

Opening Remarks, 2016 WRTC Student Awards Ceremony

I first would like to thank the School of Writing, Rhetoric, and Technical Communication for inviting me to deliver opening remarks to such an accomplished group. It is always a thrill to return to my alma mater, and it is a great honor to be with you on this stellar evening — a celebration of your achievements and an opportunity to share with you my circuitous path to the U.S. space program and the pivotal role WRTC played along that path.

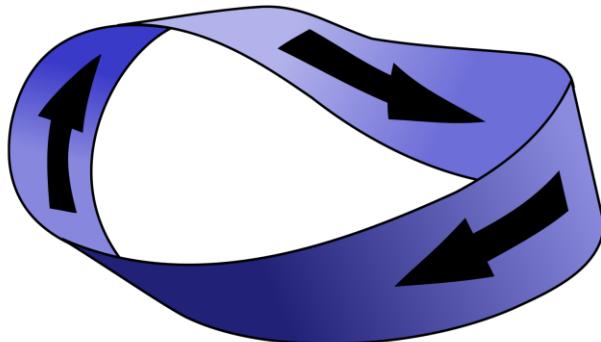
I'm about to take you back to Geometry class.

<<pause>>

You still have time to escape.

For you brave souls who have decided to stay, I will begin with a question. By a show of hands, how many people in here know what a Möbius strip is? For those of you who didn't raise your hand, please direct your attention to the loopy ribbon on the chart.

Möbius strip



A Möbius strip is an object with one continuous face. There is only one side to a Möbius strip and if you can imagine traveling across the face of one, you would find that you would return to your starting place, infinitely.

I'm a space guy. You knew infinity would get brought up at some point this evening. There's a connection here, I promise.

I grew up volunteering as a planetarium operator in Arlington, Virginia. I was 6 years old when I first saw the Milky Way. It illuminated a 30-foot dome, brimming with thousands of stars and a smattering of planets, including Pluto.

Too soon?

I continued volunteering at the planetarium until I left home for JMU. During those 12 formative years at the planetarium, I learned introductory astronomy, astrophysics, planetary science, heliophysics, and earth science through dozens of planetarium shows.

When you run the same planetarium show for six months every Sunday before rotating to the next show, the subject matter tends to stick.

During those early years, I was also a Cub Scout and Boy Scout, and attained the rank of Eagle Scout. Through 12 years of Scouting, I learned the importance of being prepared, taking the high road, finishing what you start, helping those who are less fortunate, and leading by demonstration. My experience in Scouting would play an important role later in life.

I also was fortunate to have phenomenal science teachers, including my 11th grade Physics teacher, Dean Howarth, with whom I keep in touch to this

day. Dean knew I would one day join the U.S. space program, but also knew it might not be a traditional path.

Initially, I pursued a traditional path into the sciences, entering JMU as a Physics major. After a year of Physics, Calculus, and Astronomy coursework, I discovered my calling was not the hard sciences but some yet-defined hybrid. A friend introduced me to a major called Technical and Scientific Communication, which would later merge to become WRTC.

I had found my hybrid.



WRTC enabled me to continue my astronomy coursework while picking up a highly marketable and useful skill set, including technical writing, technical editing, graphic design, user documentation, video tutorial development, proposal writing, web design, interaction design, science writing, publications management, audience analysis, intercultural communication, and plain language.

This program provided me the opportunity to pair a lifelong passion in science with a tremendously practical skill set.

Many of the professors who helped me to build this skill set are here with us tonight.



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Those who played a pivotal role include Professors Philbin, Hawthorne, Pass, Allen, Bednar, Shackelford, and Klein. I am forever grateful to them for their instruction and guidance.

Upon graduating, I began work as a Technical Writer for a small enterprise survey software company, Vovici. I immediately put my WRTC skills to use, developing user documentation and employing my graphic design knowledge in the workplace. I conducted an analysis of user documentation provided by our competitors, and was able to broaden the company's approach to include video tutorials.

In my next role, I worked as a Technical Writer and Technical Editor for Science Applications International Corporation, providing technical writing, editing, and layout support on thousands of system engineering, system

architecture, information security documents, and disaster recovery products. I had found a way to apply my coursework at JMU in a professional setting, but I was not yet using the full range of my skill set in the workplace, so I found other opportunities to use these skills.

Remember that planetarium? Well, in 2010, I learned that Arlington Public Schools had proposed closing the 40-year-old facility due to aging equipment and the cost of upgrades. I knew what I had to do. I gave a speech at a local school board meeting to encourage the board to keep the planetarium open, as it was my fervent belief that classroom technology was not yet capable of replacing the immersive experience provided to students by a planetarium. Moreover, there were socioeconomic implications of shuttering the planetarium. Schoolchildren from underprivileged families benefited from the experiential learning provided by places like planetariums, helping to close the achievement gap.

It was a local gem of science communication, I was willing to fight for it, and, fortunately, I was not alone. I co-founded Friends of Arlington's David M. Brown Planetarium. We delivered speeches, distributed a petition, and formed a 501(c)(3) non-profit. Arlington Public Schools Superintendent Patrick Murphy met with us, and told us that we would need to raise \$402,800 over a 15-month span in order to upgrade and renovate the aging planetarium.

We hit the ground running, leading fundraisers and benefit concerts, partnering with local businesses, and spreading the word via print and social media. This is where my WRTC skills came into play.



I led online and print operations for the campaign, designing the logo and developing the brand identity for the campaign. I also expanded our social media presence on Facebook and Twitter. I incorporated my domain knowledge of space science and human spaceflight to help build out our community of supporters online, and developed the campaign website and a broad array of print and digital materials.

The last time I spoke in this room, Friends of the Planetarium had raised about half of the money to save the planetarium.

Several months later, after thousands of donations and several dozen fundraising events, we had raised \$430,000.

The planetarium re-opened, and 25,000 schoolchildren visit it annually.

I was able to help lead a campaign to save the *very place* that had inspired my love of science two decades prior. I could not have done this without the skill sets I obtained in Scouting, the Planetarium, and WRTC.

Several days after we saved the planetarium, I learned that the successor to the Hubble Space Telescope was on the cusp of losing federal funding.

The James Webb Space Telescope, repeatedly selected by the National Academies as the most important astronomy and astrophysics mission was on the Congressional chopping block.



I founded an advocacy campaign named saveJWST to save the Webb Telescope. I assembled a team of 10 across 7 states and 2 continents to build a website and social media presence, reach out to other science advocacy organizations, obtain petition signatures, develop advocacy materials, spread the word about the importance and potential fate of the telescope, and deliver letters to key members of Congress. Scouting, the Planetarium, and WRTC again came into play, as did social media strategy, the latter of which I picked up during the save planetarium campaign. My team obtained thousands of petition signatures, and the saveJWST community delivered hundreds of letters to Congress.

Four months after launching the campaign, the Webb Telescope went from \$0 of proposed funding to over \$530 million. We played a small but pivotal role in that victory by augmenting the public voice. One leader in the Agency once remarked to me, “A group of 10 people saved an \$8 billion telescope.”

It was time for the next challenge, and I just had my first brush with space policy.

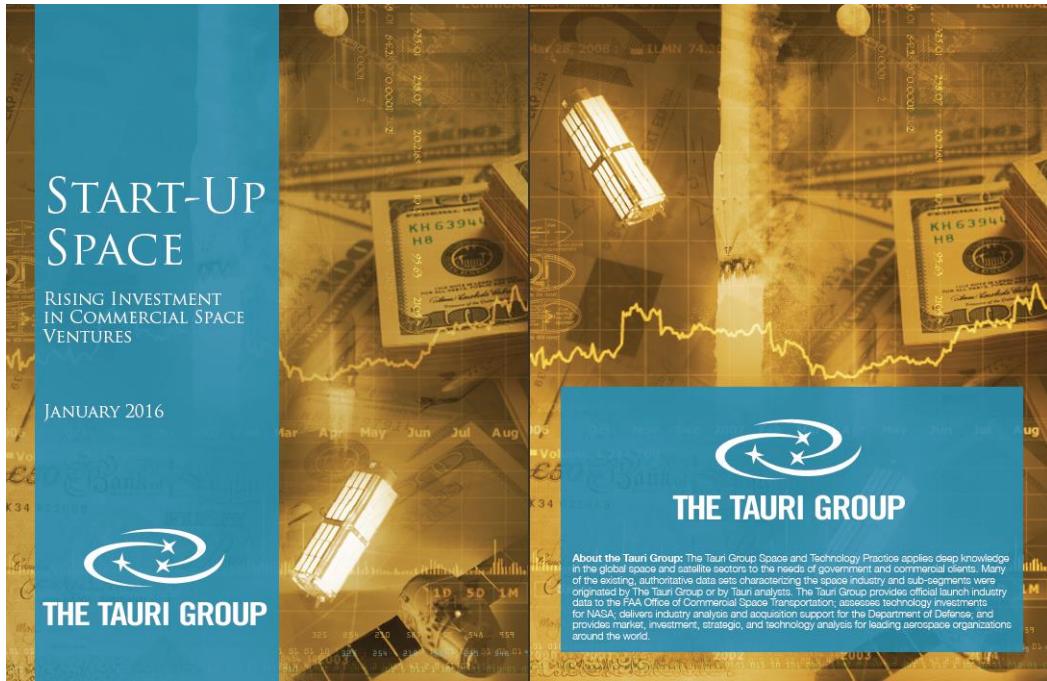
I began work on a master's degree in International Science and Technology Policy at George Washington University's Space Policy Institute. Through this program and the instruction and mentorship of a professor named Dr. Scott Pace, I obtained skill sets in space policy, policy analysis, program evaluation, qualitative research design, and cost and schedule analysis.

Pace gave me the invaluable advice that many people in Washington carry a master's degree, but the way to differentiate is to publish in the field, and often.

I published my first conference paper in 2014, and one month later, I landed a job as an Aerospace Analyst at The Tauri Group, working at NASA Headquarters for the Office of the Chief Financial Officer.

That six-year-old boy, inspired by a planetarium, 23 years prior, was now working for the Agency that landed humans on the Moon — a dream, realized.

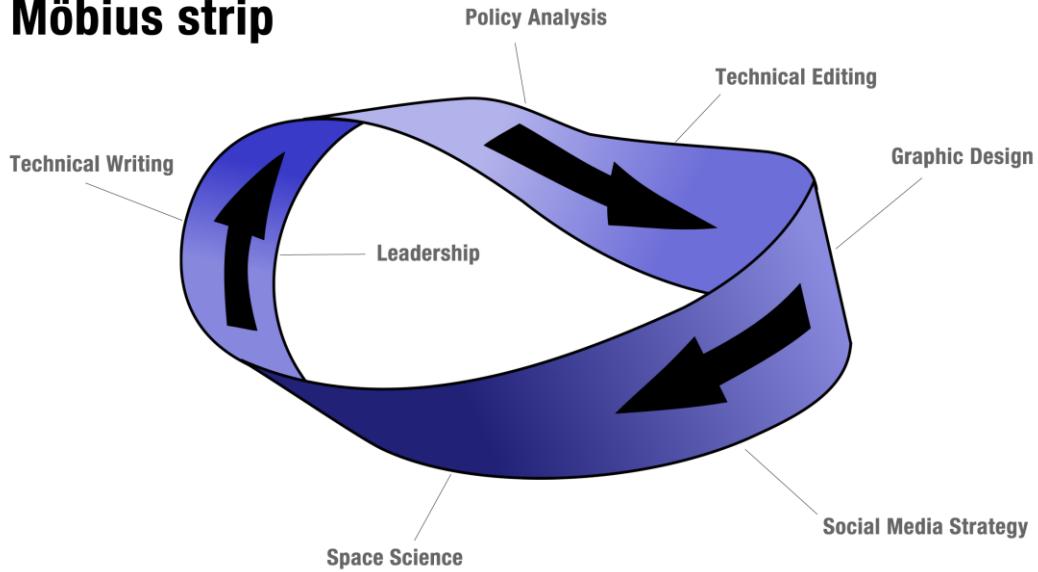
To date at The Tauri Group, I use the full range of my skills as a technical communicator and analyst. I have conducted technical edits on the Fiscal Year 2016 and 2017 NASA budgets, helped coordinate the NASA response to external and internal auditing entities, provided analysis support on several cross-cutting analyses for NASA leadership, co-authored papers for aerospace conferences, built out and led the social media presence of my company, designed infographics for NASA leadership, and conducted research on the resources of our solar system and nearby star systems.



Recently, I conducted research on private investment in start-up space companies from 2000 to 2015, and provided technical writing, editing, design, analysis, and layout support for a study titled *Start-Up Space: Rising Investment in Commercial Space Ventures*, which has been featured by several national publications.

Let's return to the Möbius strip.

Möbius strip



In life, we will navigate many unanticipated twists and turns in our careers, but our paths are continuous, and we often draw from past experiences and skill sets we've picked up along the way. You will continuously grow along this path, and the skills you gained years or decades earlier will prove useful when you least expect it. I still draw from the knowledge gained in the planetarium, Scouting, WRTC, science advocacy campaigns, and the Space Policy Institute.

Congratulations to the award winners this evening. I wish each of you immense success as you navigate the Möbius strip of your career. I *know* the caliber of graduates from this program, and am excited to learn of your many future successes. We are the Dukes of JMU.