

Mariel Michelle John Borowitz

Assistant Professor

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ACADEMIC EMPLOYMENT

Georgia Institute of Technology (Assistant Professor) 2013 – Present
Sam Nunn School of International Affairs
Atlanta, GA

EDUCATION

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

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

NASA Science Mission Directorate (IPA, Policy Analyst) 2016 – 2018
Washington, DC

Space Foundation (Research Analyst) 2008 – 2013
Washington, DC

Raytheon (Systems Engineer) 2006 – 2009
Tewksbury, MA

PEER-REVIEWED PUBLICATIONS

Books

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

Reviewed by:

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

- Montoya, Robert. *Information & Culture*. Available online 2018.
 Colleton, Nancy. *Space Policy*. In Press. Available online 30 July 2018.
 Foust, Jeff. 2018. *The Space Review*. < <http://www.thespacereview.com/>>.

Journal Articles

- Borowitz, Mariel. "Government data, commercial cloud: Will public access suffer?" *Science* 363.6427 (2019): 588-589.
 Borowitz, Mariel. "Strategic Implications of the Proliferation of Space Situational Awareness Technology and Information: Lessons Learned from the Remote Sensing Sector." *Space Policy*. (2018).
 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.

OTHER PUBLICATIONS

- 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, and 2019*. Colorado Springs: Space Foundation, 2018. [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.

INVITED PRESENTATIONS

- “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. [Invited]
Space Challenges Program. Sofia, Bulgaria. 14 February 2019. [Invited]
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***

- “Open Data and National Security: Evaluating Four Models for Civil Access to Reconnaissance Satellite Data.” International Studies Association Annual Meeting. Toronto, Canada. March 2019 [Accepted]
- “Sharing for Security: How International Sharing of Surveillance Data Could Improve National Security.” International Studies Association Annual Meeting. Toronto, Canada. March 2019 [Accepted]
- “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.” 61st 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

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

Science Friday. *NPR*. 8 February 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.

Other Communications and Outreach

“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 School of International Affairs 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

Ivan Allen College Small Grant for Research (\$5,000), 2016

TEACHING EXPERIENCE

Space Policy	INTA 3043/ 8803	2014, 2016, 2019
Modeling, Simulation, and Military Gaming	INTA 4742/ 6742	2015-2019
Cross-listed as CX4232/ CSE 6742		
Space Policy and Systems Engineering	INTA 3043/ 8803	2017
Co-taught with Carlee Bishop, GTRI		
Empirical Methods	INTA 2010	2015
Science, Technology, and International Affairs	INTA 2040	2014
International Affairs and Technology Policy	INTA 4050/ 8803	2013, 2014

MENTORING

On Dissertation Committee

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)

PROFESSIONAL SERVICE AND MEMBERSHIPS

Georgia Space Alliance, Board Member, 2017-2019
 International Studies Association, Member, 2014- 2019
 International Astronautical Federation (IAF) Global Earth Observation System of Systems (GEOSS)
 Subcommittee, Member, 2015-2019
 Group on Earth Observations Data Sharing Working Group, Member, 2014- 2019
 International Council for Science Committee on Data for Science and Technology (CODATA) Data Policy
 Committee, 2018-2019
 Center for Space Technology and Research (CSTAR), Georgia Tech, Member 2014-2019
 Georgia Space Working Group, State of Georgia, Member, 2014-2019
 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
 American Association for the Advancement of Science (AAAS) Annual Meeting, Poster Judge, 2014, 2015,
 2017
 Program Coordinator for the Space Generation Fusion Forum, May 2014

 Reviewer: Space Policy, Acta Astronautica