

Mariel Michelle John Borowitz

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ACADEMIC EMPLOYMENT

Georgia Institute of Technology	<i>Associate Professor</i>	2020 – Present
	<i>Assistant Professor</i>	2013-2020
Sam Nunn School of International Affairs Atlanta, GA		

EDUCATION

University of Maryland , College Park, MD	August 2013
Doctor of Philosophy in Public Policy Dissertation: <i>International Cooperation on Climate Monitoring via Satellite</i>	

The George Washington University , Washington, DC	May 2009
Master of Arts in International Science and Technology Policy Concentration in Space Policy	

Massachusetts Institute of Technology , Cambridge, MA	June 2006
Bachelor of Science in Aeronautics and Astronautics Minor in Applied International Studies	

PROFESSIONAL EXPERIENCE

Office of Space Commerce, Department of Congress	2023-Present
<i>IPA, Director of International Space Situational Awareness Engagement</i> Atlanta, GA/ Washington, DC	

NASA Science Mission Directorate	2016 – 2018
<i>IPA, Policy Analyst</i> Washington, DC	

Space Foundation	2008 – 2013
<i>Research Analyst</i> Washington, DC	

Raytheon	2006 –2009
<i>Systems Engineer</i> Tewksbury, MA	

PEER-REVIEWED PUBLICATIONS**Books**

Borowitz, Mariel. Open Space: The Global Effort for Open Environmental Satellite Data. MIT Press. December 2017.

Reviewed by:

Colleton, Nancy. *Space Policy*. 47 (2019): 76-77.

Olbrich, Philipp. *Astropolitics*. 16.3 (2018) 230-236.

Montoya, Robert. *Information & Culture*. Fall 2018.

Foust, Jeff. 2018. *The Space Review*. <<http://www.thespacereview.com/>>.

Journal Articles

Domotor, Alec, Mariel Borowitz, and Rebecca Palmer. "Cislunar Positioning, Navigation, and Timing: International Relations and Policy Implications." *New Space* 11.4 (2023): 251-261.

Borowitz, Mariel. "Teaching social science aspects of space: A transdisciplinary approach." *Space Policy* (2023): 101591.

Borowitz, Mariel, Althea Noonan, and Reem El Ghazal. "US Strategic Interest in the Moon: An Assessment of Economic, National Security, and Geopolitical Drivers." *Space Policy* (2023): 101548.

Borowitz, Mariel. "Let's Just Talk About the Weather: Weather Satellites and Space Diplomacy." *The Hague Journal of Diplomacy* 1.aop (2023): 1-28.

Borowitz, Mariel, Janet Zhou, Krystal Azelton, and Isabelle-Yara Nassar. "Examining the value of satellite data in halting transmission of polio in Nigeria: A socioeconomic analysis." *Data & Policy* 5 (2023): e16.

Woodall, Brian, Mariel Borowitz, Kari Watkins, Maria Costa, Angela Howard, Perrine Kemerait, Michelle Lee, Gavin Rolls, Yuji Takubo, Rachel Titshaw, and Maria Winstead, "The megaregion—forms, functions, and potential? A literature review and proposal for advancing research." *International Journal of Urban Sciences* (2023): 1-23.

Borowitz, Mariel. "Examining the Growth of the Global Space Situational Awareness Sector: A Network Analysis Approach." *Space Policy* (2022): 101444.

Borowitz, Mariel. "An Interoperable Information Umbrella: Sharing Space Information Technology," *Strategic Studies Quarterly*, 15.1 (2021): 115-132.

Borowitz, Mariel. "Government data, commercial cloud: Will public access suffer?" *Science* 363.6427 (2019): 588-589.

Borowitz, Mariel. "Government Engagement with Commercial Remote Sensing Companies: A Framework for Evaluating Public Data Buys." *New Space*, 7.3 (2019): 190-195.

Borowitz, Mariel. "Strategic Implications of the Proliferation of Space Situational Awareness Technology and Information: Lessons Learned from the Remote Sensing Sector." *Space Policy*. 47 (2019): 18-27.

Borowitz, Mariel and Jonathan Battat. "Multidisciplinary Evaluation of Next Steps for Human Space Exploration: Technical and Strategic Analysis of Options," *Space Policy*, 35 (2016): 33-42.

Borowitz, Mariel. "Is it Time for Commercial Weather Satellites? Analyzing the Case of Global Navigation Satellite System Radio Occultation." *New Space*, 4.2 (2016): 115-122.

Borowitz, Mariel. "Challenges to Developing a Global Satellite Climate Monitoring System." *Astropolitics*. 12.2-3 (2015): 162-184.

*Authors in italics are students

OTHER PUBLICATIONS**Book Chapters**

Borowitz, Mariel. "Space-based Data and Human Security." Oxford Handbook of Space Security. Saadia Pekkanan and PJ Blount. Oxford University Press. (2024)

Borowitz, Mariel. “From Space Situational Awareness to Space Domain Awareness: Examining Rhetorical and Substantive Transitions in the U.S. Approach to Space Security.” The Militarization of Space in Europe. T. Hoerber and I. Oikonomou, Routledge. (2023)

Edited Volumes

Borowitz, Mariel, Hoerber, Thomas, Reynaud de Sousa, Bruno, Forganni, Antonella (Eds.) Space Policy Handbook. Routledge. (Forthcoming)

Invited Articles and Book Reviews

Borowitz, Mariel. “The Changing Role of Russia in Space.” *NATO OPEN Publications*. May 2023.

Borowitz, Mariel. “Dark Skies: Space Expansionism, Planetary Geopolitics, and the Ends of Humanity.” By Daniel Deudney. Oxford: Oxford University Press, 2020. 464p. \$34.95 cloth.” *Perspectives on Politics*, 19.3, (2021): 1033-1034.

Borowitz, Mariel. “Legal Considerations and Future Options for Space Situational Awareness.” *Georgia Journal of International and Comparative Law*. 48.3 (2020).

Borowitz, Mariel. “Earth Observing Satellites and Open Data Sharing in China.” *China Currents*. 19.1 (2020).

Non-Refereed Articles

Borowitz, Mariel, Lawrence Rubin, and Brian Stewart. "National Security Implications of Emerging Satellite Technologies." *Orbis* 64.4 (2020): 515-527.

Other Publications

Borowitz, Mariel, Cristina Perez Hernandez, Matt Hejduk, Aurelie Gillet, Monique Moury, Pascal Foucher. “A Technical Comparison of the Public SSA Services in the United States and the European Union.” AMOS Proceedings. September 2024. [In Department of Commerce Role]

Abimbola, Alele, Mariel Borowitz, Carissa Christensen, Richard Dalbello, Simonetta Di Pippo, Pascal Ehrenfreund, Aarti Holla-Maini, Peter Martinez, Nobuhiro Matsuyama, Jamie Morin, Kai-Uwe Schrogl, Olga Stelmakh-Drescher, Guoyu Wang. “Space Situational Awareness Data and Information Sharing Principles.” World Economic Forum Global Future Council on the Future of Space. Briefing Paper. September 2024.

Ho, Koki and Mariel Borowitz. “Space missions are getting more complex – lessons from Amazon and FedEx can inform satellite and spacecraft management in orbit.” *The Conversation*. 21 August 2024.

Borowitz, Mariel. “Japan is now the 5th country to land on the Moon – the technology used will lend itself to future lunar missions.” *The Conversation*. 21 January 2024.

Borowitz, Mariel, Zhou, Janet, Azelton, Krystal, and Nassar, Isabelle-Yara. “Valuing Data: The Role of Satellite Data in Halting the Transmission of Polio in Nigeria” *Data & Policy Blog*. 28 August 2023.

Borowitz, Mariel. “India’s Chandrayaan-3 landed on the south pole of the Moon – a space policy expert explains what this means for India and the global race to the Moon.” *The Conversation*. 24 August 2023.

Borowitz, Mariel and Harmony, Teasel. “Most Americans support NASA – but don't think it should prioritize sending people to space.” *The Conversation*. 3 August 2023.

Borowitz, Mariel. “Returning to the Moon can benefit commercial, military and political sectors – a space policy expert explains.” *The Conversation*. 18 July 2023.

Scott, Walter, Borowitz, Mariel, Brumby, Steve, Lenczowski, Roberta, Sagan, Vasit, Yuan, May. “Landsat in the Cloud.” National Geospatial Advisory Committee Landsat Advisory Group. May 2022.

Borowitz, Mariel. “The Military Use of Small Satellites in Orbit,” Institut Française des Relations Internationales (IFRI). European Space Governance Initiative/ Center for Security Studies. 4 March 2022. [Paid Consultant]

- Borowitz, Mariel, Masback, Keith, Lenczowski, Roberta, Miglares, Anne Hale, Schingler, Robbie, Scott, Walker, and May Yuan. "Revisiting the Land Remote Sensing Policy Act of 1992." National Geospatial Advisory Committee Landsat Advisory Group. April 2021.
- Borowitz, Mariel. "Op-ed: Satellite Data and Cheeseburgers." *Space News*. 8 August 2018.
- Borowitz, Mariel. "Half of Earth's Satellites Restrict Use of Climate Data." *The Conversation*. 3 April 2018.
- Borowitz, Mariel. "Climate Monitoring and the Need for Open Access to Global Environmental Satellite Data." *Room: The Space Journal*, 1.15 (2018): 66-70.
- Borowitz, Mariel. "Open Data: The Global Effort for Open Access to Satellite Data." *GEO Blog*. 1 February 2018. https://www.earthobservations.org/geo_blog_obs.php.
- Borowitz, Mariel. "Open Data: The Global Effort for Open Access to Satellite Data." *MIT Press Blog*. 26 January 2018. <https://mitpress.mit.edu/blog/open-data-global-effort-open-access-satellite-data>.
- Borowitz, Mariel. *The Space Report 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022*. Colorado Springs: Space Foundation, 2019. [Contributed as paid independent consultant]
- Borowitz, Mariel. "Weather Satellites: Critical Technology in an Uncertain Environment." *Space Foundation*. 2013.
- Borowitz, Mariel. "Space Workforce and Education" *The Space Report 2013*, Ed. Micah Walter-Range, Mariel John Borowitz, G. Ryan Faith, and Andreas Frick. Colorado Springs: Space Foundation, 2013.
- Borowitz, Mariel. "Space Products and Services." *The Space Report 2012*, Ed. Micah Walter-Range, Mariel John, and G. Ryan Faith. Colorado Springs: Space Foundation, 2012.
- Borowitz, Mariel. "James Webb Space Telescope: A Worthy Investment in Space Science." *Space Foundation*, 2011.
- Walter-Range, Micah, Mariel John, and G. Ryan Faith, eds. *The Space Report 2011*, Colorado Springs: Space Foundation, 2011.
- Borowitz, Mariel. "U.S. National Space Policy Historical Comparison." *Space Foundation*, 2010.
- Borowitz, Mariel. "Remote Sensing for Disease Early Warning." *Space Foundation*, 2010
- Hauser, Marty, Micah Walter-Range, and Mariel John eds. *The Space Report 2010*, Colorado Springs: Space Foundation, 2010.
- Hauser, Marty, Micah Walter-Range, and Mariel John eds. *The Space Report 2009*, Colorado Springs: Space Foundation, 2009.
- Borowitz, Mariel. "Space Applications for International Development." *Space Foundation*, 2009.
- Borowitz, Mariel. "The International Space Station: Decision 2015." *Space Foundation*, 2009.

POLICY ENGAGEMENT

Space Situational Awareness: Guiding the Transition to a Civil Capability. Hearing before the U.S. House of Representatives Committee on Science, Space, and Technology Subcommittee on Space and Aeronautics. 117th Congress. 12 May 2022. Testimony of Mariel Borowitz.

INVITED PRESENTATIONS

- Panel: The Shibuya Scramble Won't Work in Space: Ideas for Enhancing APAC Space Situational Awareness. Space Sustainability Summit. Tokyo, Japan. 12 June 2024. [In Department of Commerce Role]
- "Update on the next generation coordination system for spaceflight safety," United States and Space Situational Awareness Tools. Space Situational Awareness Training Events. United Nations Committee on the Peaceful Uses of Outer Space. Virtual. 3-4 June 2024.
- Panel: Space Investment Analysis. Space Symposium. Colorado Springs, CO. 8 April 2024.
- "Examining the Value of Satellite Data in Halting Transmission of Polio in Nigeria: A Socioeconomic Analysis." Academy of Interdisciplinary Studies Sustainability Seminar. Hong Kong University of Science and Technology. Virtual. 15 December 2023.
- "Keynote address: Global efforts for open access to environmental satellite data." WMO Core Satellite Data Workshop. Geneva, Switzerland. 5-7 December 2023.

- Panel Discussion: Success in Space Through Security, Investment, and Sustainability. International Astronautical Congress (IAC). Baku, Azerbaijan. 6 October 2023.
- “Keynote: Earth Observation Satellites and Human Security.” NASA Space Communications and Navigation (SCaN) Space Generation Advisory Council (SGAC) Workshop. Baku, Azerbaijan. 1 October 2023.
- Panel Discussion: Moving from Industry Best Practices to Space Traffic Management Rules. Advanced Maui Optical and Space Surveillance Technologies Conference (AMOS). Maui, HI. 22 September 2023. [In Department of Commerce Role]
- “STEAM Careers: International Space Policy.” Springdale Park Elementary School. Atlanta, GA. 1 September 2023.
- “United States Space Policy.” African Space Leadership Institute. Virtual. 19 May 2023.
- Panel Discussion: Space Investment Analysis. Space Symposium. Colorado Springs, CO. 17 April 2023.
- “From Space Situational Awareness to Space Domain Awareness: Examining Rhetorical and Substantive Transitions in the U.S. Approach to Space Security.” Aerospace Corporation Center for Space Policy and Strategy Seminar. Virtual. 21 March 2023.
- “Saving Space: Challenges and Opportunities for International Cooperation on Space Traffic Management.” Graduate Seminar. Georgia Tech Europe. Metz, France. 28 February 2023.
- Panel Discussion: Reflecting on Two Decades of Earth Observation Advancements: Informing the Future of Civil Earth Observation for the U.S. Weather, Water, and Climate Enterprise. American Meteorological Society Annual Meeting. 8 January 2023.
- “Challenges of Satellite Security in the Age of Rising Tensions.” Atlanta Council of International Relations. 8 December 2022.
- Panel Discussion: Securing Space: Preparing for Future Space Contingencies. Atlantic Council. Washington, DC and Virtual. 6 December 2022.
- “Examining the Value of Satellite Data in Halting Transmission of Polio in Nigeria: A Socioeconomic Analysis.” VALUABLES Consortium Capstone Celebration. Washington, DC. 5 December 2022.
- “Data policy for Open Science in Crisis Situations.” CODATA International Data Policy Committee Session. European Open Science Cloud Symposium. Prague, Czech Republic and Virtual. 16 November 2022.
- Expert Roundtable: Perspectives on New Space. Routledge Handbook on Space Policy Writers’ Workshop. Porto, Portugal. 26 October 2022.
- Panel Discussion: The need for data policy in times of crisis. International FAIR Convergence Symposium 2022. CODATA International Data Policy Committee Workshop. Leiden, Netherlands and Virtual. (Participated Virtually). 24 October 2022.
- Panel Discussion: Space Traffic Management: Time for Action. Atlantic Council. Washington, DC. Virtual. 14 September 2022.
- “Best Practices for Teaching About Space.” Summer Workshop on Teaching Space. Montgomery, AL. 29 July 2022.
- Panel Discussion: Bridging the Transatlantic Gap on Space Traffic Management. Summit for Space Sustainability. London, UK. 22 June 2022.
- “Space Security and Sustainability.” Great Decisions Lecture Series. St. George Village. Roswell, Georgia. 18 April 2022.
- “Protecting the Space Environment: Sustainability and Security.” Georgia Tech School of Physics Colloquium. Atlanta, GA. 7 March 2022.
- “Space Security and Sustainability.” Great Decisions Lecture Series. Atlanta Global Studies Center. Virtual. 10 February 2022.
- “Space Situational Awareness.” Air University. Montgomery, AL. Virtual. 1 February 2022.
- “Examining the Role of Satellite Data in Halting the Transmission of Polio in Nigeria: A Socioeconomic Analysis.” VALUABLES Consortium Meeting. Resources for the Future. Washington, DC. Virtual. 17 December 2021.
- “Commercial Space Industry Developments.” Bank of America Global Research. New York, NY. Virtual. 8 December 2021.
- “International Cooperation in Space Situational Awareness.” The challenges of space surveillance:

- Research questions for International Relations and strategic studies. Institute of Strategy and Defense Studies (IESD). University of Lyon. Lyon, France. Virtual. 16 November 2021.
- Panel Discussion: The Next Decade in Space: Discovery and Wonder. Georgia Institute of Technology School of Aerospace Engineering. Atlanta, Georgia. 13 November 2021.
- Panel Discussion: The Growing Space Economy, the Education Pipeline, and a Galaxy of Opportunity. Space Education & Strategic Applications Conference. American Public University System and the Policy Studies Organization. Virtual. 23 September 2021.
- Panel Discussion: Revisiting the 1992 Land Remote Sensing Policy Act in 2021. National Imagery Summit: Landsat and Society. Virtual. 2 September 2021.
- “Global Space Workforce.” Conversations for the Future. Virtual. 11 August 2021.
- “Best Practices for Teaching about Space.” Summer Workshop for Teaching about Space. Air University. Montgomery, AL. 28 July 2021.
- Space Policy Panel. Air University Research Showcase. Virtual. 7-8 June 2021.
- Panel Discussion: Small Satellite Proliferation, Advanced Technologies, and Their Security Implications. Foreign Policy Research Institute (FPRI). Virtual. 1 June 2021.
- Panel Discussion: Challenges and Opportunities of advances in satellite technologies: A National Security Perspective. Strategic Multilayer Assessment (SMA) Speaker Series. Virtual. 2 April 2021.
- “Data Sharing Policies for Earth Observing Satellites.” Space Technology for the Development Leader. Massachusetts Institute of Technology. Virtual. 29 March 2021.
- “National Security Implications of Emerging Satellite Technologies.” Emory University Osher Lifelong Learning Institute (OLLI). Virtual. 12 January. 2021.
- Panel Discussion: Commercial GEOINT Policy. United States Geospatial Intelligence Foundation. Virtual. 16 November 2020.
- “International Relations and Space Policy.” GeorgiaTech Expert Jackets. Virtual. 13 November 2020.
- Space Policy Panel. ISU Alumni Conference. Virtual. 7 August 2020.
- “Open Data and Earth Observation.” George Washington University Space Policy Institute. Washington, DC. 10 March 2020.
- “U.S. Space Policy and National Security.” International Club of Atlanta. Atlanta, GA. 3 March 2020.
- “Economics of Data Sharing.” Comparative Science, Technology and Innovation Policy Clinic. University of Arizona. Tuscon, Arizona. (Remote Participant). 6 February 2020.
- “Keynote: Astrobiology: Science & Technology and Policy & Politics.” 2020 Explorigins Colloquium. Atlanta, Georgia. 28 January 2020.
- “U.S. Space Policy.” Security, Safety, Sustainability: Promoting Good Behaviour in Outer Space. Ad Hoc Seminar of the EU Non-Proliferation and Disarmament Consortium. Brussels, Belgium. 9 December 2019.
- “Earth and Environmental Remote Sensing.” International Workshop on Open Research Data Policy and Practice. CODATA. Beijing, China. 17-18 September 2019.
- “A Space Policy Career Path.” Women Leaders in Aerospace Conference. United World College South East Asia, Singapore (Remote Participant). 10 May 2019.
- “U.S. Space Policy and National Security.” Atlanta Council on International Relations. Atlanta, GA. 5 December 2018.
- “Working at NASA Headquarters.” NASA Panel Video Conference. Women in Aeronautics and Astronautics. Atlanta, GA. 6 November 2018.
- “International Partners (Moderator).” Workshop on Maximizing the Scientific Return of NASA Data. Washington, DC. 30-31 October 2018.
- “Space Policy: An Overview.” Georgia Tech Students for the Exploration and of Space (SEDS). Atlanta, GA. 28 March 2018.
- MIT-DC Alumni Panel. MIT-DC Program. Washington, DC. 28 June 2018.
- “Open Space: The Global Effort for Open Access to Environmental Satellite Data.” University of Colorado Boulder. Boulder, Colorado. 8 March 2019.
- Space Challenges Program. Sofia, Bulgaria. 14 February 2019.
- Pentagon Joint Space Group. Washington, DC. 27 June 2018.
- Massachusetts Institute of Technology (MIT) Media Lab. Boston, MA. 17 May 2018.

- U.S. Group on Earth Observations. Washington, DC. 10 May 2018.
- International Space University Space Café. Washington, DC. 8 May 2018.
- National Air and Space Museum Space Policy and History Forum. Washington, DC. 23 April 2018.
- Georgia Tech, Sam Nunn School of International Affairs. Atlanta, GA. 12 April 2018.
- World Bank, Global Facility for Disaster Reduction and Recovery. Washington, DC. 8 March 2018.
- National Aeronautics and Space Administration (NASA). Washington, DC. 28 February 2018.
- Landsat Advisory Committee. Washington, DC. 15 February 2018.
- George Washington University. Washington, DC. 13 February 2018.
- United States Geological Survey (USGS). Reston, VA. 2 February 2018.
- “Space and Cyberspace Governance Regimes.” Political Space and Cyber Space. Georgia Institute of Technology. Atlanta, GA. 19-20 May 2016.
- “International Cooperation in Global Satellite Climate Monitoring.” University of Maryland. Washington, DC. 12 November 2015.
- “Economic Models for Remote Sensing Satellite Data.” George Washington University. Washington, DC. 9 November 2015.
- “Economic Issues in Satellite Data Sharing.” Bilateral U.S.-China Workshop. National Academy of Sciences. Washington, DC. 25-26 August 2014.
- “Trends in the Global Space Workforce.” 30th Annual Space Symposium. Colorado Springs, CO. May 2014
- “Weather Satellites: Critical Technology in an Uncertain Environment.” Rayburn House Office Building. Space Foundation. July 2013.
- “International Satellite Data Sharing.” Earth Observation Satellite Data Sharing: Policies and Partnerships. Secure World Foundation. Washington, DC. July 2013.
- “International Cooperation on Climate Monitoring via Satellite.” South Florida University. Tampa, FL, February 2013.
- Rochester Institute of Technology. Rochester, NY. January 2013.
- Georgia Institute of Technology. Atlanta, GA. January 2013.

CONFERENCE PRESENTATIONS

Presenter/ Panelist

- “A Technical Comparison of the Public SSA Services in the United States and the European.” Advanced Maui Optical Surveillance Technologies Conference. Maui, HI. 19 September 2024. [In Department of Commerce Role]
- “Let’s Just Talk About the Weather: Weather Satellites and Space Diplomacy.” International Studies Association Annual Meeting. Montreal, Canada. 15 March 2023.
- “Teaching About Space: Best Practices for Transdisciplinary Engagement.” International Astronautical Congress. Paris, France. 20 September 2022.
- “Global Legal and Policy Debates Pertaining to Lunar Resource Utilization.” (with Rikhi Roy) International Astronautical Congress. Paris, France. 20 September 2022.
- “An investigation into potential collision maneuver guidelines for future space traffic management.” Advanced Maui Optical Surveillance Technologies Conference. Maui, HI. 14 September 2021.
- “Examining the Role of Satellite Data in Eradicating Polio in Nigeria- A Socioeconomic Analysis.” Data for Policy. Virtual. 14 September 2021.
- “Using Satellite Data to Help Eradicate Disease- Polio Virus in Nigeria.” International Astronautical Congress. Virtual. 12-14 October 2020.
- “Network Analysis of the Evolving Landscape for Space Situational Awareness.” International Astronautical Congress. Virtual. 12-14 October 2020.
- “Global Trends in Open Access to Environmental Satellite Data.” American Geophysical Union Fall Meeting. San Francisco, CA. 8-13 December 2019.
- “Legal Challenges for Space Traffic Management.” The Future of Space Governance. Dean Rusk International Law Center. University of Georgia School of Law. Athens, GA. 28 October 2019

- “From Surveillance to Science: Evolution of the Civil Applications Committee.” International Astronautical Congress. Washington, DC. 20-25 October 2019.
- “Impact of Price on Data Distribution in the Landsat Program.” International Astronautical Congress. Washington, DC. 20-25 October 2019.
- “Success and Failure in National Security-Civil Cooperation: Examining the Case of Interagency Sharing of Satellite Reconnaissance Data” Atlanta Conference on Science and Innovation Policy. Atlanta, GA. 14-16 October 2019.
- “Open Data and National Security: Evaluating Four Models for Civil Access to Reconnaissance Satellite Data.” International Studies Association Annual Meeting. Toronto, Canada. March 2019.
- “Sharing for Security: How International Sharing of Surveillance Data Could Improve National Security.” International Studies Association Annual Meeting. Toronto, Canada. March 2019.
- “Government Engagement with New Commercial Remote Sensing Companies: Evaluating Models for Public Data Buys.” International Astronautical Congress. Bremen, Germany. October 2018.
- “What Happens When Open Data Gets Big? Opportunities and Risks for Earth Observation.” International Astronautical Congress. Bremen, Germany. October 2018.
- “Economic and Ethical Implications of Open Data: Lessons from the Landsat Program.” American Political Science Association Annual Meeting. Boston, MA. 30 August/September 2018.
- “Sharing for Security: Strategic Implications of Sharing Reconnaissance Satellite Data.” International Studies Association Annual Meeting. San Francisco, CA. April 2018.
- “Perspectives on the Future of Commercial Space.” Symposium on Space Innovations. Atlanta, GA. October 2017.
- “Data Sharing and Deterrence: Strategic Implications of the Proliferation of Defensive Technologies.” International Security Studies Section of the International Studies Association and the International Security and Arms Control Section of American Political Science Association (ISSS-ISAC) Annual Conference 2017. Washington, DC. October 2017. Oral Presentation.
- “The role of norms in international environmental satellite data sharing: comparing the meteorological and climate communities.” International Studies Association Annual Meeting. Atlanta, GA. March 2016. Oral Presentation.
- “Multidisciplinary Evaluation of Next Steps for Human Space Exploration: Technical and Strategic Analysis of Options.” 65th International Astronautical Congress (IAC). Jerusalem, Israel. October 2015. Oral Presentation.
- “Economic Models for Remote Sensing Satellite Data.” 65th International Astronautical Congress (IAC). Jerusalem, Israel. October 2015. Oral Presentation.
- “Assessing International Institutions for Governing Climate Monitoring.” International Studies Association Annual Meeting. New Orleans, LA. February 2015. Oral Presentation.
- “Understanding Policies for International Sharing of Earth Observation Satellite Data.” International Studies Association Annual Meeting. New Orleans, LA. February 2015. Oral Presentation.
- “Developing a Global Climate Monitoring System.” Climate Symposium, Darmstadt, Germany. October 2014. Poster Presentation.
- “Assessing the Adequacy of the Global Satellite Climate Monitoring System.” 65th International Astronautical Congress (IAC). Toronto, Canada. September 2014. Oral Presentation.
- “Incentives and Barriers to International Sharing of Climate Satellites Data: Evidence from National and International Case Studies.” 64th International Astronautical Congress (IAC). Beijing, China. September 2013. Oral Presentation.
- “Analysis of Global Space Education and Workforce.” 64th International Astronautical Congress (IAC). Beijing, China. September 2013. Oral Presentation.
- “International Cooperation on Climate Monitoring via Satellite: Implications for the Mediterranean Area.” United Nations/ International Astronautical Federation Workshop, Naples, Italy. September 2012. Poster Presentation.
- “Addressing Challenges in U.S. Weather Satellite Development.” American Association for the Advancement of Science (AAAS) Annual Meeting. Vancouver, Canada. February 2012. Poster Presentation.

- “Political Development of the International Space Station.” International Space University (ISU) Symposium. Strasbourg, France. February 2011. Oral Presentation.
- “Analysis of Climate Change and Satellite Policy in the U.S.” 61nd International Astronautical Congress (IAC). Prague, Czech Republic. September 2010. Oral Presentation.
- “Space Security: Comparing United States and European Policy.” International Space University (ISU) Symposium, Strasbourg, France, February 2009. Oral Presentation.
- “Space Agency Contributions to Capacity Building and Innovation.” 60st International Astronautical Congress (IAC). Daejeon, South Korea. September 2009. Oral Presentation.
- “Space Weather and Aviation.” Space Weather Workshop. Boulder, Colorado. March 2008. Poster Presentation.

Organizer/ Chair/ Moderator/ Discussant

- Cislunar Multi-Stakeholder Regime-Building Workshop. Washington, DC. March 22, 2024 [Co-organizer].
- Cislunar Tabletop Exercise. Washington, DC. March 21, 2024. [Co-organizers.]
- Space Assets and Disaster Management. International Astronautical Congress. Baku, Azerbaijan. 5 October 2023. Chair.
- Outer Space and International Relations Theory. International Studies Association Annual Meeting. Montreal, Canada. 17 March 2023. Discussant.
- Roundtable: International Politics in Outer Space: Contention, Cooperation, and Creativity Beyond Earth Orbit. International Studies Association Annual Meeting. Montreal, Canada. 15 March 2023. Organizer and Discussant.
- Routledge Handbook on Space Policy Writers’ Workshop. 26-28 October 2022. Porto, Portugal. Co-Organizer.
- Space Diplomacy Workshop: Special Issue of The Hague Journal of Diplomacy. 18 November 2021. Virtual. Participant/ Discussant.
- ESSCA Space Policy Workshop: Routledge Handbook on Space Policy. 8-10 November 2021. Rome, Italy. Co-Organizer
- Space Assets and Disaster Management. International Astronautical Congress. Dubai, United Arab Emirates. October 2020. Chair.
- A Century of Earth and Space Science: The Influence of Technological and Societal Changes on Research. American Geophysical Union Fall Meeting. San Francisco, CA. 8-13 December 2019. Panel Co-Organizer.
- Re-Envisioning Outer Space and Cyberspace: Sociotechnical Imaginaries in International Relations. International Studies Association Annual Meeting. Toronto, Canada. March 2019. Panel Co-Organizer.
- Politics of Outer Space: Power, Competition, and Cooperation. International Studies Association Annual Meeting. Toronto, Canada. March 2019. Discussant.
- Apollo Dialogues Workshop. Smithsonian Institution. Washington, DC. 7 December 2018. Selected Participant.
- Perspectives from the National Space Council UAG: Admiral James Ellis. Symposium on Space Innovation. Atlanta, GA. 13 November 2018. Moderator.
- Space Assets and Disaster Management. International Astronautical Congress. Bremen, Germany. October 2018. Chair.
- New Power, New Rules: Scientific and Technical Change in the World Order. International Studies Association Annual Meeting. San Francisco, CA. April 2018. Panel Co-Organizer.
- Technology: A Rule Maker or a Rule Breaker? International Studies Association Annual Meeting. San Francisco, CA. April 2018. Chair.
- Best Practices in Group on Earth Observations Initiatives and Flagships. Best Practices – Data Sharing and Data Management in GEO Side Event. GEO-XIV Plenary. 23 October 2017. Co-Organizer and Moderator.
- Orbital Mechanics And Political Dynamics: Regional And Global Factors In Policy For Outer Space. International Studies Association Annual Meeting. New Orleans, LA. February 2015. Panel Co-Organizer.
- Georgia Space Leadership Summit. Atlanta, GA. August 2014. Moderator.

MEDIA AND OUTREACH

Media Interviews/ Coverage

Fernholz, Tim. "How Japan Became Ground Zero for Space Sustainability." *Payload*. 2 August 2024.

Burns, Glenn. "Space junk crashing through homes. This is what local researchers are doing to prevent catastrophe." *WSB-TV*. 21 May 2024.

Rainbow, Jaspon. "Budget woes just a blip for unstoppable space industry growth." *Space News*. 8 April 2024.

"Space experts optimistic on Astrobotic's chances for next moon mission." *Pittsburgh Business Times*. 9 January 2024.

"Moon Base Moves From Hollywood Screen to Near Reality." *Voice of America*. 26 December 2023.

"India Conquers the Moon: What Does This Mean for Future Space Research?" *India Today*. 23 August 2023. Live TV.

Blake Schmidt. "Ukraine is a Proving Ground for New Tech." *Bloomberg*. 2 June 2023.

Bloomberg News. "China-Russia Space Alliance Stumbles in Bid to Surpass US." *Bloomberg*. 27 February 2023.

Wolverton, Mark. "A journey into space policy: Mariel Borowitz '06." *MIT Technology Review*. 21 February 2023.

Tennant, Callum. "Did nationalism doom the ISS? Its demise is signaling a new era of space competition." *Euronews*. 27 November 2022.

Jones, Andrew. "China gears up for launches to complete Tiangong space station." *Space News*. 18 October 2022.

Chhajlani, Eshita. "Artemis I launch gains international attention." *Technique*. 19 September 2022.

Palca, Joe. "Russia says it will pull out of the International Space Station after 2024." *NPR*. 27 July 2022.

Skibba, Ramin. "The FAA Says SpaceX Can't Expand Its Texas Launch Site—Yet." *Wired*. 13 June 2022.

Geoff Brumfield. "Russia's war in Ukraine is threatening an outpost of cooperation in space." *NPR*. 23 May 2022.

Smith, Marcia. "As Space Gets More Crowded, House Committee Still Questioning SSA Path Forward." *SpacePolicyOnline.com*. 17 May 2022.

Woodall, Tatyana. "How harpoons, magnets, and ion blasts could help us clean up space junk." *Popular Science*. 5 April 2022.

Foust, Jeff. "Space industry struggling to attract more skilled workers." *Space News*. 4 April 2022.

Skibba, Ramin. "The FAA Weighs the SpaceX Launch Site's Environmental Effects." *Wired*. 19 October 2021.

Foust, Jeff. "Space community ponders right-of-way rules for space traffic." *Space News*. 19 September 2021.

David, Leonard. "Space Junk Removal Is Not Going Smoothly." *Scientific American*. 14 April 2021.

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Hurst, Nathan. "As Satellite Tech Gets Easier, Who Makes Sure It's Safe?" *PC Mag*. 4 October 2019.

Gibbs, W. Watt. "A View from Everywhere All the Time." *Anthropocene*. June 2019.

Williams, Trevor. "Q&A: How to Balance Security, Sustainability and Profit in International Space Policy." *Global Atlanta*. 28 December 2018.

Williams, Weston. "SpaceX launches classified spy satellite for US Department of Defense." *Christian Science Monitor*. 1 May 2017.

O'Mally, James. "Rising Nationalism Will Change the Politics of Space." *How We Get to Next*. 23 August 2016.

Masunaga, Samantha. "U.S. government close to approving private moon mission, reports say." *Los Angeles Times*. 6 June 2016.

Hand, Eric. "CubeSats promise to fill weather data gap." *Science Magazine*. 11 December 2015.

- Sullivan, Rich. “The Sully Show.” *WGST* [Atlanta, Georgia]. 8 December 2014.
- Piccoli, Sean. “Expert: China Could Put US Orbiting Assets at Risk.” *News Max*. 30 September 2014.
- Tadjdeh, Yasmin. “New Chinese Threats to U.S. Space Systems Worry Officials.” *National Defense Magazine*. July 2014.
- Leone, Dan. “NASA Unfazed by Report Saying Current Path Won’t Reach Mars.” *Space News*. 6 June 2014.
- Toor, Amar. “Why is Syria Launching a Space Program During a Civil War?” *The Verge*. 21 March 2014.
- Tadjdeh, Yasmin. “Industry May Have Answer to Weather Forecasting Blind Spot.” *National Defense Magazine*. August 2013.
- Gruss, Mike. “Four Things the Space Foundation Wants to See the U.S. Do Differently with Weather Satellites.” *Space News*. 23 July 2013.

Podcasts

- “Satellite Data: From Pixels to Actionable Insights.” *Open Geo AI: Unveiling Satellite Insights through Open Data*. Centre for Environmental Planning and Technology (CEPT) University Research and Development Foundation (CRDF). India. 4 January 2024.
- Lewis, Jeffrey (host), “Ground Control to Space Junk.” *The Reason We’re All Still Here*. James Martin Center for Nonproliferation Studies. 4 October 2023.
- Dreier, Casey (host), “Space Policy Edition: How Russia’s Invasion of Ukraine Has Changed Space, with Mariel Borowitz.” *Planetary Podcast*. The Planetary Society. 6 May 2022.
- Johnson, Kaitlyn and Lindsey Sheppard (hosts), “Remote Sensing and Sensibility.” *Tech Unmanned Podcast*. Center for Strategic and International Studies. 27 July 2021.
- Phillips, Keri, “Space junk—how did orbital debris become such a huge headache?” *Rear Vision*. *ABC (Australia)*. 9 May 2021.
- “What Would You Pay for Faster, Smarter Government Data?” *Science Friday*. *NPR*. 8 February 2019.

Other Communications and Outreach

- “What Can Space Teach Us About Sustainability?” *Georgia Tech*. 23 January 2024.
- “Borowitz Takes Her Space to Washington.” *Georgia Tech*. 18 December 2023.
- “Georgia Tech Researchers to Lead Pioneering Space Wargaming Series.” *Georgia Tech*. 26 June 2023.
- “Reflecting on a Year of War in Ukraine.” *Georgia Tech*. 23 February 2023.
- “To the Moon, Back, and Beyond: Why It Matters.” *Georgia Tech*. 2 September 2022.
- “Borowitz Testifies to Need for Civil-Sector Space Monitoring.” *Georgia Tech*. 19 May 2022.
- “What I Wish I Knew My First Year on the Tenure Track” *Georgia Tech*. 29 September 2020. [Invited Panelist]
- “A Science of Ice and Fire.” *Georgia Institute of Technology News*. 10 April 2019.
- Pearson, Michael. “Gaming the Future.” *Georgia Tech Ivan Allen College of Liberal Arts Featured Stories*. 9 April 2019.
- “Countries fail to share satellite climate data.” *Science*. News in Brief Data Highlight. 13 April 2018.
- “Humans on Mars: Will it be a Worldwide Effort?” *Georgia Institute of Technology*. 29 September 2015.
- “Interview with Mariel Borowitz, Assistant Professor, Sam Nunn School of International Affairs.” *Georgia Institute of Technology*. September 2013.

HONORS AND AWARDS

- Georgia Tech Ivan Allen College Faculty Excellence in Research Award, 2024
- Georgia Tech Ivan Allen College Gold Star Faculty Research Award, 2024
- Georgia Tech Ivan Allen College Gold Star Faculty Research Award, 2021
- MGMWERX Space Case Study Prize Challenge (Second Place Award for “Civil Access to Military and Intelligence Satellite Data” Case Study), Air University (AU) at Maxwell Air Force Base, 2020
- Georgia Tech Ivan Allen College Gold Star 1 Travel Award, 2017
- Georgia Tech Teaching Fellowship Mentor Award, GTRC Strategic Grant, 2017
- Research Honorarium, Program on Strategic Stability Evaluation (POSSE), 2016

European Commission Travel Grant to attend “The Climate Symposium 2014” in Darmstadt, Germany, 2014
 Yamamoto Fund, University of Maryland Center for International Security Studies at Maryland (CISSM),
 2013

GRANTS

- “Understanding Multi-stakeholder Regime Formation: The Case of Cislunar Space.” Department of Defense. Minerva Research Initiative Defense Education and Civilian University Research (DECUR) Partnership. (\$394,651). 05/2023-05/2025. [PI]
- “Evaluating Space Traffic Management Strategies using a High-Fidelity Simulation Tool.” National Aeronautics and Space Administration (NASA). (\$150,000), 2022-2023. [Co-I]
- “Lunar In-Situ Resource Utilization.” Georgia Tech Research Institute (GTRI). 08/2022-07/2023 [Senior Contributor]
- “Cislunar Space Domain Awareness.” Georgia Tech Research Institute (GTRI). 08/2022-07/2023 [Senior Contributor]
- “Cislunar Position, Navigation, and Timing.” Georgia Tech Research Institute (GTRI). 08/2022-07/2023 [Senior Contributor]
- “Cislunar Architecture Study.” Georgia Tech Research Institute (GTRI). 08/2022-07/2023 [Senior Contributor]
- “Active Debris Removal.” Georgia Tech Research Institute (GTRI). 10/2021-07/2021 [Senior Contributor]
- “Space-based Solar Power on the Moon.” Georgia Tech Research Institute (GTRI). 10/2021-07/2021 [Senior Contributor]
- “Lunar In-Situ Resource Utilization.” Georgia Tech Research Institute (GTRI). 10/2021-07/2021 [Senior Contributor]
- “Cislunar Space Domain Awareness.” Georgia Tech Research Institute (GTRI). 10/2021-07/2021 [Senior Contributor]
- “Cislunar Position, Navigation, and Timing.” Georgia Tech Research Institute (GTRI). 10/2021-07/2021 [Senior Contributor]
- “Cislunar Architecture Study.” Georgia Tech Research Institute (GTRI). 10/2021-07/2022 [Senior Contributor]
- “Precision Aggregated Satellite Systems.” Georgia Institute of Technology. (\$13,000), 06/2021-10/2021 [Senior Contributor]
- “Governing Technology: Jean Monnet Center of Excellence.” European Union Erasmus+ Program. (\$110,000), 2020-2023. [Contributor]
- “Using Satellite Data to Help Eradicate Disease: Polio Virus in Nigeria.” Resources for the Future Grants for Assessing the Benefits of Satellites (GABS). (\$34,457), 2020-2021 [PI]
- “Assessing the Economic and Distributional Effects of Open Data Policies.” National Science Foundation (NSF), (\$133,848), 2020-2023 [PI]
- “2021 Seed Grant Program – Moving Teams Forward: Critical Infrastructure, Disaster Resilience, and Megaregion Sustainability.” (\$71,322), 2021-2022 [Co-PI]
- “Megaregions and Sustainability in the Global North.” Georgia Tech Digital Integrative Liberal Arts Center. (\$10,000), 2020-2021 [Co-PI]
- “Orbital Traffic Regulations for Collision Avoidance.” Georgia Tech Research Institute (GTRI) Small Bets Grant (\$75,000), 2020-2021 [Co-PI]
- “Open Secrets Book Project.” Ivan Allen College Small Grant for Research (\$7,500), 2020
- “Network Analysis of the Evolving Landscape for Space Situational Awareness.” Georgia Tech Research Institute (GTRI) Internal Research and Development (IRAD)/ HIVES Program, (\$25,000), 2019-20
- “Open Satellite Data Book Project” Ivan Allen College Small Grant for Research (\$5,000), 2016

TEACHING EXPERIENCE

Space Policy	INTA 3043/ 8803	2014/16/19/20/22
Space Security	INTA 4803/ 8803	2020, 2022

Modeling, Simulation, and Military Gaming	INTA 4742/ 6742	
Cross-listed as CX4232/ CSE 6742		
Residential Version		2015-2023
Online Professional Education		2020-2023
Space Policy and Systems Engineering	INTA 3043/ 8803	2017
Co-taught with Carlee Bishop, GTRI		
Empirical Methods	INTA 2010	2015, 2020
Science, Technology, and International Affairs	INTA 2040	2014
International Affairs and Technology Policy	INTA 4050/ 8803	2013, 2014

MENTORING

PhD Advisor

Brian Stewart, Sam Nunn School of International Affairs, Georgia Tech (2022)

On Dissertation Committee

Stephanie Introne, School of Aerospace Engineering, Georgia Tech (2023-)
Theresa Bender, School of Aerospace Engineering, Georgia Tech (2023-)
Rafaele Gradini, School of Aerospace Engineering, Georgia Tech (2021)
Nelson (Gregg) Andriano, School of Aerospace Engineering, Georgia Tech (2021)
Matthew (Mac) Guckenberger, School of Aerospace Engineering, Georgia Tech (2021)
Daniel Castro, School of Public Policy, Georgia Tech (2016-)
Seth Gordon, School of Aerospace Engineering, Georgia Tech (2018)
Jonathan Huang, Sam Nunn School of International Affairs, Georgia Tech (2016)

Independent Study

Ishani Peddi (Aerospace Engineering), Spring 2024
Reed Walker (International Affairs, Undergraduate), Spring 2021
David Hermanns (Aerospace Engineering, Undergraduate), 2019-2020

Research Assistant (Graduate)

Kylie Phelps (Aerospace Engineering), 2023-2024
Kallysta Jones (International Affairs), 2022-2023
Austin Humphrey (International Affairs), 2022-2023
Rebecca Palmer (Aerospace Engineering), 2022-2023
Eric Koob (International Affairs), 2021-2022
Helen Dong (International Affairs), 2021-2022
Rukmini Roy (Aerospace Engineering), Spring 2022
Jahmal Auguste (International Affairs), Spring 2022
Alec Demotor (CSE), Spring 2022
Charlie Marburger (International Affairs), Spring 2022

Research Assistant (Undergraduate)

Shabri Pelia (Aerospace Engineering), Spring 2024
Samina Patel (Aerospace Engineering), 2023-2024
Sreekar Madabushi (Aerospace Engineering), Fall 2023
Rio Robertson (Aerospace Engineering), Fall 2023
Althea Noonan (Aerospace Engineering), 2022
Reem El Ghazal (Aerospace Engineering), 2022
Isabelle-Yara Nassar (International Affairs), 2021

PROFESSIONAL SERVICE AND MEMBERSHIPS

International Boards and Committees

Creative Destruction Lab – Space Stream. Mentor. 2022-Present.
International Council for Science Committee on Data for Science and Technology (CODATA) Data Policy Committee, 2018-Present
International Astronautical Federation (IAF) Space Security Committee, Member, 2024-Present
International Astronautical Federation (IAF) Earth Observation Committee, Member, 2023-Present
International Astronautical Federation (IAF) Global Earth Observation System of Systems (GEOSS) Subcommittee, Member, 2015-Present
Group on Earth Observations Data Sharing Working Group, Member, 2014-Present
Digital Belt and Road (DBAR) External Evaluation Committee, Chinese Academy of Sciences, 2020-2021
Program Coordinator for the Space Generation Fusion Forum, May 2014

National Boards and Committees

American Institute of Aeronautics and Astronautics Integration and Outreach Committee, 2023-Present
NASA Socioeconomic Data and Applications Center (SEDAC) User Working Group, 2021-Present
Landsat Advisory Group (Federal Advisory Committee), Member, 2019-Present
American Association for the Advancement of Science (AAAS) Annual Meeting, Poster Judge, 2014, 2015, 2017

State and Local Boards and Committees

Georgia Space Alliance, Board Member, 2017-2019
Georgia Space Working Group, State of Georgia, Member, 2014-2019

Professional Memberships

International Studies Association, Member, 2014-Present

University Boards and Committees

Georgia Tech Space Research Institute, Steering Committee, 2024-Present
Center for Space Technology and Research (CSTAR), Georgia Tech, Member 2014-Present
Society for Women in Space Exploration (SWISE) at Georgia Tech, Faculty Advisor, 2019-2023
Georgia Tech Digital Integrative Liberal Arts Center (DILAC), Board Member, 2020-2022
Undergraduate Committee, Sam Nunn School of International Affairs, 2019
Course Evaluation/ Office of Assessment Committee/ Ivan Allen College Faculty Advisory Committee, 2015-2018
Graduate Committee, Sam Nunn School of International Affairs, Georgia Institute of Technology, 2015-2018
Steering Committee, Sam Nunn School of International Affairs, Georgia Institute of Technology, 2014-2017

Book Series Editor

Space Power Series, Routledge

Journal Editor

Editorial Board Member, Space Policy (2024-Present)

Reviewer

Science, International Security, Space Policy, Acta Astronautica, Defense & Security Analysis, Perspectives on Politics, Routledge, Columbia University Press