, but also broadened his perspective as a space professional. Daniel has served SGAC as a co-lead for the Commercial Space Project Group (February 2018 – April 2019), and is currently serving as the National Point of Contact (NPoC) for the U.S. (November 2020 – present). Daniel will be serving on the Programs and Sponsorships Team, and is



extraordinarily excited to work with other committee members on crafting a dynamic, diverse, and transformational agenda.



**Simon Shuham**  
Programs &  
Sponsorship Team

Simon Shuham is a senior sales engineer at Ursa Major Technologies, a Colorado-based rocket engine manufacturer. Prior to joining Ursa Major, Simon was a propulsion engineer at Blue Origin working on the design, integration, assembly, and test of the BE-3U and BE-4 engines. Before Blue Origin, Simon worked at United Launch Alliance as a propulsion engineer, developing fluid systems and components for the Atlas, Delta, and Vulcan launch vehicles. Simon is an Aviation Week 20 Twenties recipient and remains involved in a variety of young professional development organizations including SGAC, SEDS, AIAA, the Zed Factor Fellowship, and Seattle's Museum of Flight. Simon graduated from Harvard College with a Bachelor of Science in Mechanical Engineering and from the University of Colorado Boulder with a Master of Science in Aerospace Engineering.



**Jessica Todd**  
Programs &  
Sponsorship Team

Jessica Todd is a Ph.D. student in aerospace engineering at the Massachusetts Institute of Technology. Originally from Wollongong, Australia, she has a Bachelor of Science and a Bachelor of Aerospace Engineering from the University of Sydney, and a master's in aerospace engineering from MIT. Her current research focuses on autonomous systems for planetary and oceanic exploration.

She has previously worked on human spaceflight research and is currently part of an MIT-led effort to develop a self-assembling tower for the lunar surface. Jessica is a Mars analogue astronaut, completing a mission at the Mars Desert Research Station in 2020, and was part of the largest all-female expedition to Antarctica as part of the Homeward Bound Leadership Program in 2019.



**Jocelyne Andrade**  
Communications Team

Jocelyne Andrade graduated with a B.A. in astronomy-physics from Colgate University in 2019. During her time there, she studied disk accretion in T-Tauri stars and had the opportunity to observe for the project at Apache Point Observatory in Sunspot, New Mexico. Jocelyne also co-led an interdepartmental student group created to amplify and celebrate traditionally underrepresented backgrounds in STEM. The organization aimed to create community among all STEM students, provided funding for conference expenses, and organized diverse speakers for research presentations. The need for diversity and inclusion in STEM was never so starkly apparent to Jocelyne until she got to college, but she has since vowed to advocate for and encourage scientists of all backgrounds.

Outside of academia, Jocelyne has a love for marketing and communications, particularly when it comes to graphic design and other visual media. She is looking forward to exploring the possibility of a career in science communications while working towards her ultimate goal of a Ph.D. in astronomy.



**Cody Knipfer**  
Communications Team

Cody Knipfer works in the government affairs office of a commercial space company, where he is the liaison to Congress and the U.S. federal government for the organization. He graduated from McDaniel College in 2015 with a B.A. in political science, and with a M.A. in international science and technology policy from the Space Policy Institute at the Elliott School in 2018.

Prior to his current role, he held space policy positions with two aerospace-focused trade associations — the Commercial Spaceflight Federation and the Aerospace Industries Association — and spent time working in the House of Representatives handling a defense portfolio.

His most significant contribution to rocket engineering was assembling the LEGO Saturn V.



**Jaclyn Wiley**  
Communications Team

Jaclyn Wiley is a space technology data analyst at Bryce Space and Technology. At Bryce, she researches space exploration technology, commercialization and policy, and space traffic management. She also supports the NASA Space Technology Mission Directorate (STMD). She was a Class of 2019 Brooke Owens Fellow, also placed at Bryce.

Prior to the Brooke Owens Fellowship, Wiley served three internships at NASA with the Hubble Space Telescope project group, the Commercial Space Development Division and the Commercial Crew Program. Wiley graduated from Embry-Riddle Aeronautical University with a degree in spaceflight operations with a specialization in space policy and operations.

## Delegates



**Vedang Acharya**  
Promation Nuclear

Vedang is a mechanical engineer in the Canadian Nuclear power, aerospace, & radiopharmaceutical industries. After obtaining a Master's in Engineering specializing in robotics and computational design, Vedang has been actively involved in several not-for-profits including MVA & SGAC. Vedang also worked at ISRO on a rover system during his undergrad.



**Tensae Ali**  
Mekelle University

Mechanical engineering student at Mekelle University, Ethiopia with additional honors degree in Innovation, Creativity and Entrepreneurship from Thomas More University of applied sciences. Within the scope SGAC, a National Point of Contact for Ethiopia and part of the Regional and Local Events Coordination team.



**Erin Austen**  
Carleton University

Currently a mechanical design engineer with Medical Makers, Erin is a recent MASc. graduate in Aerospace Engineering from Carleton University, whose research focussed on mathematical modelling of a rover. Previously, she was the first female technical lead for AlbertaSat (cubesats). Post-pandemic, she is scheduled for her first analogue astronaut mission.



**Christopher Bair**  
Wilkinson Barker Knauer LLP

I am an associate attorney at Wilkinson Barker Knauer LLP, where I advise clients on the legal and policy hurdles faced by satellite operators, from spectrum policy to orbital debris mitigation issues. I previously worked as an Attorney Advisor at the in the Satellite Division of the Federal Communications Commission, where I was heavily involved in satellite regulatory and policymaking activities.



**Umanga Balasuriya**  
Charles River Analytics

Mr. Umanga Balasuriya is a scientist at Charles River Analytics. He has worked as a project engineer, scientist, and software engineer on satellite-related programs. Umanga received a B.S. in Aerospace Engineering from the University of Maryland College Park and is currently pursuing a M.S. in Space Systems Engineering at Johns Hopkins University.



**Bethany Baldwin-Pulcini**  
Firefly Aerospace

I am a systems engineer for a commercial lunar lander program, contracted by NASA to deliver ten science payloads to the moon in 2023. I have worked in launch vehicle safety compliance and spacecraft mission operations.



**Michael Barton**  
a.i. solutions

Michael performs space software sales and business development for a.i. solutions and is passionate about building bridges between technical ideas, business approaches, and policy possibilities to help promote a future where we are better because of the cool stuff we do in space.



**Kaori Becerril**  
Universidad Nacional Autónoma de México

Industrial design student, from the National Autonomus University of Mexico (UNAM). Currently an intern at Dereum Labs. Facilitator for "Design in in Space for Life on Earth" organize by WDO and ISS National Lab. Volunteer at the Moon Village Association and part of the team for the DIA Project from SGAC.



**Joshua Bernard-Cooper**  
Cranfield University

Joshua recently graduated from the University of St. Andrews with a BSc in Physics and Philosophy. His final year project researched machine learning methods to discriminate drones using FMCW radar micro-Doppler. He is undertaking an MSc in Space Engineering at Cranfield University, and is Projects Team Lead at UKSEDS.



**Andrea Elizabeth Biju**  
Indian Institute of Technology, Madras

I am Andrea Elizabeth Biju, a junior aerospace engineering student at Indian Institute of Technology Madras. I aspire to be an Aerospace Engineer, and would love to work on cutting-edge technology, that not only furthers our scientific understanding, but also positively impacts life on earth. I am passionate about science and technology, and wish to bring space "more closer" to all humans, especially to younger generations in developing countries.



**Tyler Bradley**  
Lockheed Martin

I graduated from Embry-Riddle Aeronautical University in 2017 with my Bachelor's Degree in Aerospace Engineering (Astronautics) with a minor in Computer Science. I have worked at Lockheed Martin for 4 years now and am currently working on my Master's Degree in Aerospace Engineering at the University of Colorado, Boulder.



**Maddy Bronstein**  
United Launch Alliance

Maddy Bronstein is a government affairs specialist at United Launch Alliance. Prior to her current position, she was an analyst supporting the NASA Headquarters Space Communications and Navigation program office. She received her B.A. in Political Science from the University of Washington during which she completed Senate and White House internships.



**Stefano Brunelli**  
Bocconi University

I'm an American and Italian student studying business in Italy and I'm also the president of the first Space Economy student association called Bocconi SEDS. My ultimate goal is to become part of the space industry to enable humankind to live among the stars.



**Sejal Budholiya**  
SEDS India

Sejal Budholiya is an artist, author, anchor, dancer, entrepreneur and mechanical engineering student at Vellore Institute of Technology, Vellore. She serves as the Executive Director of SEDS India and is the National Representative in India at SEDS Earth. She works towards aerospace product development, space sustainability and utilizing design in space for life on Earth, as the Swarovski:Creatives for our Future Cohort, is going to present her ideas for menstruation in space at the UN General Assembly.





**Ian Burrell**  
SEDS USA

Passionate about keeping humans alive and well in the space environment.



**Jorge Calderón**  
Chilean Air Force

Jorge is a Chilean Air Force (FACH) Officer and Electronic Engineer who developed his career in space since he was a student in Chilean Aeronautical Polytechnic Academy (APA), working on remote sensing applications, in space operations, and in the development of the first Chilean Space Program named "SNSAT".



**Connor Campbell**  
Lockheed Martin

I am a young professional who has been with Lockheed Martin for a year and a half working as a systems engineer focusing on test and evaluation. I am looking to engage and learn from a variety of individuals in different fields of study/work.



**Christopher Capon**  
Space Services Australia

CEO/Co-Founder of Space Services Australia and Research Fellow at UNSW Canberra Space, I've been involved with the design and operation of 4 in-orbit nanosatellite missions and have a world- first ionospheric aerodynamic experiment on the latest. Awarded the Australian Space Industry 2021 "Rising Star of the Year". I'm also a big fan of pizza.



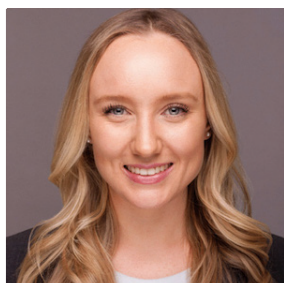
**Jorge Rubén Casir Ricaño**  
Bauman Moscow State Technical University

Jorge is a Mexican sixth- year student at Bauman Moscow State Technical University in Moscow, Russia at the specialty "Design, production and operation of rockets and rocket-space complexes". Jorge is part of a project group that works on the application of Industry 4.0 in the aerospace industry.



**Bruce Clarke**  
Royal Navy

After studying physics and nuclear engineering, I'm currently a marine engineering officer with the Royal Navy. Always keen to investigate how space and space related activities could be leveraged to improve everyday life.



**Samantha Condie**  
Global Affairs Canada

Passionate about learning, I completed two separate degrees simultaneously (business/political science). I joined government as a Space Trade Commissioner and helped Canadian companies with international business development. Now I work on all Canada's international space policy files. Hobbies/Interests: Maple syrup connoisseur; space diplomacy; highlighting Canadarm3 on every Lunar Gateway presentation via [twitter@samcondie](https://twitter.com/samcondie).



**Alexandra Coultrup**  
Nanoracks

Alex Coultrup holds an M.S. in microgravity human from Florida Institute of Technology and a certificate in space policy the International Space University, and is a Matthew Isakowitz Fellow. Now, she works at Nanoracks on the Outpost program, an initiative to repurpose spent upper stages into orbital infrastructure. At SGFF, she is interested in strengthening her understanding of space policy and ethics.



**William Crowe**  
HEO Robotics

William Crowe is the CEO and co-founder of HEO Robotics and has a Ph.D. and bachelor of aerospace engineering from UNSW Sydney. His research focussed the use of spacecraft swarms to intercept asteroids, particularly those that pass closer to Earth than the Moon every year. William used the same technology developed in his Ph.D. to start HEO Robotics, a company that helps satellite operators look after their satellites by performing in-orbit inspections and providing health assessments.



**Leonard de Guzman**

Strategic planning in technology at a Fortune 50 company. Qualifications: Engineering (aerospace, mechanical, systems, electronic). Currently studying master in law. ISU SSP candidate.





**Emily Deardorff**  
San Diego State University

I am a graduate student at San Diego State University, where I study land use impacts on water quality in the San Diego River. I study how humans impact the environment using field sensors, satellite remote sensing, and machine learning. Outside of work, I like to rollerblade, surf, and hike.



**Anthony DeCicco**  
Northrop Grumman

Anthony works on developing satellite servicing capabilities for the cis-Lunar domain. In this he focuses on common interfaces and dexterous space robotics. Anthony is also involved in developing architectures for Lunar and Martian resource acquisition to help humanity establish permanent habitats on other worlds.



**Simran Dhoju**  
The University of Alabama

Simran is a rising junior at The University of Alabama majoring in aerospace engineering and minoring in applied mathematics and mechanical engineering. She is a 2021 Zed factor fellow interning as a propulsion engineer at Wisk Aero. She is also the founder of Women of Aeronautics and Astronautics (WoAA) Nepal working towards increasing female and gender minority representation in the aerospace industry.



**Madison Diamond**  
University of North Dakota

Madison Diamond is a M.Sc. Space Studies student at the University of North Dakota, USA. She is specializing in human factors with a research focus in space psychology and analog habitats. She is also interested in science communication and has a B.Sc. in Microbiology & Immunology from McGill University, Canada.



**Robin Dickey**  
The Aerospace Corporation

Robin Dickey is a space policy analyst at the Aerospace Corporation's Center for Space Policy and Strategy. In this role she has published numerous papers on national security space policy and international space diplomacy. She has a bachelor's and master's degree in international studies from Johns Hopkins University.



**Kelsey Doerksen**  
Planet

Kelsey Doerksen is a Space Systems Engineer and satellite operator at Planet, operating the world's largest Earth Observation satellite constellation. She is starting her Ph.D. at the University of Oxford this Fall in the Autonomous Intelligent Machines and Systems program. She is also leading the 2021 SGAC Space Generation Congress as the Event Manager.



**Dani Dorn-Meyer**  
Lockheed Martin

I am currently a software engineer and scrum master at Lockheed Martin Space in Denver, Colorado. I interned at NASA JSC before coming to Lockheed. I have a passion for leading others to be their best!



**Christine Dubbert**  
York Space Systems

Christine Dubbert is a project engineer at York Space Systems in Denver, CO. At the start of her career, Christine accepted a job at NASA's Johnson Space Center in Houston, TX. Following a Master's in Engineering Management from Duke University, she transitioned to supporting satellite development at York.



**Ivan Fino**  
Partners4Innovation (P4I)

Ivan Fino is a researcher in the field of outer space law. In addition to having written several publications on national space law and international space law, he is pursuing a master's degree at the U.N. SIOI in Rome.



**Thomas Franklin**  
Spectrum Brands

"Thomas currently works at Spectrum Brands as associate manager of New Product Development, and recently obtained his MBA from UW-Madison. He has previously participated in the likes of Citizens for Space Exploration and high-powered rocketry events.

Launches Attended: ULA - Osiris-REx & SpaceX – Crew Dragon Demo 2"



**Keerthi G**

Hindustan University of Technology and Science

Currently I have entered my final year of my under graduation in aerospace engineering. My passion for space exploration , cosmology , astrophysics drive me and make we feel alive and be a part of greater cause.I am currently head of nebula astro club , my universities astronomy club, and will strive to do my best in all platforms. I aim for perfection.



**Aarón Garduño Rodríguez**

Moscow Aviation Institute

I have a bachelor's degree in biomedical engineering (UPIBI-IPN-Mexico) and master's degree in Rocket Systems and Cosmonautics with specialty in rocket construction (RGTU-MATI-Russia). Now I'm studying for a Ph.D. degree in Security Systems in Emergency Situation at the Moscow Aviation Institute in Russia.



**Mark Godine**

a.i. solutions

Member of the technical sales team for the FreeFlyer astrodynamics software. Also support operations at NASA GSFC.



**China Hagström**

Massachusetts Institute of Technology

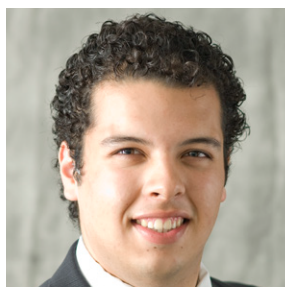
China is a MIT Research Assistant at the Laboratory for Aviation and the Environment. She received an Aerospace Engineering B.S. from UCLA in 2020. Now a developer on Cantera, an open-source chemical kinetics, thermodynamics, and transport program, she's creating the first comprehensive atmospheric impacts analysis of current and future space launches.



**Jessica Heim**

University of Wales Trinity Saint David

Jessica Heim has a Master's degree in Cultural Astronomy. Her research interests include community experiences with dark sky advocacy, as well as ethics and policy issues associated with space exploration and development. She also enjoys engaging in educational outreach focused on connections between culture, science, space, and the night sky.



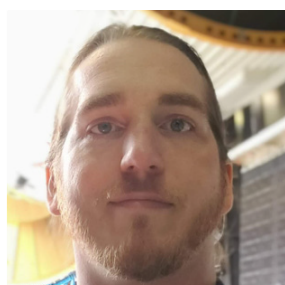
**Julio Hernandez**  
University of the Pacific

Julio Hernandez is a Ph.D. Candidate at Purdue University in the School of Aeronautical and Astronautical Engineering. Julio is deeply passionate about the peaceful human exploration of space.



**Michael Holden**  
McMaster University

I am a second year engineering physics student studying at McMaster University interested in circuitry and electrical systems for aerospace and renewable energy industries, with experience in developing and designing electrical and mechanical systems for robotics, electric vehicle, and aerospace teams.



**Adam Hugo**  
The Space Resource

Mr. Hugo has a range of experience with space technologies, including contributions to space resources research and writing for a space resources news website he co-founded called The Space Resource. He graduated from the Space Resources MS program at Mines in May 2020.



**Shayna Hume**  
University of Colorado Boulder

Shayna Hume is a Ph.D. student at the University of Colorado Boulder in the area of Martian Entry, Descent, and Landing. She is an analog astronaut and co-lead for SGAC's mentoring program, as well as alumni volunteer for the Matthew Isakowitz Fellowship Program.



**András Illyés**  
Karlsruhe Institute of Technology

I have been a space enthusiast and an aspiring astronaut for years.





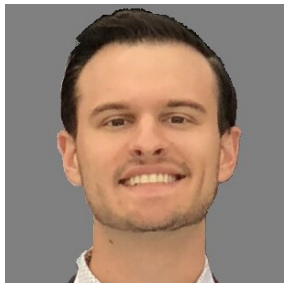
**Andrea Jaime Albalat**  
Isar Aerospace Technologies

Andrea is a Spanish aerospace engineer working as business developer at Isaraerospace, in Germany. She was BD manager for Human Spaceflight, Microgravity, Exploration and Robotics, and supported Quantum Technologies and STM strategies at OHB. Previously she was the Executive Director of SGAC, in Austria, and has worked for ESA, in The Netherlands.



**Jason Kantner**  
Ball Aerospace

Technical Leader and Program Manager with Ball Aerospace in Colorado. Born in Michigan. Began my career as a mechanical engineer in Orlando, FL. BSME from the University of Michigan, and MSPDE from the University of Southern California. I enjoy meaningful conversation, culinary exploration, new experiences, helping others, and disc sports.



**Grant Kendall-Bell**  
Orbit Fab, Inc.

I'm the Business Development Manager at Orbit Fab where I help to grow the business by developing relationships, innovating new projects, and establishing processes across the company. I joined this ambitious team to help build towards their mission to enable unlimited mobility in space to grow the space industry and extend human civilization into the final frontier.



**Mclee Kerolle**  
Space Court Foundation

Mclee Kerolle (pronounced Mac-lee Ca-roll) is a graduate of the International Institute of Air and Space Law at Leiden University. Since graduating, Mclee has been an active leader in various NGOs and nonprofits across the space industry. He currently serves as the Deputy Director of the Space Court Foundation.



**Akihito Kimura**  
University of Colorado Boulder

I am a Ph.D. student at CU Boulder, interested in applying multi-agent systems to lunar development (e.g. Construction of a lunar base and a lunar telescope). In the future, I would like to go to the moon and drink sake while looking at the earth.



**Renata Kommel**  
Bryce Space and Technology

Renata Knittel Kommel is a space analyst at Bryce Tech. She holds an M.A. from GWU's Space Policy Institute and a B.A. in International Relations from PUC-SP, Brazil. Previously, she worked with A3 Technology, Secure World Foundation, LMI Advisors, Satellite Industry Association, and the Brazilian Mission to the United Nations.



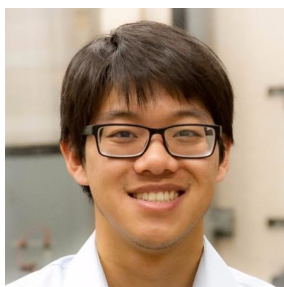
**Andrew Kurzrok**  
Amphenol Times Microwave Systems

Andrew Kurzrok is an entrepreneur and technologist. As a business manager at Amphenol Times Microwave Systems, he leads a design and manufacturing team that helps the world's leading spaceflight organizations solve their hardest RF challenges. His spaceflight interests include on-orbit servicing, orbital debris, and community-built cubesats.



**Pooja Lepcha**  
Kyushu Institute of Technology

Pooja Lepcha is currently pursuing her doctorate degree in electrical and space systems engineering at Kyushu Institute of Technology, Japan. Pooja is also an employee of Ministry of Information and Communication under the Royal Government of Bhutan, a sole agency responsible for development and implementation of space technologies in the country.



**Gary Li**  
The Aerospace Corporation

Gary currently works as a spacecraft systems engineer at The Aerospace Corporation. He previously completed his Ph.D. in Aerospace Engineering at UCLA focusing on space electric propulsion research. He is passionate about space exploration and hopes to bring together differing perspectives from academia, civil, and national security space to solving hard problems.



**David Lindgren**  
United States Agency for International Development (USAID)

David Lindgren is passionate about ethics and equity in space. As a project manager with business development and communications expertise, he has nearly a decade of experience working in human rights, international development, and academia. David holds an MPhil in Space Studies from the University of Cape Town.





**Austin Link**  
Starfish Space

Originally from Iowa, Austin worked at Lockheed Martin and Blue Origin before co-founding Starfish Space which is giving life to on-orbit services. Austin lives in Kent, WA with his fiancée Jess and their three (!) basset hounds.



**Martina Lofqvist**  
University of Glasgow

I am an entrepreneur at heart with a background in software engineering and business. At SGAC, I manage the newly introduced incubator program, supporting 10 projects globally. I am also conducting research at the University of Glasgow on how to optimize data processing in space through satellite image compression techniques. Additionally, I recently worked as a Solutions Architect at Momentus, an in-space infrastructure services company, where I managed sales in Europe primarily.



**Staten Longo**  
Northrop Grumman, Stevens Institute of Technology

I am a Systems Engineer at Northrop Grumman supporting the Habitable and Logistics Outpost (HALO) program, the first habitable element of the NASA Lunar Gateway. I am the Science Utilization Lead for HALO, managing definition and development for all robotics and payload interfaces on the HALO vehicle.



**Rachel Lyons**  
Space for Humanity

Rachel Lyons is a key advocate in the advancement of the space perspective and exploration. Rachel is the executive director of Space for Humanity, a non-profit organizing the planet's first Citizen Astronaut Mission led by a diverse group of leaders from around the globe. Rachel is the former Vice-Chair of the Board of Directors of Students for the Exploration and Development of Space – USA, a non-profit that empowers young people to make an impact in space exploration. She is a former public radio host. She holds a BSc. in aerospace engineering and economics from the University of Miami.



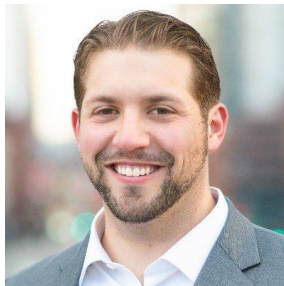
**Adam Marcinkowski**  
Colorado School of Mines

I'm a space resources master's student at the Colorado School of Mines, where I study the geopolitical/national-strategic context of lunar resources. I'm a systems engineer and ISRU R&D lead for Lockheed Martin's CCS Advanced Programs team. We're building the mining and refining backbone of a secure, sustainable lunar water economy.



**Mercedes McCarthy**  
North Carolina State University

I am a senior at NC State University where I'm majoring in mechanical engineering and minoring in geology. I've completed four internships as a Pathways co-op at NASA JSC and am also a 2018 Brooke Owens Fellow.



**Jerry McIntyre**  
Orbit Fab, Inc.

Jerry McIntyre is Director of Strategic Alliances & Senior Counsel at Orbit Fab, where he draws on his experience as an attorney advising startups and aerospace companies to develop and maintain the company's strategic partnerships. Jerry holds an MBA from Chicago Booth and a JD from Northwestern University.



**Uzair Minhas**  
Revolut

Uzair is a dual US+UK citizen currently building the next fintech super-app at Revolut as a Strategy & Operations manager; outside of fintech, he is a passionate believer in NewSpace and is interested in startups, scale-ups, and democratizing access to both outer space and financial services through remarkable user experiences.



**Upasana Mohanty**  
SRM Institute of Science and Technology

There are billions of places out there that we know nothing about. The fact that we know nothing about ,excites me. Passionate about science popularization and cultivating an awareness about space. I wish to contribute to the field of astrobiology and to explore space settlements. I believe, the only way to save humanity from long-term challenges such as climate change and nuclear war is to colonize Mars or the moon or planets beyond.



**Samantha Moore**  
National Health Service (NHS)

I'm an anaesthetic doctor with an interest in researching human physiology in extreme environments and how we can use this to help our patients on Earth.



**Gourav Namta**  
Technical University of Berlin

Gourav is currently an intern at Valispace and also a Masters student in Space Engineering at Technical University of Berlin. His main interests include Mission Design, Systems Engineering and Human Spaceflight.



**Mariam Naseem**  
Blue Marble Space Institute of Science

Mariam is currently a Visiting Scholar at the Blue Marble Space Institute of Science working on science communication projects and is also collaborating on Ocean Worlds research with a scientist at NASA Goddard. She serves as National Point of Contact for Canada at the Space Generation Advisory Council.



**Rachel O'Connor**  
Ball Aerospace

Rachel loves studying questions around space ethics. She has her BA in astrophysics from Smith College and is working towards her MBA at CU Boulder. She works at Ball Aerospace as a Capture Manager and in her free time loves gardening, tinkering with her motorcycle, and learning to ice skate.



**Sebastian Alejandro Ogalde Castro**  
Thales Alenia Space

Analog Astronaut (Mission Asclepius) and Satellite Engineer. Currently working on ESA's satellite EUCLID, aimed to study dark energy and dark matter. He aspires to become the first Chilean in space. For this, he has become a scuba diver, private pilot, polyglot, and science communicator in social and formal media (among other activities).



**Shivam Patel**  
Voyager Space

Shiv Patel is a graduate student at George Washington University's Space Policy Institute pursuing a Master of Arts in International Science and Technology Policy with a concentration in Space Policy. He has previously interned at the Satellite Industry Association, Commercial Spaceflight Federation, and now works as a policy analyst at Voyager Space.



**Yashraj Patil**  
Hexaware Technologies Limited

Yashraj Patil is an Associate Software Engineer at Hexaware Technologies in Chennai, India. He holds a Bachelor of Engineering degree in Information Technology from Savitribai Phule Pune University. He is passionate about Science & currently involved in NASA's GLOBE Program as a GISN Member, Citizen Scientist & IVSS Judge.



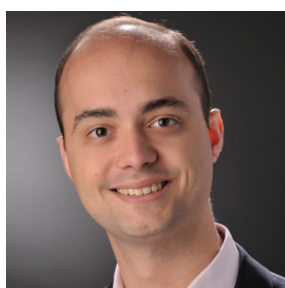
**Andres Permuy**  
Georgetown University Space Initiative

Andres Permuy is a third-year Physics major at Georgetown University and the Director of Communication for the Georgetown University Space Initiative. He aspires to receive a master's degree in Mechanical/Aerospace Engineering, pursuing a career in Advanced Robotics and Automation in order to develop automation that will be utilized in space.



**Ashley Peter**  
NASA

Ashley Peter works at NASA Headquarters in Washington D.C. within the Programmatic & Strategic Integration Office for the Artemis program. She received an M.A. from the George Washington University Space Policy Institute and a B.S. from MIT in Earth, Atmospheric & Planetary Sciences and Management Science.



**Evan Petrone**  
Ball Aerospace

Evan Petrone is a strategic development specialist at Ball Aerospace. As part of the Government Relations group, Evan leads messaging and material development for Washington, DC stakeholders, and provides research and analysis on policies and legislation impacting Ball's customer community – specifically the Department of Defense, NASA and NOAA.



**Mangai Prabakar**  
International Space University

Mangai Prabakar is a Space Studies Program SSP21 student at International Space University with a B.Sc. and M.Sc. in Biomedical Engineering – Mechanical concentration from University of Miami. She is a Certified SolidWorks Expert and Design Engineer with experience in the 3D printing industry, visual design, telerobotics, and GIS. Mangai is a Global Team member at World Space Week Association and a



member of the American Astronomical Society (AAS) and Women in Aerospace (WIA).



**Mark Angelo Purio**  
Kyushu Institute of Technology

Mark is from the Philippines and is currently pursuing a Ph.D. degree in Space Engineering. He is one of the members of the BIRDS-4 Satellite Project which developed the first CubeSat of Paraguay together with the Philippines and Japan. His research interest focus on remote sensing, satellite development and intelligent systems.



**Niclas Püschel**  
Dresden University of Technology

I am a mechanical engineering, specialization space engineering, student at the Technical University of Dresden in Germany. Besides my passion for space, I am also dedicated to marketing and consulting. I am currently project leader at a student business consultancy and conducted four projects for customers from industry so far.



**Philippe Raisin**  
TFE Energy GmbH

I am a co-founder of Village Data Analytics, a software platform which uses satellite imagery to help end energy poverty worldwide. I have a background in Physics and have previously worked in laser physics and medical AI.



**Sandhya Ravikumar**  
University of Kansas

Sandhya Ravikumar is a senior at the University of Kansas, studying Engineering Physics: Aerospace Systems. She has worked with NASA's Office of International and Interagency Relations, the National Park Service, and numerous state governments and universities. Sandhya is interested in public sector space activities and utilizing space technologies for Earth-based solutions.



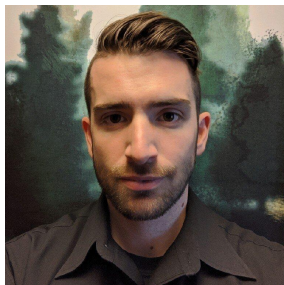
**Hunter Ray**  
University of Colorado Boulder

Graduating from Brown University in 2018, I led the final design and delivery of EQUiSat, a 1U CubeSat, to the ISS. I then spent two years designing spacecraft systems at Draper in Cambridge, MA. In 2020, I started my Ph.D. at CU Boulder studying human interaction with autonomous systems.



**Luc Riesbeck**  
Astroscale

Luc Riesbeck is a Space Policy Research Analyst at Astroscale U.S., where he works to find comprehensive solutions to orbital sustainability challenges for the benefit of future generations. He holds a Master's degree from George Washington University's Space Policy Institute and his interests include cross-disciplinary design and ethics in STEM.



**Rob Ronci**  
Caelus Foundation

Rob Ronci is the executive director of the Caelus Foundation, a non-profit organization with a mission to critically engage with and expand participation in the space sector. Through the Caelus Foundation, he has produced insightful space industry research and co-leads a successful track-II diplomatic dialogue between US and Chinese stakeholders.



**Giuliana Rotola**  
SGAC

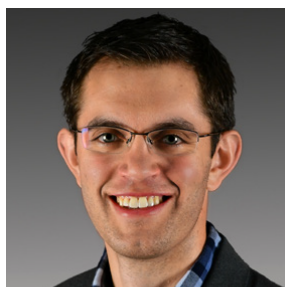
Giuliana serves as the Space Law and Policy Project Group Co-Lead, as advisor to the Task Force on U.S. Space Policy, as Co-lead of the Satellite Constellations team for the Space Safety and Sustainability PG, and she is a member of the E.A.G.L.E. Action Team



**Wesley Sanders**  
U.S. Department of the Navy

Undergrad degree (Aero Eng.) obtained at Florida Institute of Technology and Master's degree (System Eng.) obtained at Naval Postgraduate School. Working for the Navy, calibrating weapons systems all over the world.





**Jeff Schloemer**  
Lockheed Martin

I am a career long aerospace engineer with experience building enterprise scale satellite systems. Starting as a University of Michigan graduate building a cubesat, I've had the privilege to work on some of the most exciting challenges including manned space flight and satellite data sharing for autonomous networks.



**Zaria Serfontein**  
Cranfield University

Pursuing a Ph.D. in Aerospace at Cranfield University, focused on space debris mitigation. LEOniDAS team lead, taking part in ESA's Fly Your Thesis! programme, performing a series of experiments on-board parabolic flights simulating microgravity. As UKSEDS vice-chair, passionate about knowledge sharing and creating opportunities for students.



**Hari Ram Shrestha**  
Kyushu Institute of Technology

I'm Hari Ram SHRESTHA. I am from Nepal. I am currently doing a Ph.D. in Electrical and Space Systems Engineering subject under Professor Mengu CHO at the La SEINE at the Kyushu Institute of Technology, Japan. I have completed my master's degree in Space Engineering from KyuTech in 2020.



**Elwyn Sirieys**  
Massachusetts Institute of Technology

Elwyn Sirieys is a graduate research assistant at MIT, S.M. candidate in the Department of Aeronautics and Astronautics and in the Technology & Policy Program. His current work is focused on the environmental impact of space launch vehicles. Elwyn graduated from Ecole Centrale Paris and Sorbonne University.



**Antonio Stark**  
SGAC

Antonio is the Asia-Pacific Regional Partnerships Manager for SGAC, and has worked with numerous space agencies, government bodies, corporations, and investment firms in the field of aerospace. His expertise lies in space law/policy, government strategy, technology/innovation, and sustainability. He was an expedition member to both the Arctic circle and the Himalaya mountain ranges. You can contact him via LinkedIn or Instagram (@antoniofstark).



**Lisa Stojanovski**  
Rocket Lab

Lisa Stojanovski leads CubeSat launch sales at Rocket Lab, helping scientists, students and innovators get on orbit. She holds a Bachelor's Degree in Molecular Biology, and Master's degree in Science Communication. Lisa was formerly part of a traveling science circus in her homeland, Australia.



**Rebecca Sutton**  
Lockheed Martin

I lead an Advanced Visualizations Team at Lockheed Martin Space, focused on innovation and technology development. I have a background in mechanical engineering and international relations.



**Mina Takla**  
CosmoX, Inc

Co-founder & CEO, CosmoX, Inc. (US) | MSc Satellite Technology - Advanced Space Systems, Julius- Maximilians-Universität Würzburg (JMU) | BSc Rocket Complexes and Astronautical Engineering, Moscow Aviation Institute | New Ventures Leadership, MIT Bootcamps | Interested in Space Security & Sustainability, OOS/OSAM, ADR, RPO, NewSpace, Lunar Settlement, Asteroid Mining, Planetary Defense, SBSP.



**Jin Tanaka**  
Kyushu University

Branch manager of University Student Chamber International certified by UN ECOSOC as a special consultative status of non government organization focusing on climate issues and space education. Also, he belongs to climate youth japan in japan focusing on climate change policy in Japan and Asia Pacific.



**Johanna Erika Valdueza**  
Colorado School of Mines, Baron Financial Group

Johanna Erika Valdueza is an aspiring planetary geologist. She is studying space resources at the Colorado School of Mines while working at a financial firm. She has a Bachelor of Science degree in Geology and a Master of Science degree in Applied Earth Sciences.



**London Vallery**  
Harvard University

Studying history of science with a focus in indigenous astronomy and space ethics at Harvard University. Director of Upward Expansion docuseries which covers the ways indigenous communities around the world utilize the stars and sky as a natural resource and the technological threats that advance the loss of generational knowledge.



**Katherine Vega Mulvaney**  
Ball Aerospace

Katherine is 2x founder, technical lead, and D&I champion. She is currently a systems engineer at Ball Aerospace and the CEO/founder of GoSats, a startup focused on improving education, access, and procurement for CubeSats.



**Rochelle Velho**  
Austrain Space Forum (OeWF), SGAC

Rochelle Velho is a medical doctor specialising in AIM, ICM and Space medicine. In parallel to her clinical work, she is the SGAC SMLS co-chair, UK Space LABS treasurer, OeWF chief medical officer and a UN Space4Women mentor. Her primary aspiration is to collaboratively source space-based solutions to solve terrestrial health challenges.



**Jordan Wachs**  
The Charles Stark Draper Laboratory, Inc.

I am an Assured Space and Advanced Technology program manager at Draper and a graduate student studying system design and management at MIT. I have the good fortune to lead cross-disciplinary teams with experts in many fields to solve challenging problems for the U.S. Government in the space and space-adjacent domains.



**Saira Roxana O. Williams**  
University of Science and Technology

Roxy Williams studies computer engineering, National Point of Contact for Nicaragua. She was part of the CubeDesign competition organized by the National Institute of Space Research Brazil, the mission was to measure the levels of water during hurricane seasons, and with the data provide relocate people in a safe place.



**Lindsey Wiser**  
Arizona State University

Lindsey is an astrophysics Ph.D. student at Arizona State University and a leader within the SGAC Space Law & Policy Project Group. She completed her B.S. in engineering at Johns Hopkins University in 2020 and is a 2019 Brooke Owens Fellow. Her science research focuses on planetary atmospheres.



**Taylor Zedosky**  
Ball Aerospace

I have worked at Ball Aerospace as a mechanical engineer designing mechanisms for spacecraft for three years. I am also a graduate student at CU Boulder pursuing a master's in aerospace engineering. I was a Brooke Owens Fellow in 2017. In my spare time I enjoy skiing, hiking and reading.



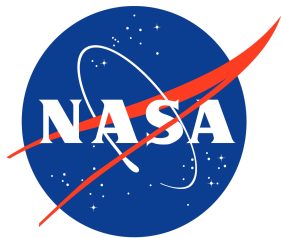
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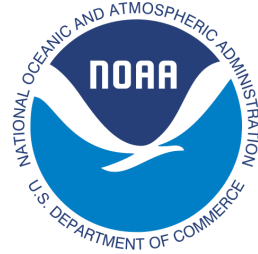




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