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Exploring How Social Media Can Be Used to Promote Space Awareness: A Case Study of the Yuri's Night Web 2.0 Strategy

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Yuri's Night

ABSTRACT - Despite the importance of social media as an inexpensive and efficient means of communication, it is not clear to what degree space advocacy groups are making a strong organized effort to use the resources available to them. Moreover, there is no previous literature that specifically examines the use of social media tools by space organizations. This study seeks to start a larger dialog regarding how the space advocacy community can make use of these tools to promote their mission. Using a case study approach, this article focuses specifically on the organization of Yuri's Night to explore how this group is using social media to accomplish its mission of building general space awareness. In addition, this article evaluates the organization's social media presence as well as the role social media has played in the organization's ability to accomplish its mission. Other space advocacy groups can use the lessons learned here to improve their own social media strategies.

I. Introduction

Building awareness of space related achievements and milestones is an important aspect of encouraging public understanding and engaging people with aspects of science and technology; it is part of the mission of a number of space advocacy groups.¹ While many organizations play a role in championing space education, policy, and exploration, Yuri's Night is an organization dedicated to championing basic space awareness. Known as the "The World Space Party," it is a human spaceflight advocacy initiative embodied in an annual global

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¹ Examples include the National Space Society, Mars Society, Moon Society, Planetary Society, Yuri's Night, and others.

celebration and exploration of the history, present and future of human spaceflight. For over a dozen years, Yuri's Night events have taken place to celebrate the achievement of human spaceflight with events held across all seven continents between 2001 and 2013. The overall success of Yuri's Night as a concept is dependent on reaching beyond audiences in the science and aerospace fields. Connecting with groups in the arts, music, cultural, and educational fields are critical to creating a global phenomenon that transcends socio-economic characteristics as well as ethnicities and borders.

Social media comprise a relatively new set of tools that many of these organizations are embracing to get their message across and communicate with the public at large. These tools can comprise a hybrid component for an organization's promotional strategy whereby both the organization and the consumer play a role in building awareness.² For most of the organization's existence, Yuri's Night has relied on internet communication technologies to get its message out to the public. For the last seven years, social media has played a major role in the communication strategy for the organization. It is likely a major source of the organization's successful growth. Entering the realm of social media on December 19, 2007, with a simple tweet, "getting ready to Rock the Planet," the organization quickly branded its social media presence through promotion of its organization mantra.³ The slogan – "Rock the Planet" – defines the mission of Yuri's Night as an organization that seeks to celebrate and commemorate space exploration milestones. By doing so, it seeks to increase public interest in space exploration and inspire a new generation of explorers through the use of music, dance, fashion, and art.⁴

During the five years after its launch, the organization continued to engage the public through social media. This study explores the utilization of various social media tools to facilitate the distribution of information about Yuri's Night events and space awareness, provides a qualitative evaluation of the success of the social media strategy Yuri's Night has been using, and identifies best practices that can be used for other space-related groups.

a. Social Media as a Promotional Tool

Social media exists for more than just advertising. Instead, one can view it as a framework of functional blocks that include organizational identity, conversations, relationships, and more.⁵ Additionally, one can characterize it as an ecosystem where promoters can utilize

² Mangold, W.G., and Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix," *Business Horizons*, 52(4), 357-365.

³ Yuri's Night, Twitter post, (2007, December 19, 12:59 p.m). Retrieved from <https://twitter.com/YurisNight/status/515542302>.

⁴ The "Rock the Planet" slogan has been used by Yuri's Night for almost a decade and is often a way Yuri's Night volunteers say goodbye (similar to Mr. Spock's famous "Live Long and Prosper" in Star Trek.) The oldest written mention of "Rock the Planet" can currently be traced back to a 2005 article on Space.com. See Hidalgo-Whitesides. L. (2005, April 6). *Yuri's Night Set to Rock the Planet*. Retrieved from <http://www.space.com/930-yuri-night-set-rock-planet-april-12.html>.

⁵ Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B.S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241-251.

platforms such as YouTube, Facebook, and Twitter in harmony with one another to engage and inform.⁶ Furthermore, the use of social media can enhance a promotional strategy through content sharing and social networking.⁷

Despite past research showing that social media is a useful promotional tool, the majority of research focusing on the space community's use of social media focuses on opinions and theory without the examination of data.⁸ There has been little data-driven examination in how space advocacy groups have used social media and to what degree they have found success with its use. Even within the business world, many organizations fail to determine means to measure success of social media marketing.⁹ This has led to the need for creative non-data driven metrics that were only possible to develop by first examining single cases within the advertising industry and attempting to draw broad conclusions.¹⁰ This article will examine Yuri's Night as a case study of a space advocacy organization and identify metrics to measure social media marketing success that can be used in future research to evaluate the efforts of other similar organizations.

b. About Yuri's Night

Yuri's Night, "The World Space Party," is a human spaceflight advocacy initiative embodied in an annual global celebration and exploration of the history, present and future of human spaceflight. Since 2001, Yuri's Night events have been celebrated around April 12, the date of the first human spaceflight by Yuri Gagarin in 1961 and the first launch of the Space Shuttle in 1981. Over 2,400 independently organized Yuri's Night events have been held during the last 13 years across all seven continents, in over 70 countries, in virtual reality, and aboard the International Space Station. Attendance figures have ranged from over 12,000 people at a two-day space festival to small groups of friends at star gazing events.¹¹

Events have been held in wide range of places from kindergarten classrooms to science museums. Individual event organizers and attendees come from a plethora of cultures given the international presence of the organization and a wide variety of occupations ranging from schoolteachers to astronauts. Staying true to the collegiate environment from which Yuri's Night originated, party-centric events occur on college campuses and in various kinds of clubs each

⁶ Hanna, R., Rohm, A., & Crittenden, V. L. (2011). We're all connected: The power of the social media ecosystem. *Business Horizons*, 54(3), 265-273.

⁷ Thackeray, R., Neiger, B. L., Hanson, C. L., & McKenzie, J. F. (2008). Enhancing promotional strategies within social marketing programs: Use of Web 2.0 social media. *Health Promotion Practice*, 9(4), 338-343.

⁸ See, for example, Sandu, O. & Lindberg Christensen, L. (2011, July). Outrageous outreach – Unconventional ways of communicating science. *Communicating Astronomy with the Public Journal*, 11, 22-30; and Verteai, J. (2010 December). Tweeting spacecraft: Communicating space science in the age of Web 2.0. *Communicating Astronomy with the Public Journal*, 10, 30-33.

⁹ Michaelidou, N., Siamagka, N. T., & Christodoulides, G. (2011). Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands. *Industrial Marketing Management* 40(7), 1153-1159.

¹⁰ Russell, M. G. (2009), A call for creativity in new metrics for liquid media. *Journal of Interactive Advertising*, 9(2), 44-61.

¹¹ About Yuri's Night. Retrieved from <http://yurisnight.net/#/about>.

year, while other events focus around educational activities or even a 5 km walk, as has been taking place annually in Houston, TX for the last few years.

Since 2009, Yuri's Night has relied almost exclusively on social media-based advertising supplemented through e-mail lists accumulated over the years and the independent efforts of outreach volunteers.¹² Before social media, the organization would mostly use e-mail listservs and the social networks of the individual volunteers to direct people to the official Yuri's Night website in order to provide relevant information.¹³ Yuri's Night co-founder Loretta Hidalgo-Whitesides stated, "We promoted through SEDS, ISU, and SpaceGen . . . those were all thriving communities that we [as individual volunteers] were deeply involved in. We also had limited access to traditional media, such as NPR, MTV, KCRW, and Space.com."¹⁴

As part of the Yuri's Night mission, the organization has engaged other space advocacy groups in social media campaigns. For instance, the "Get Curious" project was coordinated with partner company Explore Mars to draw both social media-based and real life, interactive interest toward the landing of NASA's Curiosity rover.¹⁵ This project saw a worldwide social engagement with the landing of the rover and showed an overall increased penetration of outer space into social media.¹⁶

c. History of Yuri's Night

After being just an idea for four years, Yuri's Night, the World Space Party, sprang into existence at the United Nations' Space Generation Advisory Council (SGAC) Conference in Graz, Austria, during September 2000. Trish Garner, George Whitesides, and Loretta Hidalgo-Whitesides announced the kickoff of the event and released the first version of the organization's website.¹⁷ Seven months later, they had a team of space activists who coordinated the hosting of

¹² Steinberg, A., Alles, J. W., Finnvik, S., Hanton, R., Russ, R. B., Kobrick, R. L., & Baily, T.J. (2013, September). Cultivating a multicultural online audience: A study of the effectiveness of social media for Yuri's Night." (Presented at the 64th International Astronautical Congress, Space Education and Outreach Symposium, Space Network: Social Media and Digital Resources. Beijing, China. Paper ID: IAC-13,E1,9,2,x20020).

¹³ Alles, Jeffrey W. (2014, March 1). Interview by author.

¹⁴ Hidalgo-Whitesides, Loretta (2014, March 3). Interview by author.

¹⁵ About GetCurious. Retrieved from <http://getcurious.com/about-getcurious-com>.

¹⁶ See Bailey, T., Higginbotham, C., Kobrick, R. L., Alles, J. W., Schlutz, J., Russ, R.B., Steinberg, A., & Zabala-Aliberto, V.A. (2012). Yuri's Night: Engaging new audiences and inspiring public participation in space exploration. (Global Space Exploration Conference. Participatory Exploration for Inspiration and Education Symposium, Engaging Citizens: Results and Future Concepts Session. Washington, D.C. Paper ID: GLEX2012.12.1.3.X12443); Steinberg, A., Alles, J. W., Finnvik, S., Kobrick, R. L., Russ, R. B., & Bailey, T. (2013). Cultivating a multicultural online audience: A study of the effectiveness of social media for Yuri's Night" (abstract). (64th International Astronautical Congress 2013, Beijing, China. Paper ID: 20020); and Finnvik, S., Kobrick, R. L., Alles, J. W., Russ, R. B., Bailey, T., & Belle, C. (2013). Yuri's Night gets curious – Dreaming, exploring, and celebrating (abstract). (44th Lunar and Planetary Science Conference. The Woodlands, TX, Abstract Reference: 3045).

¹⁷ Alles, Jeffrey W, (2014, March 1). Interview by author.

65 events around the globe in celebration of the 40th anniversary of Yuri Gagarin's entry into space on April 12, 2001. The focus of Yuri's Night has always been about the first human in space and human spaceflight accomplishments in general to encourage global participation and to generate excitement by embracing our past and imagining our future by celebrating where we are today.¹⁸

Serendipitously, the first Space Shuttle launched on the 20th anniversary of Gagarin's flight, solidifying April 12 as an international date for space celebrations. Media outlets of all sizes and statures from around the world have covered Yuri's Night. The date received official notoriety from the United Nations in 2011, the 50th Anniversary of Human Spaceflight, when the General Assembly declared 12 April as the "International Day of Human Space Flight."¹⁹

A team of volunteers has always run the Yuri's Night Global Executive Team regularly via internet and tele-presence technologies. The team maintains the website, runs event registration, engages the public through social media, and creates partnerships and competitions with other space-vested groups. Yuri's Night eventually grew large enough to become self-contained and separate from other SGAC programs. At the request of SGAC, the US-based Yuri's Night Global Executive Team officially separated the project and incorporated as a 501(c)(3) nonprofit corporation in California in 2010.

Events usually contain both entertainment and educational aspects involving space, science, and/or astronomy. The event demographics (ages, number of attendees, educational backgrounds, and personal interests) are as diverse as their locations, which have included extreme space analogue environments (Antarctica, the Mars Desert Research Station, and the Hawaii Space Exploration Analog and Simulation (HI-SEAS)), culturally humorous city names (Batman, Turkey), remote locations (star gazing parties in India and Africa), government facilities (NASA Ames Research Center, California), and even orbiting our fragile oasis on board the International Space Station.²⁰

¹⁸ Kobrick, R. L., Russ, R. B. & Bailey, T. J. (2011, July). Yuri's Night: Linking the world together with an international space celebration. (Paper presented at the 41st International Conference on Environmental Systems, Session ICES308: AIChE Education Outreach, Portland, Oregon, USA. Paper ID: AIAA 2011-5175).

¹⁹ United Nations (2011, April 7). 65/271. International Day of human space flight. Agenda item 50 at the 65th session of the United Nations General Assembly, A/RES/65/271. Retrieved from http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/65/271.

²⁰ Bailey, T., Higginbotham, C., Kobrick, R. L., Alles, J. W., Schlutz, J., Russ, R. B., Steinberg, A., and Zabala-Aliberto, V.A. (2012). Yuri's Night: Engaging new audiences and inspiring public participation in space exploration. (Global Space Exploration Conference. Participatory Exploration for Inspiration and Education Symposium, Engaging Citizens: Results and Future Concepts Session. Washington, D.C. Paper ID: GLEX2012.12.1.3.X12443. See also, Alles, J. W., Kobrick, R. L., Russ, R. B., Finnvik, S., & Bailey, T. J. (2013). No borders - Bridging cultures through Yuri's Night. (64th International Astronautical Congress. Space Education and Outreach Symposium, Space Culture: Innovative Approaches for Public Engagement in Space Session. Beijing, China. IAC-13-E1.8.4).

d. Study Design

This study explores the utilization of various social media tools to facilitate the distributed, decentralized organization of these events through three means of analysis: number and frequency of posts, types of posts created, and responses to the posts by the public. By analyzing postings and responses through Twitter, YouTube, and Facebook from December, 2007, through May, 2013, this study specifically explores the ability of the Yuri's Night Global Executive Team to engage the public over the course of a five-plus year period.

This is accomplished by first highlighting metrics that can be used to measure the social media engagement of the organization and then by comparing it to a series of success metrics. For the study, we focused on the organization's Twitter, YouTube, and Facebook use as a metric of social media and used party counts and website visits as metrics of success. Moreover, it is important to see how much social media engagement translates into accomplishment of the Yuri's Night mission, which is to increase space awareness overall.

Given the difficulty in estimating that outcome, one can measure metrics of success through the number or people who attend Yuri's Night events or otherwise become aware of Yuri's Night and partake in the organization's offerings. Since the organization is primarily concerned with building awareness of human spaceflight, the increase in the number of people who gain knowledge from the website and the more events held worldwide are both means by which to measure greater awareness of the population as a whole.

Collection of social media data occurred from August 1, 2007, through July 31, 2013. The data is broken into year-long August 1 through July 31 sets, identified as the 2008 through 2013 seasons, and is all publically available from Twitter, YouTube, and Facebook. The organization directly provided information regarding the number of Yuri's Night website views and Yuri's Night events.

II. Social Media Use

The first social media tools that Yuri's Night used were Twitter in 2007, and YouTube and Facebook in 2009. These three tools are very different from one another in both their reach and their content. Twitter is primarily a means to pass short messages (140 characters or less) to an individual's (or in this case organization's) followers. For the most part, a person must already be aware of Yuri's Night in order to follow the messages on Twitter by the organization. Therefore, there are better metrics to examine than simple follower counts. What is more important is how the organization uses Twitter, and how the Twitter community responds to the organization.

YouTube is a different social media tool focused on the sharing of videos. While people can subscribe to the organization on YouTube, the value comes from the views of non-subscribers, those people who were not aware of the organization and its mission, but found the videos through other means, such as through web searches or due to videos being shared among their social network. Therefore, we use both the number of views per video as well as identify key characteristics of videos in order to evaluate if particular styles or types of videos lead to different viewership behavioral patterns.

Facebook is the most limited of these social media tools as the information posted by Yuri's Night only reaches people already aware of the organization and its mission and the information shared there is not found in search engine results. However, Facebook information can be easily and quickly disseminated among users who have liked Yuri's Night on Facebook and have subsequently shared the information within their own social network on Facebook. Within this medium, we want to consider the number of likes various posts get in order to determine the type of posts the organization's followers and supporters find most interesting or useful, as well as to look at which posts get shared the most. This will aid in understanding what information people are most likely to pass along to their social network.

a. Twitter

Twitter is the social media tool that Yuri's Night has been using the longest. The organization has posted on Twitter with different frequencies over the years and these variations in usage allow for an examination of community engagement and response. In this section, we focus on the number of tweets the organization makes, the topics of the tweets, and the response from the Twitter community measured in retweets and mentions.

i. Twitter: 2007-2008

Yuri's Night entered the world of social media on December 19, 2007, via Twitter²¹ when the organization set up its Twitter account and made its first tweet, announcing to other Twitter users that it was "getting ready to Rock the Planet!" The first 17 tweets focused on promoting Yuri's Night 2008, and the next 18 provided a live Twitter feed of the organization's Houston Event. These initial tweets provide a framework to examine two of the most useful aspects of Twitter to Yuri's Night, which are promotion and engagement. Over the next five years, the organization would continue to use Twitter primarily for these two functions.

ii. Twitter: 2009

For the 2009 season, Yuri's Night made much more use of Twitter. From August 1, 2008, through July 31, 2009, it tweeted 193 times. This season also led to the first use of retweeting by Yuri's Night. Eighteen of the 193 tweets were retweets of the messages of other people, which implies that the organization was paying attention to other Twitter users and becoming more engaged in the Twitter community. Additionally, the organization's tweets included 17 mentions or shout-outs. In the Twitter community, the use of mentions implies that the organization is not just talking aloud but referencing specific other users. This metric also shows the organization's engagement with the Twitter community. However, none of the Yuri's Night's posts received retweets by others. This could be because few people paid attention to what the organization was tweeting about or because they did not characterize the information as significant, and thus did not share it.

²¹ Yuri's Night, Twitter post. (2007, December 19, 12:59 p.m.). Retrieved from <https://twitter.com/YurisNight/status/515542302>.

iii. Twitter: 2010

During the 2010 season, Yuri's Night again showed a marked increase in Twitter traffic and engagement, including the use of the *YN2010* hashtag. Over the course of the season, the organization tweeted a total of 312 times; the average increased from .53 tweets a day to .85 tweets a day. The organization retained a low rate of retweeting other people, with only 23 retweets. In addition, most of the retweets were internal (i.e., the organization retweeting a person involved or engaged with the organization). However, the organization's rate of mentions significantly improved, with 110 incidents or an average of .3 mentions per post. This implies that the organization was either targeting or relating responses toward specific users. From this, one may interpret a greater degree of engagement within the Twitter community. The Twitter community became more aware of the organization's presence, as 109 of the 312 tweets were retweeted by other people. This implies that Twitter users did not deem the information important enough to share. However, on average, each post was only retweeted by 1.65 people. The low rate consists primarily of people working with Yuri's Night who did most of the retweeting to their personal accounts.

iv. Twitter: 2011

The 2011 season, which was the 50th anniversary of Yuri Gagarin's flight, showed a large leap forward in the organization's use of Twitter through both the organization's use of the social medium and the community's engagement with the organization on Twitter. Over the course of the 2011 season, the organization posted 603 times, with 48 of the posts being retweets of other users and 92 mentions of others in the Twitter community. These rates of retweets and mentions actually seem lower than the previous year, but this should not be seen as disengagement as over half the 2011 posts were only being used to announce the addition of Yuri's Night events to the website. Each of these posts mentioned the city and state (or country if international) and the chronologically assigned event number with a link to more information about the event on the organization's website. Therefore, the additional posts in this season were of a different style of communication. This change in style may actually have been a benefit in regard to event awareness and engagement of other Twitter users. 236 of Yuri's Night's posts (36%) were retweeted, which was over a two-fold increase from the previous year. In addition, the organization instituted a second hashtag in order to promote both #YN2011 and #yurisnight via the organization's Twitter posts.²²

v. Twitter: 2012

The total post count in 2012 (291) was down from 2011 (603), due to the decision not to tweet about each party listed on the website. The 291 posts included 194 original content messages and 97 messages retweeting an even wider variety of people than in years past. In addition to retweeting, the organization's posts included 217 mentions, more than doubling the

²² At this time, information about the use of the hashtags by the Twitter community in general is not available as there is no reliable way to search for all uses of a hashtag historically in Twitter. Twitter search API provides only a non-random sample of global hashtag use. For more on how Twitter APIs work see: <https://dev.twitter.com/rest/public/search>.

number from the 2011 season. The 2012 Yuri's Night season saw a new Twitter milestone reflected by the post:

“Happy Yuri's Night everybody! 51 years ago today a new era of humanity launched with Vostok 1! Let's celebrate! #YN12 #YurisNight.”²³

It was retweeted by 144 people. Prior to this, the largest repost of original content was 25 retweets with original content posts in the previous season averaging less than one retweet per post. Not counting an outlier post, the 2012 season averaged 1.5 retweets of original content posts. Additionally, over half of the original content messages were retweeted by other Twitter users, and over 32% of the original content was retweeted by two or more members of the Twitter community. These increases show that Yuri's Night was not only paying more attention to the Twitter community, but that the Twitter community was paying more attention to Yuri's Night.

vi. Twitter: 2013

In 2013, the organization's post count was up from 2012 and almost as high as 2011. The organization made 512 posts, of which 177 were retweets and 335 were original content. The 512 posts included 306 mentions. The organization purposely more strongly engaged Yuri's Night with members of the Twitter community than in years past, evidenced by the 150 mentions directly from the organization connecting to other users. 471 (92%) of the Yuri's Night posts were retweeted. More importantly, 253 of the 335 original content messages (76%) were retweeted by other Twitter users. In addition, the average rate of retweets was up to 3.2 retweets per retweeted post, implying that a larger number of people were involved in sharing the information across the Twittersphere.

Year	# Tweets	# Mentions ²⁴	% Retweet
2007-2008	35	NA	NA
2008-2009	193	17	9.326%
2009-2010	312	110	7.372%
2010-2011	603	92	6.965%
2011-2012	291	217	33.33%
2012-2013	512	150	2.892%

Table 1: Twitter²⁵

²³ Yuri's Night, Twitter post. (2012, April 11, 11:32 p.m.). Retrieved from <https://twitter.com/YurisNight/status/190296234051899392>.

²⁴ Mentions are a count of times Yuri's Night mentioned another entity, not the number of tweets mentioning Yuri's Night; they also demonstrate the organizations attempts to engage with other Twitter users.

vii. Twitter: Summary

Over the last five years, Yuri's Night has clearly improved their Twitter-based social media engagement. There is a trend each year toward more posts and increased engagement with the Twitter community. This engagement comes through both the increasingly large array of information being retweeted by the organization to bring content to their followers and the posts mentioning members of the Twitter community to communicate specialized messages. Engagement with Yuri's Night is increasing as more users retweet their posts, especially original content; a larger degree of their posts are seen by the organization's followers as important enough to share with other users.

b. YouTube

Yuri's Night hoped to use YouTube to further emphasize the cultural and arts aspects of the organization's mission and to appeal to younger consumers with a taste for multimedia experiences through use of public personas and contests.²⁶ Examination of YouTube is somewhat tricky as views are over the lifetime of the video and information is not available to know when the views took place. Therefore, it is prudent to consider comparing videos across the same year as opposed to videos across time. While someone is unlikely to stumble upon an old Tweet or Facebook post and engage with it, a person can easily find and watch older YouTube videos.

i. YouTube: 2009

Yuri's Night has made use of YouTube since January 22, 2009.²⁷ The first video the organization posted was a space history music video that, to this date, has only generated 127 views. However, the second video, posted immediately after the first, features the band *Big Head Todd and the Monsters*. A montage of space videos appears in the background as they play their song "Blue Sky." This second video has had more success with over 17,000 views to date. Discussions with Yuri's Night Executive Director (and co-author) Jeffrey Alles suggests that the organization's collaborative arts/human interest videos always draw more interaction and attention.²⁸ The organization's first post on Twitter clearly communicated its mission, and these first videos on YouTube equally demonstrated its purpose. The higher number of views the second video received suggests that the use of celebrity endorsement, or at least using personalities that the public recognizes readily, can boost overall awareness of Yuri's Night and space exploration.

²⁵ The Yuri's Night Year is used here. For example, Yuri's Night 2008 includes portions of calendar years 2007 and 2008, enumerated in the table for reader convenience. Yuri's Night year runs from June 1 – May 31st.

²⁶ Alles, Jeffrey W. (2014, March 1). Interview by author.

²⁷ Yuri's Night (2009, January 22). Retrieved from https://www.youtube.com/watch?v=8JkDXJCu0_8. For other videos, Yuri's Night's YouTube account available at <http://www.youtube.com/yurisnight>.

²⁸ Alles, Jeffrey W. (2014, March 1). Interview with author.

ii. YouTube: 2010

In 2010, the organization's use of YouTube greatly advanced, as the organization now used the medium not to just promote the organization as a whole, but to provide viewers a glimpse of what happens at Yuri's Night events. This included a video of Yuri's Night San Francisco that included a party at the California Academy of Sciences, a video of Yuri's Night Bay Area's Education Day event where over 3,000 kids came to learn about space and science, and a video of a Yuri's Night event in Romania that showed children presenting a science project. While none of the videos garnered more than a few hundred views, the video of the San Francisco party was the most popular.

In 2010, Yuri's Night also arranged for a series of 32 video podcasts; space and science personalities made short toasts in honor of Yuri's Night. These videos were available to event hosts to present via a free iTunes podcast to allow easy downloading. The organization released them on YouTube after Yuri's Night 2010. These videos received views ranging from a handful to over 1600. The most popular video showed the toast by scientists at the South Pole. Two lessons are evident from this set of videos. The first is that a party-type atmosphere draws more attention to a Yuri's Night event. Second, the use of space and science personalities has only mixed effects. Organization leaders took these lessons into consideration the following year. The results show that posting content directly to YouTube can allow better tracking of views while making videos more easily searchable than a podcast.

iii. YouTube: 2011

The organization expanded its use of YouTube in 2011 as a media push to bring attention to the 50th anniversary of human spaceflight with a video contest that offered a \$500 cash prize. The public could create tribute videos for the 50th Anniversary of Human Spaceflight to share at Yuri's Night events around the world. The design of the *OpenLuna Video Contest* encouraged the public to use an assortment of six new video interviews with space and science personalities, including Bill Nye the Science Guy, and a collection of astronaut videos from the Association of Space Explorers. The goal was for contestants to use them to create mash-up videos. An expert panel voted on the videos, and took into consideration the number of views, the comments, and the distribution rate.

Two hundred to one thousand people viewed each of the six raw interview videos, even without promotion. The most viewed Yuri's Night video featured an interview with Astronaut Ron Garan, Jr. about the impact of spaceflight on society. This interview took place before his mission to the International Space Station (Expedition 27/28, from March 16 to September 16, 2011). To date, the Garan video has received over 135,000 views. Additionally, a separate video advertised the contest itself using clips from all the interviews; it has logged about 3,000 views. The year 2011 culminated with a video uploaded on April 11 showing the International Space Station (ISS) crew sending their messages to the world and wishing everyone a Happy Yuri's Night, with all the crewmembers wearing Yuri's Night t-shirts. This video has received over 22,000 views. Ron Garan, Jr., awarded the 2011 Spirit of Yuri's Night Award, delivered his acceptance speech from the ISS. The use of a space celebrity endorsement video style paid off for Yuri's Night in 2011.

iv. YouTube: 2012

In 2012, the organization focused more on user-generated content. This was an attempt to get the public more involved with the organization and its content. The organization did this by sharing a series of videos entitled “I celebrate Yuri’s Night because,” which featured 18 different people sharing their 30-60 second answer. They garnered between 29 and 425 views apiece. While 2012 marked a change in the use pattern of YouTube for the organization, the overall viewership decreased compared to previous years. This downturn suggests that style endorsement messages rather than user generated content may provide a better means for more engagement though such engagement might not be as in-depth.

v. YouTube: 2013

Yuri’s Night kicked off the 2013 season of YouTube videos by posting a video about the first Yuri’s Night in 2001. Despite only about 300 views, it is perhaps the video that best represents what Yuri’s Night is all about. The 2013 season only had six new videos, many of which featured notable people talking about Yuri’s Night. These included Canada's Greatest Know-It-All winner Andrew Rader (62 views), Canadian Astronaut Chris Hadfield wishing people a happy Yuri’s Night from the International Space Station (5,465 views), and actor LeVar Burton (711 views). The other video from 2013 was a promotional video for a Yuri’s Night event in the Netherlands, showing once again the international reach of the organization.

The lesson to be learned from 2013 may be that celebrity endorsement videos alone are not enough, or perhaps that the public needs a different type of enticement. Perhaps Yuri’s Night should embrace current cultural fads in order to increase viewership and/or collaborate with other organizations on the production and sharing of videos. Another possible source of YouTube video materials could come from Yuri’s Night event organizers who were encouraged to upload their photos and videos to Yuri’s Night Live (hosted on Tumblr) after the events occurred.

Year	# Videos	Total Views	Avg. Views/Video
2008-2009	2	18,313	9,156.5
2009-2010	36	4,991	138.6
2010-2011	8	164,085	20,510.6
2011-2012	18	2,370	131.6
2012-2013	7	9,778	1,369.8

Table 2: YouTube²⁹

²⁹ The Yuri’s Night Year is used here. For example, Yuri’s Night 2008 includes portions of calendar years 2007 and 2008, enumerated in the table for reader convenience. Yuri’s Night year runs from June 1 – May 31st.

vi. YouTube: Summary

With the conclusion of the organization's 2013 season, the "Yuri's Night" channel contained 72 videos, 200 subscribers, and over 193,000 views. This seems like a small number of views, since there are hundreds if not thousands of individual videos on YouTube with more views. However, the organization appears to be getting more bang for their buck, so to speak, since other space organizations have fewer total views with more videos. (For example, the Mars Society currently has 172,303 views over 300 videos, and the National Space Society has only 121,030 views over 200 videos). The organization is certainly doing something right by giving the public (rather than its fans) what they want to see.

c. Facebook

With the growth in the use of Facebook in 2008 and 2009 Yuri's Nights, many of whose volunteers were already Facebook users, decided to create a Yuri's Night page on Facebook to better reach out to and interact with the public. Facebook represents a means for the organization to post news and announcements in a venue where the information would be more readily accessible to interested parties and thus be more easily be shared among people's social networks.³⁰ The key metrics for Facebook include how the organization uses Facebook as evaluated by the number, styles, and types of posts, as well as through how the public responds via likes and shares.

i. Facebook: 2010

The organization joined Facebook on October 7, 2009, in order to promote Yuri's Night 2010.³¹ The organization made 65 posts between October 7 and July 31, including links to its own YouTube videos, general space-related videos, news and web links, and reminders and information about upcoming Yuri's Night events. A majority of the early posts were rather random. However, after announcing that event registration had opened on December 17 for Yuri's Night on April 12, the majority (22) of the subsequent (38) posts included updates on the total number of events registered, locations of registered events, and advertising for registered events, 15 of which were cross-posted on Twitter. Responses on posts ranged from zero to 24 likes, with 61 posts getting at least one like, and all posts averaged 6.53 likes. The styles of posts represented a wide range of options, including seven videos, six podcasts, six posts making use of uploaded images, and 27 uses of external links.

ii. Facebook: 2011

The 2011 season had a much-increased number of posts, both by Yuri's Night and by the public. Starting on January 6, 2011, fans of the Yuri's Night Facebook page could post on the page rather than just respond to organization posts. From that first post until the end of the season on July 31, 2011, Yuri's Night fans contributed 406 posts. Nearly half (196) of the fan posts were made during the run up to Yuri's Night from April 1 through April 12. As an organization, Yuri's Night made 439 posts during the same January-July timeframe, out of 470

³⁰ Alles, Jeffrey W. (2014, March 1). Interview with author.

³¹ Yuri's Night's Facebook Page is available at <https://www.facebook.com/yurisnight>.

during the 2011 season. As part of the 50th anniversary celebration, the organization held a contest in which anyone could create and upload a Yuri's Night advertisement style image to the Yuri's Night Facebook page, and this contest generated 114 posts from early March to mid-April.

Unlike the 2010 season, the initial posts by Yuri's Night discussing the number of registered party events started in August and made up over 80% of the posts, 25 of 31, from August 1 to December 31, 2010. The average number of likes across these 31 posts was 4.13, and the average likes for party count announcements during this time was 3.4 per post. However, by January, the average likes for party count announcements had dropped to 2.9 per post and continued to decrease throughout the rest of the season. On April 6, they suspended posting individual announcements and links for parties, after posting 65 such announcements between April 1 and April 6 that received an average of 0.77 responses each.³²

iii. Facebook: 2012

The 2012 season started with a post on September 20, 2011, and while only 8 posts were made between this time and the end of 2011, these posts averaged 12 likes apiece and 3 of the 8 were shared a total of 19 times. There was a reduced number of posts by Yuri's Night 2012, with 27 leading up to the event (Jan 1-April 11), 4 from April 12-14, and 22 between April 15 and July 31. The entire season consisted of 62 posts averaging 14.68 likes apiece, and just over two shares a piece. The highest number of shares came from only a handful of posts.

Determining the most shared posts is important. The following posts received the most sharing activity:

- a registration drive that included the potential of a prize received 16 shares
- a contest to win a prize for sharing a link to the Yuri's Night homepage garnered 14 shares
- a post of a link to a YouTube video from the International Space Station received 13 shares
- a post about the Venus transit across the Sun combined with a call for volunteers for the 2013 season received 11 shares, and
- a post about the death of Sally Ride with a link to a Space.com article received 11 shares.

A potential take away from the 2012 season is that sharing contests and space-related news may be good ways to reach a greater audience than internal information about Yuri's Night. On the other hand, fewer posts may actually indicate a greater reach, for Yuri's Night Facebook followers are more likely to like and share information when they receive posts less often rather than more often. However, the increased numbers of likes and shares may be due to a growth in the number of people following Yuri's Night on Facebook, and the 2013 season data supports this secondary conclusion.

³² The leadership decided during an internal discussion that the effort to keep up with the posts was too high, given the low return benefits, because few people were responding to them.

iv. **Facebook: 2013**

The 2013 season began with a post on August 3, 2012, announcing that Pete Worden would receive the Spirit of Yuri's Night Award. There were 38 more posts made by the end of 2012; 41 posts during 2013 leading up to April 12; and 31 posts from April 12 until the end of the season for a total of 111 posts, almost twice as many as the 2012 season. Posts averaged 40.45 likes a piece suggesting significant growth in response compared to previous years. The 2013 season also saw milestones of 8,000 Facebook fans on April 7 and 9,000 on April 13. Multiple posts had over 100 likes, including 927 likes for the April 3 post:

“We now have over 200 events! Go to yur.is/findParty to find the closest event to you today! Here's a map of them.”³³

Other posts with high like counts included the following:

- 99 likes on the August 25 post regarding Neil Armstrong's death
- 103 likes for the August 6 post regarding the Curiosity rover
- 141 and 160 likes on two posts on October 14th about Felix Baumgartner's space jump
- 100 likes on an April 5 post about finding a party
- 107 likes on an April 7 post that included a picture of “astronaut and explorer Scott Parazynski with a Yuri's Night patch at the summit of Mount Everest”
- 100 likes for the April 9 post of hitting 300 events
- 438 likes for the April 10 post of a video by Canadian Astronaut Chris Hadfield Wishing the World a Happy Yuri's Night, and
- 384 likes for the April 11 post about a Yuri's Night party on Mars.

With this data, it is of note that the most likes relate to events about Yuri's Night that co-mingle with currently popular space topics, along with other noteworthy celebratory events.

Year	# Posts	Avg. Likes/Post	# Shares ³⁴	Avg. Shares/Post
2009-2010	65	6.53	NA	NA
2010-2011	439	3.33	NA	NA
2011-2012	62	14.68	92	1.48
2012-2013	110	40.45	830	7.55

Table 3: Facebook³⁵

³³ Yuri's Night, Facebook post (2013, April 3). Retrieved from <https://www.facebook.com/yurisnight/photos/a.301991185081.325916.301968645081/10152701873685082>.

³⁴ The ability for someone to share a post was gradually rolled out in Fall of 2011.

v. Facebook: Summary

For the 2013 season, posts averaged 5.49 shares apiece. Highly shared posts included the following:

- 25 shares on an image/link to an article about the ISS turning 12 years old
- 34 and 39 shares on the April 3 and April 5 posts, respectively, about finding a Yuri's Night party
- 47 shares on the April 6 post stating that Yuri's Night 2013 (which is the largest event second only to the 50th anniversary in 2011)
- 46 shares of Chris Hatfield's video
- 51 shares of the April 11 post about the Yuri's Night party on Mars, and
- 38 and 29 shares of the "find a party" link on April 11 and 12 respectively.

Shares seem to follow a similar pattern as likes, though sharing "find a party" information seems to be popular, especially as time gets closer to Yuri's Night each year.

Overall trends suggest that high post numbers do not negatively influence average numbers of likes or shares per post, other than the major exception of event notifications noted above. Additionally, high share posts may be the key to growing the Yuri's Night fan base. With this in mind, there should be a major focus on the style and context of highly liked and highly shared posts in order to both grow the Yuri's Night Facebook base and to keep those within the base sufficiently engaged.

III. Success Metrics

Compared to the low and medium levels of engagement via social media as presented above, high engagement – i.e., the social media users who actually take part in the organization's offerings – is the major focus of the effectiveness of social media for a space advocacy organization.³⁵ Therefore, the best metric of success would be to know the number of individuals who celebrated Yuri's Night. However, as the organization does not require events to report statistics other than estimates at the time of initial registration of an event, the closest proxy available to measure the success of Yuri's Night as an international organization is through the number of Yuri's Night celebrations that take place each year. Another possible metric to use is the number of page views of the Yuri's Night website. Social media tools appear to be more sophisticated with the passage of each year, and each year Yuri's Night attempts to take advantage of them. From the data and discussion above, Yuri's Night appears to be learning lessons and having success. However, social media success metrics such as retweets, views, likes and shares are difficult to correlate directly to other (non-social media) metrics of success. While we would expect that 2013 was more successful than previous years given the social media data,

³⁵ The Yuri's Night Year is used here. For example, Yuri's Night 2008 includes portions of calendar years 2007 and 2008, enumerated in the table for reader convenience. Yuri's Night year runs from June 1 – May 31st.

³⁶ Neiger, B.L., Thackeray, R., Burton, S. H., Giraud-Carrier, C. G., & Fagen, M. C. (2013). Evaluating social media's capacity to develop engaged audiences in health promotion settings: Use of Twitter metrics as a case study," *Health Promotion Practice*, 14(2), 157-162.

it is difficult to know the degree to which social media is helping Yuri's Night accomplish its mission.

One reason that we can connect the changes in social media use to changes in these success metrics is that, for the most part, other aspects of the organization remained the same over these years. However, internal dynamics such as changes in team structure or the make-up of the individual volunteers may also influence the outcomes in ways for which we cannot control. With the exception of the outside influence of 2011 as the 50th anniversary of Yuri Gagarin's trip into space, no other drastic changes in the organization's operations took place from 2008 through 2013, other than changes in the use of social media.

a. Event Counts

The organization tracks the number of events per annum and the number of countries in which events take place in order to look at year-to-year growth. This dual metric provides two ways of measuring awareness of the event. This data is tracked as events are registered on the Yuri's Night website.³⁷ Each year, the Yuri's Night Global Executive Team sets goals for both the number of parties and number of countries with the hopes that these increases will lead to a subsequent increase in both the number of people reached as well as the diversity of the people reached. Because parties can be open to the public or privately held, organizers deemed it necessary to add a new metric in 2004. Starting that year, announcements of public events could include a website for users to find more information about the event. This provides an insight into how many larger scale events were taking place.

Also added in 2004 were continent counts. The concept behind this was to show that Yuri's Night events are truly global and not just taking place in North America and Europe. Since 2004, Yuri's Night events have been held on every continent with the exception of Antarctica (in 2005, 2007, and 2009). Starting in 2011, yet another symbolic metric was introduced – the number of celebrating “worlds.” The celebration of Yuri's Night 2011 occurred on “two worlds” due to virtual events that took place in Second Life. In 2013, Yuri's Night reported that events took place on “two planets.”³⁸ The Mars Rover tweeted to build awareness of recent space exploration milestones (see Figure 1).

³⁷ Technically anyone could hold a Yuri's Night event without registering it, but only registered events are officially recognized and counted in this analysis.

³⁸ Alles, J. W., Kobrick, R. L., Brice, R. B., Finnvik, S., & Bailey, T. (2013). No borders - Bridging cultures through Yuri's Night.” (64th International Astronautical Congress 2013. Beijing, China, Paper ID: 17699).

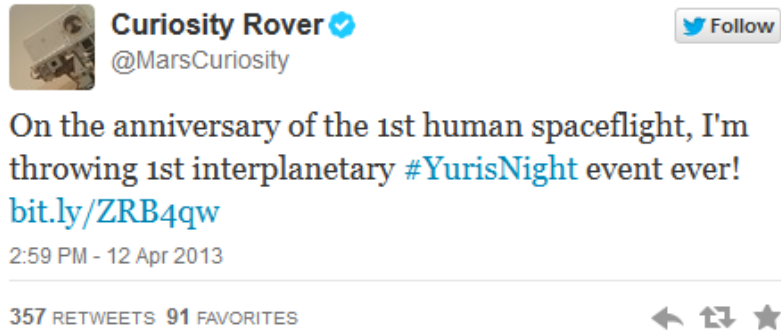


Figure 1: Tweet by Mars Curiosity Rover

The event count trends follow a pattern as expected as depicted in Table 4. With each year from 2007 to 2013 (sans the outlier of 2011), there was an increasing number of events. There are more parties, and therefore it is likely more people are becoming aware of Yuri's Night. These numbers show the organization's growing success. With 2011 marking the 50th anniversary of human spaceflight, the publicity of that event and of Yuri's Night was at an all-time high, supported by various traditional media outlets that normally would not provide a high degree of coverage. Therefore, the 2011 high event count and country count is most likely an outlier. Many of those events were one-time celebrations, rather than events sustainable from year to year. These data do indicate, however, that there is interest in some of these remote countries and that the Yuri's Night's Global Executive Team should strive to connect with space interested communities there to further their mission.³⁹

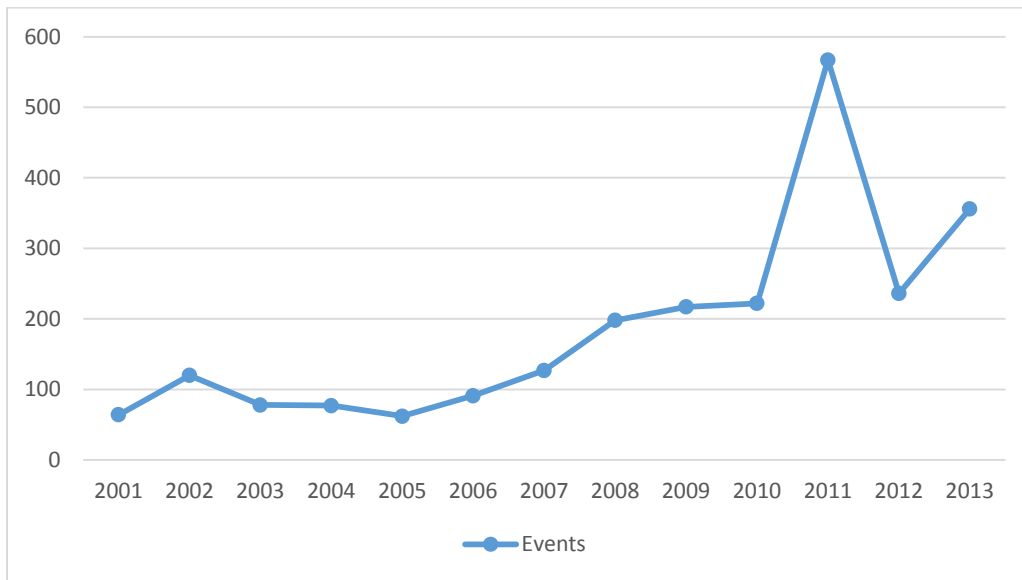


Table 4: Number of Events by Year

³⁹ For additional information about the goals of expanding Yuri's Night to new countries see, Alles, J. W., Kobrick, R. L., Brice, R. B., Finnvik, S., & Bailey, T. (2013). No borders - Bridging cultures through Yuri's Night. (64th International Astronautical Congress 2013, Beijing, China. Paper ID: 17699).

Year	Events	Countries	Websites
2001	64	28	N/A
2002	120	45	N/A
2003	78	36	N/A
2004	77	34	19
2005	62	21	17
2006	91	33	25
2007	127	36	62
2008	198	51	44
2009	217	47	44
2010	222	67	104
2011	567	75	249
2012	236	52	130
2013	356	57	222
All-time	2,415	-	1,080

Table 5: Event, Country, and Website Counts by Year

On the downside, the number of countries hosting events has somewhat plateaued. Based on the available data, there is a general increase from 2007 through 2011, but after that point the international reach of Yuri's Night has been reduced slightly. In the website data presented below, a discussion, concerning the reasons for the data patterns will receive attention. At this point, however, it is not clear whether this slowdown will continue in subsequent years.

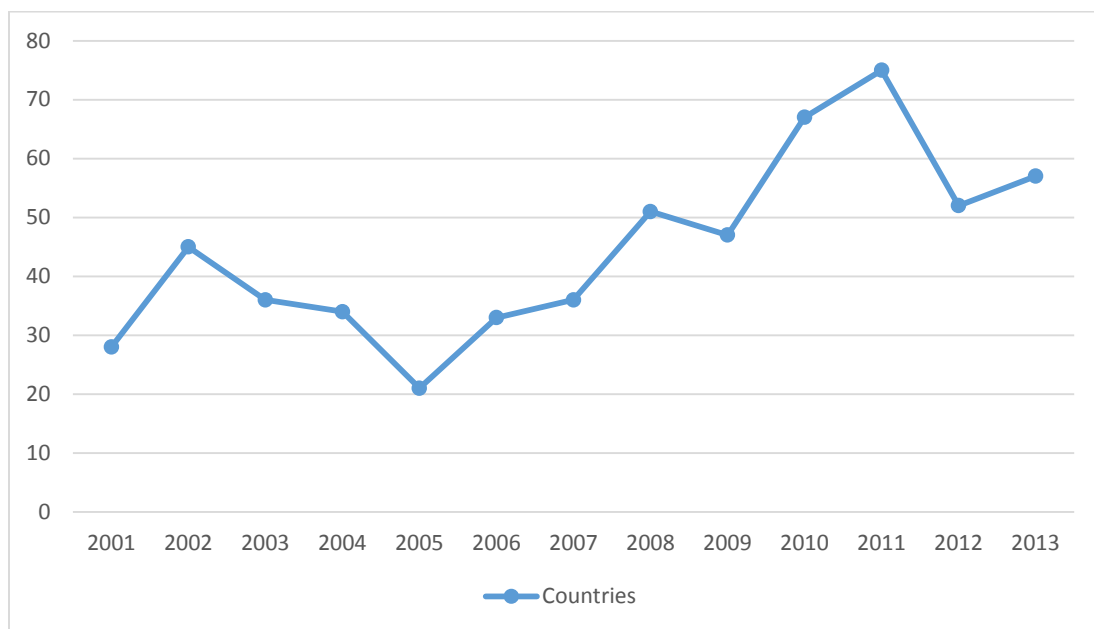


Table 6: Number of Countries Holding Yuri's Night Events

The number of events with websites also seems to follow an increasing trend, but this is more likely due to the increasing availability of web-access and the simplicity of creating a page for each event on sites like Facebook rather than due to anything Yuri's Night is doing. Short of providing a free web host for local event organizers to host event information, it is unlikely that the organization could influence this metric.⁴⁰

b. Website Visits

Traffic to the website is another metric useful for measuring the success of Yuri's Night social media outreach. While the social media messages themselves can provide important and useful information, they exist to keep in touch with members of the Yuri's Night community and to encourage more people to visit the website in order to look up and register information about local Yuri's Night events. The website has existed since August 2010. Through May of 2013, the website welcomed 604,810 unique users from a total of 649,453 visits. Additionally, most Yuri's Night web traffic occurs on the day of Yuri's Night itself, April 12. This may suggest that the vast majority of visitors only come to the site a limited number of times, presumably in an attempt to find a Yuri's Night event near them.

Yuri's Night website visitors truly are global. While more visitors to the website come from the U.S. (167,393 visits) than from other countries, U.S. visitors account for fewer than 26% of the total visits. Large numbers of visitors, 10,000 or more, came from: Iran (11.56%), India (10.64%), Pakistan (5.75%), Indonesia (2.53%), United Kingdom (2.54%), Canada (2.35%), Russia (2.33%), and Germany (1.65%). Visitors have come from 210 countries. Figures 2 and 3 below provide a better idea of where the visitors to the Yuri's Night website originate.

On April 12, 2011 (the 50th anniversary of Yuri Gagarin's flight), the Yuri's Night website clocked 34,959 visits. This was not only the most visitors the website has ever had on a single day, but also represents almost 5.4% of the website's total visitors from the period of 2011 to 2013.⁴¹ More people were probably interested in celebrating the 50th anniversary milestone rather than Yuri's Night on a yearly basis.⁴² April 12 in 2012 and 2013 witnessed significantly fewer visitors, with 9,862 and 11,710 visits respectively. Looking at each cycle, the total number of visitors was 257,445 in 2011, 192,843 in 2012, and 226,994 in 2013. Given the lack of availability of web traffic data for Yuri's Night before August 2010, and the outlier effect of 2011, we can really only compare web traffic from the 2012 and 2013 cycles. There was a 15% increase in visitors in 2013 over 2012, but this was 13.4% below the 2011 visitor counts. (see Table 7).

⁴⁰ Yuri's night has discussed the potential of doing this, and the concept is still under consideration. However, it may not be necessary since the growth of Facebook events are being used to do this in a much cheaper and simpler way.

⁴¹ The 5.4% metric is current as of December 2013 but constantly dropping as the Yuri's Night website currently averages 10,000 views a month.

⁴² There is no way to be sure of users intentions given the scope of this study.

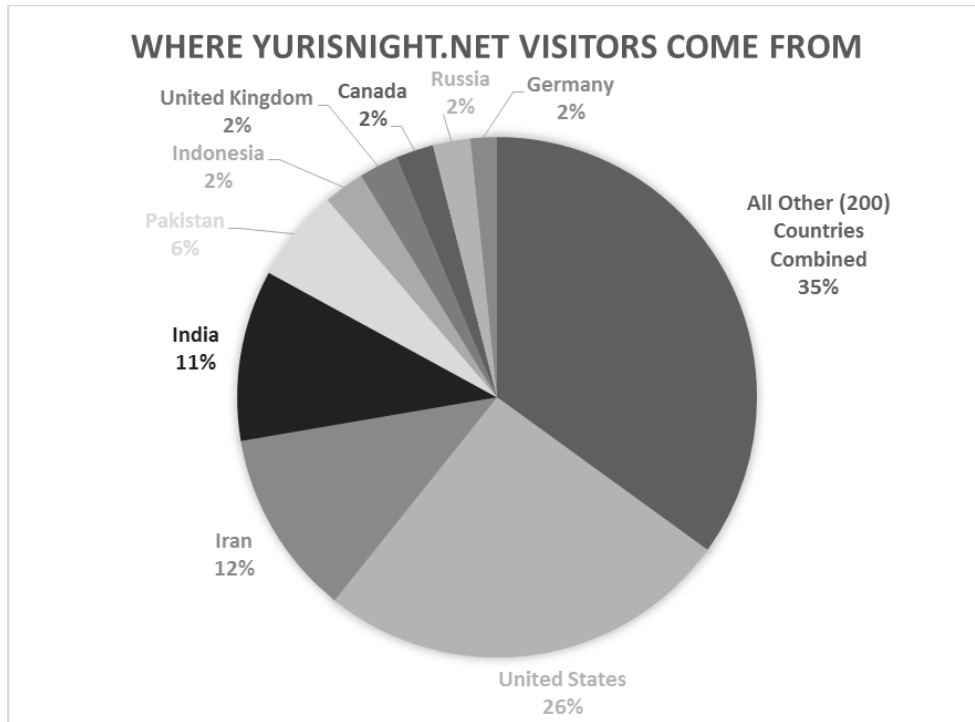


Figure 2: Country of Origin of Yuri's Night Website Visitors by Frequency

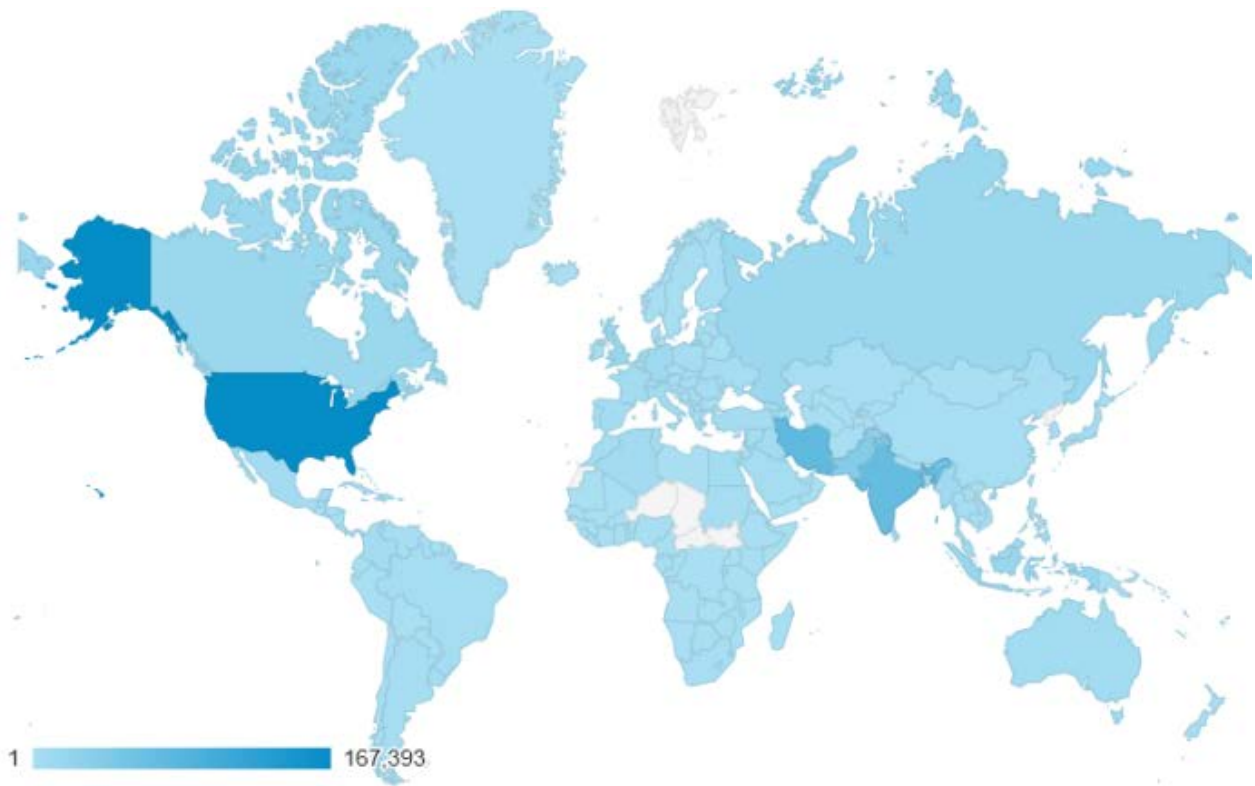


Figure 3: All Time Website Visits by Country

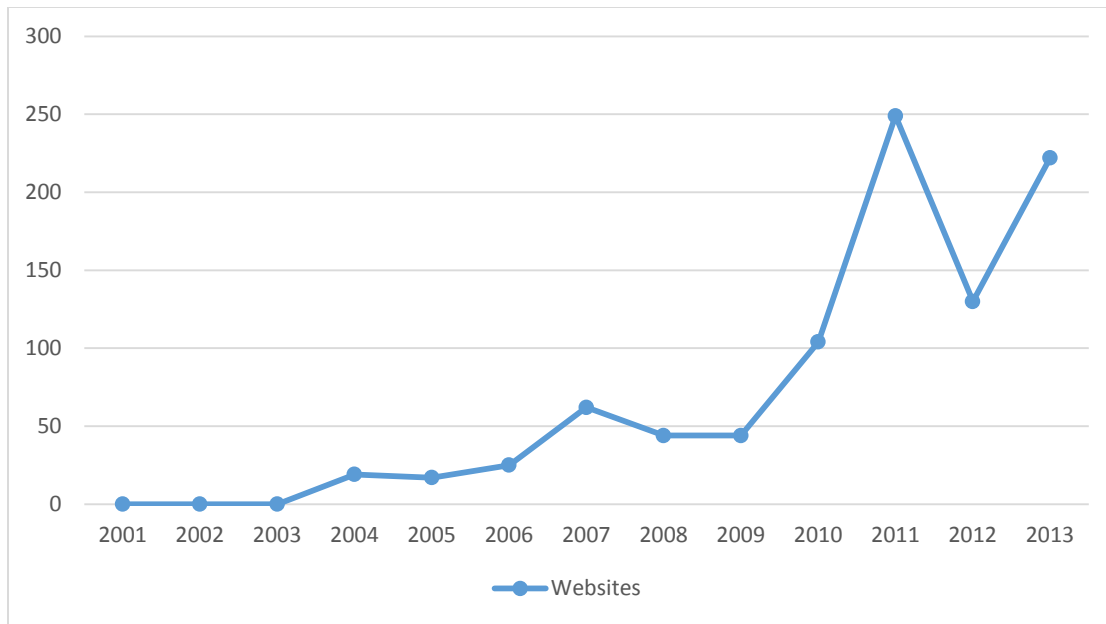


Table 7: Number of Yuri's Night Event Websites

IV. Conclusion and Implications

As space is becoming increasingly mainstream, and to some perhaps routine; thus it is important for space advocacy groups to leverage all resources at their disposal. This case study demonstrates that there is indeed a correlation between social media efforts and obtaining desired outcomes of space related outreach. Yuri's Night has made an impact with its use of Twitter and YouTube, as determined by the somewhat increasing number of views of its YouTube videos and the clear rise in retweeted information by the Twitter community. Metrics of success, as measured through event counts and web-traffic, also support the assertion that the organization is making a larger impact each year and increasing the population's awareness of human spaceflight. Social media is clearly helping Yuri's Night accomplish its mission.

While some of these metrics are somewhat limited, this report provides a platform for further investigation. The next step includes attempting to examine the organization's use of social media tools with lower adoption rates such as Google+ and Flickr, as well as a more in-depth look at current tools to determine reaction to various styles and types of messages by the public as well as Yuri's Night's base of supporters.⁴³ Additionally, the metrics of success examined here are somewhat limited. In the future, Yuri's Night hopes to track more metrics of engagement by encouraging local event organizers to report information about individual events such as accurate attendee counts.⁴⁴

⁴³ The Yuri's Night social media footprint extends to Google+, Tumblr (Yuri's Night Live, previously hosted on Posterous), Pinterest, Flickr, Foursquare, and several others are not discussed in this analysis.

⁴⁴ Alles, Jeffrey W. & Kobrick, Ryan (2014, June 17). Interview by author.

The most important observations are how to improve the effectiveness of Yuri's Night's social media presence, and what lessons other space advocacy groups can learn from this study. What we have seen is that integration into the Twitter community rather than just posting messages leads to people becoming more interested in sharing the organization's message. Additionally, retweeting popular information rather than just reporting rote organizational information allows for a more successful engagement within the Twitter community.

For YouTube, the conclusions are less clear due to the limited data provided by Google. A handful of videos appear to be driving the total views. Meanwhile, Yuri's Night seems to be doing well with Facebook, given that there were over 3,000 new fans in the last 12 months (over one quarter of the total Yuri's Night page fans). The organization should focus on giving the public what it wants, by targeting posts to a more mainstream audience in the geographies in which Yuri's Night is most popular, rather than catering specifically to the space community, by studying the highly liked, shared, and watched posts on these social media platforms in order to determine what makes specific posts comparatively popular.

As evidenced by events such as Felix Baumgartner's sponsored stratospheric, supersonic skydive, billed as a "jump from the edge of space," space is again, if slowly, becoming more interesting to the public. For example, the YouTube video of this event has gathered over 35 million views⁴⁵ which is over 100 times as many views as the NASA YouTube video of the final shuttle landing, STS-135, only a few years earlier.⁴⁶ The effective use of social media and continued analysis of social media efforts allow space advocacy organizations to help make space common in the minds of members of the public by leveraging these events and connecting these events with the public in an interesting and accessible way. These efforts will not exist in a vacuum. Instead, the possibility exists that these social media initiatives could catalyze space events themselves.

Continued exposure to social realities such as regular suborbital tourism flights, mining asteroids, and sending increasingly smaller, cost effective payloads to space via social media may increase space interest and thus space activity. Additionally, an elevated social interest in space may be due to a revived interest in space by the entertainment industry. While it is not possible to prove anything about the public's interest in space beyond this conjecture, it remains an avenue for future research. For example, shows and movies such as the revived Cosmos series, *Interstellar* (2014), *Gravity* (2013), and *The 100* (2014-Present) use space as a plot device. Continued societal exposure to space, enhanced by social media saturation, could have sweeping effects on society as a whole.⁴⁷

⁴⁵ Red Bull (2012, October 14). Felix Baumgartner's supersonic freefall from 128k' - Mission highlights. Retrieved from <https://www.youtube.com/watch?v=FHtvDA0W34I>.

⁴⁶ National Aeronautics and Space Administration (2011, July 21). Atlantis's final landing at Kennedy Space Center. Retrieved from <https://www.youtube.com/watch?v=HLDG5sNMX2M>.

⁴⁷ Kate Lanau writes in a softer piece on astronaut Chris Hadfield that the use of social media from space has proven an effective way to introduce space into the mainstream and engage new and diverse audiences, while reconnecting with the usual audiences (e.g. teachers). Lunau, K. (2013, March 11). Canada's man in space gets a little help from home. Retrieved from <http://www.macleans.ca/society/life/our-man-in-space>. In addition, some support is provided through the lens of NASA. See Friedman, P. (2014, August 13). How to Make NASA Cool

Meanwhile, other space organizations could learn from the efforts of Yuri's Night in terms of their use of social media efforts to further their own missions and success. The metrics of success identified here are only a starting point. Future research can compare the lower and medium success metrics between organizations, such as comparative numbers of likes or followers, to better identify what styles and contexts provide more engagement success than others do. Additionally, this study serves as only one means to measure social media success by one space organization. Hopefully, it will serve as an inspiration for others to continue to explore the communication efforts of space advocacy organizations.

There are many astrosociological questions left unanswered, yet worthy of further research, some of which focus on the general attitude toward and interest in space within the social media sphere. For example, can social media make space cool again? Can space interest groups actually affect space policy? What effects might space related multi-media have on public opinion towards space exploration? Moreover, it appears that many space organizations and groups have invested significant effort in increasing space awareness through social media as evidenced by the growing number of space groups embracing multiple avenues of social media. This leaves us wondering what the future effect will be of social media use by space organizations and its impact on space exploration. We speculate that as the twenty-first century unfolds and space becomes commonplace, there will be an increased amount of space references in pop culture and social media efforts regarding space will thus become less focused on science and history and instead more integrated into daily life. However, there is no way to know if that will lead towards greater subconscious space interest growth, or if the signal will just get lost among the noise.

Again. *Popular Mechanics*. Retrieved from
<http://www.popularmechanics.com/science/space/nasa/how-to-make-nasa-cool-again-17087616>.