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'Greening' Academic Gatherings: A Case for Econferences

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Abstract

Traditional academic conferences that require participants to physically travel between locations have a large environmental footprint. That is why a growing number of researchers believe it is imperative to seek out more sustainable alternatives.[1] This econference case study looks at the "Around the World" virtual conferences organized at the University of Alberta as a model or 'greenprint' for hosting successful and sustainable research gatherings without the carbon cost of flying. The success of this online event, with its diverse range of topics and presentation formats (live, pre-recorded, hybrid), shows that the econference format can be adapted to a wide range of needs. Our results show that econferencing, while not without its challenges, is a viable alternative to face-to-face conferencing that can replicate its benefits without the environmental cost.

Keywords: econference, academic conference, sustainability, case study, presence, online conferencing, videoconference, academic discourse, communication.

1.1 Introduction

The "Around the World" (AtW) series of econferences that ran from 2012 to 2018 was a sustained experiment in developing alternative conference forms. AtW was organized by the Kule Institute for Advanced Study at the University of Alberta to show that econferences are a viable carbon-neutral alternative to face-to-face meetings and to develop a practical guide for running econference events that could be adapted by colleagues, both at the U of A and at other institutes more broadly. One of the outcomes of the AtW series was the creation of a Kule Institute funded econference grant, which gives colleagues the opportunity to run econference events of their own.[2]

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[1] See for example: Umair Irfan, 'Air travel is a huge contributor to climate change. A new global movement wants you to be ashamed to fly,' Vox (Nov. 30, 2019) <https://www.vox.com/the-highlight/2019/7/25/8881364/greta-thunberg-climate-change-flying-airline> [accessed 10 November 2019]; Caroline Levine, and others, 'Reducing the Carbon Footprint of Academic Travel', *Inside Higher Ed* (April 18, 2019) <https://www.insidehighered.com/views/2019/04/18/12-scholars-share-ideas-reducing-carbon-emissions-academic-travel-opinion> [accessed 10 November 2019]; Xavier Anglaret, Chris Wymant, and Kévin Jean, 'Researchers, set an example: fly less', *the Conversation* (Feb. 13, 2019) <https://theconversation.com/researchers-set-an-example-fly-less-111046> [accessed 10 November 2019]; David Myton, 'The academic conference: flying into a storm of carbon emissions', *Campus Morning Mail* (July 25, 2019) <https://campusmorningmail.com.au/news/the-academic-conference-flying-into-an-environmental-storm-of-carbon-emissions/> [accessed 10 November 2019]; Malabika Pramanik, 'On the Environmental Impact of Academic Conferences', *the Wall Papers* (June 5, 2019) <https://pwias.ubc.ca/wall-papers/the-environmental-impact-academic-conferences> [accessed 10 November 2019]; No Fly Climate-Sci <https://noflyclimatesci.org/> [accessed 10 November 2019]; We Stay on the Ground <https://westayontheground.blogspot.com/p/about.html> [accessed 10 November 2019].

[2] See: Kule Institute for Advanced Study, *Kule Econferencing Grant Call For Proposals* (2019), <https://www.ualberta.ca/kule-institute/funding/kule-econferencing-grant> [accessed 19 October 2019].

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The AtW project joins a larger discussion about the academic potential of communications technology dating back to the mid-twentieth century. That was a time when many theorists optimistically projected that networked electronic communication would transform society for the better.[3] Marshall McLuhan, one of the leading theoreticians to first look at the emerging information age, captured a part of the early optimism when he wrote about the electronic age. In his seminal 1964 work, *Understanding Media*, McLuhan said that the new technology would change the status of people so that we would become uncontainable and mutually engaged in each other's lives, regardless of race, age or gender.[4] McLuhan introduced the concept of a global village with the electronic age, where ideas can be woven together at the speed of light.[5] Many of McLuhan's predictions have proven relevant, as innovations like Wikipedia and open source software have created new capacities for nearly instantaneous knowledge co-creation and sharing.[6]

The following case study provides readers with a model for econferences using emerging videoconference technologies. The first section will focus primarily on a narrative overview of the Around the World (AtW) econference in 2013, documenting the experiences of organizers and highlighting key issues that carried through to subsequent years. The second section will examine quantitative data to provide more details of presenter and participant engagement in the AtW series as a whole. Overall, this case study offers valuable insight into the benefits and challenges of organizing econferences by providing a best practices and lessons learned for the next generation of econference organizers. Our goal is ultimately to familiarize others with the opportunities so they can experiment with econferencing with confidence.

1.1.1 AtW Overview

The AtW econference series was organized and hosted by the Kule Institute for Advanced Study (KIAS) at the University of Alberta (UAlberta). KIAS' broad focus is to help build research potential in the social sciences, humanities, and arts at the University of Alberta (KIAS, 2012). In terms of an overall communications strategy, KIAS hypothesized that the AtW series could:

1. Model and help build capacity to conduct affordable, accessible, and more environmentally friendly research dialogues.
2. Showcase UAlberta research strength, particularly in the social sciences, humanities, and arts.
3. Contribute to building KIAS' profile on the UAlberta campus as well as locally, nationally, and internationally.

Initiated in 2013, the AtW series has explored and modeled variations of econference design and implementation using live videoconferencing. The goal was to conduct research dialogues with lower financial and time costs as well as significantly lower impact on the environment, while still being broadly accessible for participants. KIAS attempted to remove or reduce many

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[3] See: Steven Bell, 'A Conference Wherever You Are', *Library Journal*, 136.16 (2011), 28-31 <https://www.libraryjournal.com/?detailStory=a-conference-wherever-you-are>; Claudia Goldin and Lawrence Katz, *The Race between Education and Technology* (Belknap, 2008).

[4] Marshall McLuhan, *Understanding Media: the Extensions of Man* (MIT press, 1994).

[5] ibid.

[6] Vladimir Zwass, 'Co-Creation: Toward a Taxonomy and an Integrated Research Perspective', *International Journal of Electronic Commerce*, 15.1 (2010), 11-48.

of the economic and technical barriers and invite scholars' participation in as positive a manner as possible.[7]

The basic structure of AtW was to facilitate online research presentations using a live video stream hosted on a dedicated website, where comments can be moderated online.The research presentations are then made accessible to a broader audience in a video archive. Essentially, KIAS created an online research channel on a particular digital culture topic. As shown in Appendix 7, presenters were given a range of options of how to share their research. The following section is from the UAlberta Office of Sustainability toolkit 'Moving Ideas Without Moving People: How to e-conference at the University of Alberta':

> *Both live presentations and pre-taped videos can be used with any of the following delivery modes.*
>
> 1. *Traditional conference: a live audience interacts in-person with presenters.*
> 2. *Live streaming: a single camera captures a presentation and broadcasts to the world. There may be a live audience interacting with presenters.*
> 3. *Video conference: interaction is between two or more locations connected over video stream.*
> 4. *Hybrids: may combine aspects of all three of the options above. Hybrids can be very technically complex and require careful planning.*
>
> \- Chow-Fraser, Miya & Rossier (2018)

1.2 Feasibility Test – AtW 2013

The first AtW in 2013 was originally conceived as an online conference that would move around the world from institute to institute in 2-hour segments for 24 hours. Despite the fact that variations of econferences have existed for over two decades, it was very challenging to organize the first AtW. The first issue was to build up the administrative and technical capacities of local support staff who had little experience organizing online conferences. The second was to find a stable technical platform that the econference would run on. The third was to secure commitments from interesting UAlberta scholars and international scholars who would be willing to present their material in this digital format.

1.2.1 Engaging with Key Stakeholders

The AtW organizers mobilized experience, social capital, and leadership to achieve the strategic partnerships and collaborations which helped make the first AtW possible. The KIAS Director, Geoffrey Rockwell, is a well-established digital humanities scholar who mobilized his extensive local, national, and international networks to solicit individual and organizational participation. Looking back at the CoI model adapted for conferences in Figure 1, it is conceivable that a significant portion of the receptivity of scholars to participate in the prototype 2013 conference can be attributed to Rockwell leveraging his leadership presence and his social capital as an experienced and innovative researcher.

To maximize interdisciplinary engagement, KIAS chose a broadly accessible theme: technology and culture. To simplify the conference management, KIAS first focused on

[7] See Appendix 2 for a sample invitation letter.

identifying and contacting institutes who might commit to being responsible for one or two hour segments of the econference. In this way, the AtW organizers hoped to both engage a set of strong research teams and distribute some of the responsibility of setting climate and selecting content to other organizations. This approach of choosing broad themes and offering a range of presentation options was so successful that it was carried forward through subsequent AtW conferences.

KIAS staff communicated directly with a range of UAlberta and international researchers to encourage individuals or small groups to participate. Conference participants were recruited by direct email correspondence from the KIAS Director, followed by communications with an AtW project coordinator.

Approximately 74 invitations were sent to institute coordinators and researchers, including 16 researchers from UAlberta. The result of these recruitment efforts was that a total of 57 researchers (including 14 researchers from UAlberta) from 11 institutions in 6 countries participated in the first AtW econference. It would be an oversimplification to make a linear calculation of the response rate, for example 60/74 = 81% acceptance rate, as the invited researchers sometimes brought research collaborators who were previously unknown to the AtW organizers. However, the overall response to the 2013 AtW invitations proved that the econference modality could be attractive to a significant group of academics locally and internationally.

Access to resources may have also encouraged participation. KIAS committed the financial and personnel resources to support project management, communication, website design and hosting, video conferencing, streaming, recording, and creating an electronic archive of the conference. Participating researchers or institutes could focus on their presentations and leave all the other tasks to AtW organizers and technicians.

Another factor which may have encouraged engagement and participation was that, for the most part, participating institutes and individual researchers were given broad flexibility in terms of the type of presentation, and whether or not the presentation would be live or pre-recorded. Some examples of presentation formats included panel discussions, individual speakers, slideshows with voiceover, and interviews.

1.2.2 Exploring Technical Design

The technical design of AtW econference focused on an accessible website space, a social media conversation channel, a video conference system, a stable streaming platform, and creation of an archive of the research presentation videos. A key element of the AtW website was to provide a space for the live stream embedded near the very top of the website, so that visitors could easily locate it and participate in the conference. A countdown clock gave participants a sense of immediacy. The presenters were asked to provide a simple biography and photo to allow presenters to see each other in advance as well as give audience members a better connection to the research backgrounds of the presenters. To highlight the internationality of the econference, the Speakers tab of the website was designed to sort presenters by country. Essential technical requirements for presenters were listed directly on the website, as well as links to more details and technicians' contact information.

The key members of the UAlberta Arts Resource Centre (ARC) technical team who assisted with AtW 2013 were Clare Peters and Grant Wang. Both Peters and Wang have won institutional awards at UAlberta for their excellent technical service (Faculty News, 2013). Social capital was again mobilized as Peters negotiated with another UAlberta department to allow KIAS to use a Clearsea/LifeSize platform for the AtW 2013. Without this support, the cost of accessing

professional-grade livestreaming would have been significant. KIAS has continued to use the Clearsea/LifeSize platform for video-conferencing in all subsequent years. While Clearsea/LifeSize was also used for the live-streaming from 2013-16, KIAS decided to switch to live-stream on YouTube in 2017 in an attempt to create a more stable platform for comments, engagement, and analytics.

The tactical importance of short pre-recorded sessions ("pre-records") quickly became apparent in the preparations for AtW 2013. UAlberta graduate students were engaged to pre-record short presentations in order to allow the AtW technicians to have flexible, pre-packaged materials that they could insert as needed during the live-streaming. Having these short pre-records readily available gave the technicians time to transfer the live-stream from one location to another, with the hope that the audience would see a smooth series of presentations. There were several situations where KIAS recommended that the external researchers pre-record their presentations as well for technical reasons. For example, pre-records were recommended when it was unclear whether the livestream connection at the presenters' location would be sufficiently robust. Another example was when scheduling conflicts precluded a particular group from participating live and these researchers were still interested in having their material included as part of the live stream. Finally, KIAS organizers hoped that using pre-recorded sessions would allow presenters to have a dual presence by being able to present their ideas in a video recording, and then answering any questions that viewers might have in real time (during the presentation).

1.2.3 Creating 'Hallway Conversations'

A major challenge for econferencing is to create engaging spaces for social conversations.[8] Social presence is one of the key reasons academics attend traditional f2f conferences.[9] According to a major study of nearly 2000 academics, "social media has become an important complementary channel for disseminating and discovering research."[10]

KIAS chose Twitter as the social media platform during the AtW series. Twitter is one of the most popular microblogging sites in the world and has been used during a variety of academic conferences.[11] The KIAS Twitter stream was embedded in the AtW website as prominently as possible. The use of hashtags for interaction and knowledge sharing during conferences is commonly accepted across academic disciplines.[12] Organizers encouraged the use of hashtags, for example, #UofAWorld and #AtW2016, to improve the chance of locating conference related questions, comments, and discussion. Leading up to each conference, KIAS attempted to identify the Twitter handles of researchers and their host institutions. During the actual conferences, Rockwell and other organizers live-tweeted extensively with short comments or quotes from research presentations or links to relevant material online. Immediately following each AtW conference, Storify software was used to locate, compile, and archive tweets.

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[8] Anderson and Anderson (2010).

[9] Anderson and Anderson (2010); Glover, Strengers and Lewis (2017); Jacobs and McFarlane (2005).

[10] David Nicholas and Ian Rowlands, 'Social media use in the research workflow', *Information Services and Use*, 31.1-2 (2011), p. 61.

[11] Denis Parra, and others, 'Twitter in Academic Events: a Study of Temporal Usage, Communication, Sentimental and Topical Patterns in 16 Computer Science Conferences', C*omputer Communications*, 73 (2016), 301-314, DOI: 10.1016/j.comcom.2015.07.001; Joanna Dunlap and Patrick Lowenthal, 'Tweeting the Night Away: Using Twitter to Enhance Social Presence', Journal of Information Systems Education, 20.2 (2009), 129.

[12] Parra, and others (2016).

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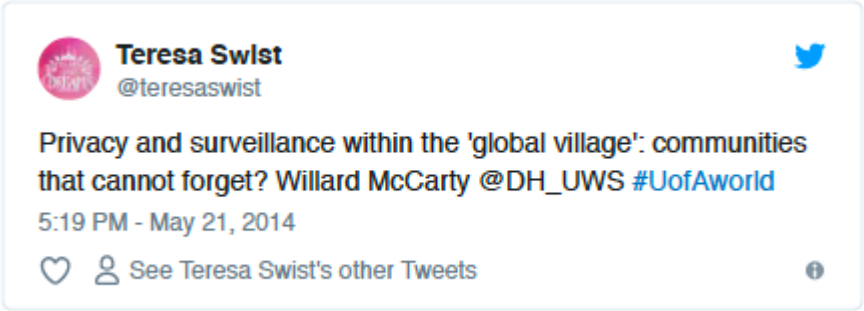
Below is an example of a Tweet attempting to capture a core element of a presentation. This Tweet was sent by Dr. Teresa Swist, a Postdoctoral Research Fellow at the Institute for Culture and Society at the University of Western Sydney (UWS).



The following image shows an example of a tweet announcing the AtW 2014 conference. Note the use of hashtags and the popularity of the tweet compared to the next two examples. This tweet was by Dr. Susan Schreibman, the Director of the Digital Humanities Centre at Maynooth University, and an important collaborator for several of the AtW conferences.

Despite efforts like these, KIAS was unable to foster significant dialogue about the research on Twitter. On average, there were approximately 450 tweets associated with each AtW. Approximately half of these tweets were made by the AtW organizers and may have contributed to raising the profile of the event, but did not spark a dialogue. The Tweets did, however, get attention. For example, the KIAS tweet announcing that the AtW 2017 events were archived on Storify received more than 2100 impressions. This made it among the top ten most impressions by any KIAS tweets in 2017. Ironically, the Storify platform was discontinued in May 2018, and as discussed in the lessons learned section below, there were several other issues with Twitter as a platform.

With this narrative overview in mind, let us now review other data we used to assess whether the AtW model met key KIAS communicative goals.

1.3 AtW Data

1.3.1 Measuring Engagement

In a traditional conference, success may be measured by examining the levels of engagement in terms of numbers and diversity of conference participants and the caliber of the presenters. For an econference format, we will evaluate whether the AtW series was effective by looking at numbers of conference presenters and participants, as well as information about website visitors and presentation viewers.

TABLE 1: ATW OVERVIEW OF 2013 - 2018 PRESENTERS

Year	Total # Presenters	International	Canadian (Other)	UAlberta (Tenured)	UAlberta (Early Career)
2018	43	20	11	9	3
2017	44	24	4	10	6
2016	21	9	4	2	6
2015	50	34	8	5	3
2014	45	35	3	4	3
2013	60	43	4	6	7
Total	**263**	**165**	**34**	**36**	**28**
Avg	44	28	6	6	5

Looking at Table 1, we can see that the number of presenters varied slightly over the years, particularly in 2016 when KIAS experimented with a very small conference format. Overall, the average number of presenters for each conference was more than 44. While there is no available data on the average size of an academic conference, Meeting Professionals International (MPI) has estimated the average number of participants at private sector conferences to be 74.[13]However, this data from the private sector found that only 5% of the business conference attendees were speakers, for an average number of between 3 and 4 speakers at these conferences.[14] In other words, an average of 44 presenters, particularly with an average annual representation from over 16 organizations in 13 cities, might be seen as a respectable threshold.

1.3.2 Building International Presence

Considering that there are nearly 200 countries in the world, having AtW presenters from an average of 8.2 countries per conference might be seen as underachieving; however, to determine the overall participation in the conference, we will also look at website visitor and presentation viewer data in Table 3 below. Having a majority of presentations in English, and being based in Canada, may have created conditions that led to a predominance of researchers from North America, Europe, and Australia. There was under-representation of researchers from developing countries, with presenters from only one country in Africa (Nigeria) and one country in South America (Brazil). Notably, however, the proportion of international participation far exceeds the baseline in the private sector. International participation rates in standard conferences is less than 7%.[15] Overall, more than 66% of presenters in the AtW series were international researchers, demonstrating that it is possible to bring international researchers together via an econference.

1.3.3 Showcasing UAlberta Researchers

Does the data support the hypothesis that the AtW series could showcase UAlberta research strengths? Overall, nearly a quarter of the presenters, 64 out of 263, were from UAlberta.[16] An example of an AtW econference experience giving UAlberta researchers unique opportunities for collaboration was in 2014 when four UAlberta researchers from the Faculties of Arts and Law engaged in an online discussion with Alberta's Information and Privacy Commissioner. Creating opportunities for research collaboration and career progression is one of the key elements of conference participation.[17] Of particular importance was the fact that over 10% of the total AtW presenters were early career researchers from UAlberta, including graduate students and pre-tenure academics. In terms of creating visibility for early career academics, two of the graduate student AtW presentations in 2014 are among the top 10 most viewed videos of all time on the KIAS YouTube channel.[18] Broadly speaking, the evidence suggests that the AtW series has successfully showcased both established and early career UAlberta researchers.

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[13] Meeting Professionals International (MPI), *Meetings Activity Profile Report Canadian Economic Impact Study 3.0 (CEIS 3.0), 2012 Base Year* (2012) <https://www.mpiweb.org/docs/default-source/research-and-reports/meetings-activity-profile-report_ceis-3-0.pdf> [accessed 19 October 2019].

[14] MPI, p. 17.

[15] ibid, p.18.

[16] See Appendix 1.

[17] Jacobs and McFarlane (2005); Kalmus (2016); Storme, and others (2017).

[18] Kule Institute for Advanced Study, *Around the World 2014 - UAlberta Michael Zajko*, online video recording, YouTube, 12 June 2014, <https://youtu.be/e22rZdAG3Ds> [accessed 19 October 2019]; Kule Institute for Advanced Study, *Around the World 2014 - UAlberta Ajay Sandhu*, online video recording, YouTube, 3 June 2014, <https://youtu.be/ZuMNUgVR_gU> [accessed 19 October 2019].

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1.3.4 Enhancing KIAS Profile

Showcasing KIAS and building its profile was another goal of the AtW series. KIAS employs several communications streams including a website, Facebook, YouTube, and Twitter. The KIAS YouTube channel is a repository of videos of visiting speakers and panel discussions hosted by KIAS. Looking at Figure 2 below, we can see that the AtW series has provided six of the top ten KIAS YouTube videos in terms of watch time.

Figure 2: Top 10 KIAS YouTube Videos

Top 10 Videos — Browse all content

Video	Watch time (minutes)	Views	Likes*	Comments*
Donna Haraway - SF: String Figures, Multisp...	226,535 80%	15,830 49%	100	6
KIASualberta Live Stream *	8,769 3.1%	381 1.2%	0	2
ATW2018 Livestream - Sustainability in Pra... *	3,322 1.2%	280 0.9%	4	16
ATW 2018 Livestream - Sustainability and t... *	2,251 0.8%	146 0.5%	2	4
ATW2018 Livestream - Green Philosophies:... *	2,085 0.7%	227 0.7%	6	4
Responses to the Refugee Crisis: Reflection...	2,046 0.7%	204 0.6%	1	1
ATW2018 Livestream - Art and/in the Anthr... *	1,683 0.6%	152 0.5%	1	18
Guylaine Beaudry: Academic Libraries, Digit... *	1,277 0.4%	257 0.8%	3	0
RCMR with Frank Tough - What does this m...	1,231 0.4%	358 1.1%	1	0
Kimberly TallBear: Decolonizing Science an...	1,091 0.4%	403 1.3%	8	0

There will be further discussion below regarding the complexity of using YouTube as a communicative tool. However, it is clear that the AtW videos have made a significant contribution to the KIAS YouTube channel.

Coordinating the AtW series also raised KIAS' profile on the UAlberta campus and abroad. KIAS used the AtW conferences as an opportunity to engage with 64 UAlberta researchers from 20 departments, 9 faculties, and several central areas. In addition, KIAS was awarded an Office of Sustainability 2016 Exemplary Green Spaces in a public ceremony attended by a range of staff, students and institutional leaders.[19] UAlberta academic leaders, including Deans, Directors, Department Chairs, and Vice-Presidents attended AtW events, contributing social capital and presence to KIAS.

1.3.5 Hybrid Model

One of the most engaging formats that emerged was the hybrid of f2f and online streaming. The viewing data for the Donna Haraway video in Figure 2 above, is an excellent example of a hybrid model. A KIAS-supported research team, led by Natalie Loveless, brought Haraway to UAlberta for a well-coordinated series of academic events in 2014. Haraway's keynote presentation was viewed by a live audience of over 200 people which overflowed the room. Since the talk was made available online, it has been viewed over 15,000 times. Hybrid

[19] University of Alberta, 'Campus Sustainability Leadership Awards: Award Recipients' (2016), <https://www.ualberta.ca/sustainability/about/leadership-awards/winners> [accessed 19 October 2019].

presentations were also conducted during AtW econferences by research teams at Trinity College Dublin and Western Sydney University. Interestingly, members of these teams became among the most consistent collaborators both in terms of participation and the number of researchers who engaged with each topic. The University of Haifa in Israel also frequently used the hybrid model, beginning in 2014. KIAS once more replicated its previous successes with the hybrid model with the 'An Evening with Edward Snowden' event in 2018.[20] In this case, the speaker was streamed in virtually, while the audience gathered live at two separate locations at the North and South University of Alberta campuses. The Snowden event is a particularly good example of how virtual conference technology can be used to overcome geographic and political barriers, which can otherwise make presenting impossible. The enthusiastic response to the event, with over 700 students, faculty and members of the public in attendance, shows that virtual presentations can still generate an audience and prove just as engaging.

As each of these examples demonstrate, the flexibility of hybrid presentations, which can involve f2f and digital aspects in both delivery and reception, allows them to reach wider audiences. What is more, in the case of keynote or special presentations, because of the compact running time and the focus on a single-speaker, the added benefits of a digital presence can often be achieved with little additional cost or effort in comparison to an entirely f2f event.

1.3.6 Estimating Participation: Viewers and Visitors

The overall statistics for AtW viewer and visitor audience data are significant. Measuring participation and engagement in traditional conferences can be accomplished by a simple physical count of the registrations and attendees in any particular session, or for the entire conference. Measuring engagement and participation in econferences is much more nuanced. In order to get a broader sense of participation, Table 2 examines livestreams and video views, and Table 3 depicts website visitors.

TABLE 2: VIEWER ANALYTICS: YOUTUBE & CLEARSEA/LIFESIZE

Year	Topic	Estimated total views	LiveStream Views	YouTube Views	Watch time (hours)	Watch time (minutes)
2017	Digital Media in a Post-Truth Era	1743	n/a	1743	218	13275
2016	Libraries, Archives and Public Life	1823	273	1550	99	5831
2015	Big Data	1211	444	767	36	2183
2014	Privacy and Surveillance	2406	552	1854	68	4095
2013	Technology and Culture	700*	251*	449	18	1152

[20] 'An Evening with Edward Snowden on Security, Public Life and Research', Kule Institute for Advanced Study <https://www.ualberta.ca/kule-institute/snowden-ualberta> [accessed 10 November 2019].

Total:		**7883***	**1269***	**6363**	**439**	**26536**
Avg		1653	380	1273	87.8	5307.2

In creating an estimated audience, it would not be appropriate to simply add the two sets of numbers (Table 2 Views and Table 3 Visits) together, as it is very plausible that the same person might visit the website and then click on one of the web links to view a video. At the same time, it is also very possible that a single visitor would watch a series of videos or return to the website a number of times. On the other hand, it is also conceivable that some website visitors did not watch any videos and some video viewers did not visit the website.

TABLE 3: ATW WEBSITE VISITS ANNUAL TOTALS

Year	Topic	Countries	Cities	New users	Sessions
2017	Digital Media in a Post-Truth Era	47	205	801	1383
2016	Libraries, Archives and Public Life	47	199	745	1247
2015	Big Data	56	354	1402	1844
2014	Privacy and Surveillance	31	173	663	1192
2013	Technology and Culture	22	160	651	1038
Total:				**4262**	**6704**
Avg		40.6	218.2	852.4	1340.8

With specific numbers available in the tables above, rounded number averages may help make a coherent estimate for the number of actual participants. On the one hand, given the data losses, and lack of house counts for hybrid events, the actual number of visitors and viewers may have been higher. On the other hand, a counterbalancing factor is that most website visitors and video viewers are not staying long periods on the site. In other words, we can conclude that econferences have more viewers and visitors for shorter periods of time than might be seen in traditional f2f conferences. It is out of the scope of this chapter to resolve the question of how to measure online interactions in comparison to f2f interactions.

For simplicity, we will infer an estimated participation rate using half of the total communicative interactions of new website visitors with the video views. The overall scope of participation in the AtW series can be estimated at 4262 new website visitors plus 7883 live-stream and video viewers for a total of 12,145. Dividing by the five years viewer and website data was available at the time of writing (2013 to 2017) gives an average of approximately 2400 new website visitors and video views annually. Dividing this in half to account for the ambiguity discussed above, the simple estimated AtW annual participation rate is 1200. While more research is required, this might be considered sufficient evidence to support the hypothesis that econferencing can be an effective mode of hosting academic conferences.

1.3.7 AtW Accessibility

In addition to reaching a broad audience, results from the AtW series also lend support to the hypothesis that econferences can increase accessibility to research conferences. As shown in Table 3 above, on average AtW website visitors came from over 218 cities in over 40 countries. Furthermore, presenters came from an average of 17 organizations in 17 cities from 8 countries as shown in Table 4 below. The presentations by Omolara Kikelomo Owoeye and colleagues from Ekiti State University in Nigeria in 2014 and 2015 are examples of the accessibility affordance of econferencing for international contributors. The presentations by Amy Amos from Inuvik and Jean Polfus from the North West Territories in 2018 are examples from geographically remote areas of Canada. In all these examples the financial, temporal and environmental costs of flying would have been prohibitive for a f2f conference. For example, Amos flying in to participate in a f2f conference would have cost approximately CAD $4,000, required three days of travel and emitted over 0.54 metric ton of CO2e. For Owoeye, the flight would have cost approximately $2,350, required between 32-46 hours of flying time, and emitted over 3 metric tons of CO2e. Overall, the distribution of AtW presenter locations suggests that the model allowed a diverse range of research perspectives to be shared, or, at a minimum, that geographical access issues were not a major barrier to participation.

TABLE 4: ATW PRESENTER DISTRIBUTION BY INSTITUTIONS, CITIES, COUNTRIES

Year	Total # Presenters	Institutions	Cities	Countries
2018	43	20	18	4
2017	44	15	11	6
2016	21	13	10	6
2015	50	18	20	12
2014	45	20	15	11
2013	60	14	9	6
Total	**263**	**100**	**83**	**45**
Avg	44	17	14	8

In terms of equality of gender balance, 45% of the UAlberta presenters in AtW conferences were female. This compares favorably to the overall UAlberta context in which only 34% of tenure track positions are held by females.[21] Further research is required to confirm whether econferencing might assist in giving female academics access to knowledge dissemination opportunities.

[21] Academic Womens' Association, 'The Diversity Gap' (June 2016) <https://uofaawa.files.wordpress.com/2016/06/awa-diversity-gap-professors-gender-diversity-intersectionality.jpg> [accessed 19 October 2019].

Language diversity was one area where the AtW conferences had limited accessibility. Very few presentations were done in any language other than English. Although in 2013 a Brazilian team from Federal University of Espírito Santo pre-recorded their presentation in Portuguese and added English subtitles and Quebec research teams like the Centre de recherche interuniversitaire sur les humanités numériques gave bilingual and French presentations, nearly all of the AtW presentations throughout the series were in English.

Archiving presentations in a dedicated YouTube section of the website helped to make the AtW research accessible in a number of ways[22]. The AtW technicians created opportunities for conference participants to access the video archive of presentations immediately following each presentation in the same location as the live-stream. Later, following edits to remove unnecessary delays and add subtitles with name and institution, the full videos were uploaded to the YouTube archive. One benefit of using YouTube for the AtW video archive was that it afforded KIAS free closed captioning for deaf, hearing impaired, or other viewers with access issues. For example, closed captioning is also helpful for viewers who are less fluent in English.

1.3.8 AtW Affordability

Affordability is an accessibility issue on an individual level and a sustainability issue on an organizational level. Financial constraints can make traditional f2f conferences inaccessible to many vulnerable populations, including early career academics. Despite the fact that hosting traditional conferences can be a financial challenge for organizations, there are both strong pressures and motivations for universities to organize conferences.

In the AtW series, KIAS wanted to model a type of conference that reduced the financial burden on organizations and research teams. The budget for conducting the AtW conferences was CAD $12,500 per year. To put this into perspective, a presenter travelling from Paris, France to Edmonton, Canada might estimate CAD $2,500 for flights, accommodation, meals and ground transportation. In other words, the entire AtW econference budget was comparable to bringing five presenters from Europe to Canada. The AtW budget covered all aspects of conference coordination, technical support, video editing, archiving, and website design and hosting. As shown in Table 5 below, the estimated savings in flight costs alone for the AtW presenters was CAD $236,000 in total, for an annual average of just under CAD $40,000. Considering the other potential travel costs of accommodation, food and ground transportation it is clear that KIAS was able to conduct legitimate conferences at less than ¼ the cost of flying and hosting all of the presenters to a physical location.

TABLE 5: ATW PRESENTER FLIGHT DISTANCES, COSTS AND CO2 BY YEAR

Year	Flight Distance (Return) (1)	Flight cost estimate (2)	CO2e Avoided (3)	CO2e with Radiative (3)
2013	776,880	$55,230	55.97	105.86
2014	619,552	$50,270	44.70	84.46
2015	689,572	$53,770	50.15	94.73
2016	152,906	$14,310	10.98	20.76

[22] http://aroundtheworld.ualberta.ca/category/archive/

2017	331,276	$26,150	23.99	45.39
2018	342,028	$36,470	25.31	47.86
Totals:	2,912,214	$236,200	211.10	399.06

*(*1) Travel distances calculated using: www.greatcirclemapper.net*
*(*2) Based on round-trip Economy airfare estimator using the Hopper app available at: www.hopper.com*
*(*3) Based on round-trip Economy airfare using the Carbon Footprint Calculator at: calculator.carbonfootprint.com/calculator*

1.3.9 Modeling Sustainable Research Practices

One of the KIAS goals for initiating the AtW series was to model sustainable research practices. Table 5 shows that the carbon dioxide equivalent (CO2e) that the AtW conferences avoided was between 211 and 399 metric tons of CO2e. This paper will not enter into debate about whether or not the radiative forcing of high altitude flights should be factored into CO2e estimates.[23] The average of the two CO2e estimates for the AtW econferences is over 300 metric tons, which is more than sufficient to demonstrate the impact made. According to the United States Environmental Protection Agency website, 300 metric tons of CO2e is equivalent to the annual energy use of 32.4 homes, or 64.2 passenger vehicles driven for one year.[24] In other words, the carbon footprint avoided by the AtW econference model was equivalent to nearly one quarter of AtW all presenters not driving their passenger cars for a year.

Between 2014 and 2018, the AtW series has already served as a model for several important UAlberta initiatives. Olenka Bilash, from the Faculty of Education, engaged the growing econferencing expertise of ARC staff to host the Contemporary Ukraine Research Forum (CURF) in 2014. Initially hesitant, Bilash was impressed by the number of participants and viewers that CURF garnered and went on to use the econference model for the Research Initiative on Democratic Reforms in Ukraine (RIDRU) conferences in 2015 and 2016.[25] Elizabeth Turner, from the Faculty of Arts, and Ivan Fair, Faculty of Engineering, are two of the lead organizers of Mysterious Barricades, an across-Canada concert to raise awareness for suicide prevention. Turner and Fair modelled Mysterious Barricades on the AtW econference concept, conducting a site visit during the 2016 AtW. They used the hybrid model of having musicians play to live audiences in each city and live-streaming the presentations to online

[23] See for example: Borgar Aamaas and Glen Peters, 'The climate impact of Norwegians' travel behavior', Travel Behaviour and Society, 6 (2017), 10-18, DOI: 10.1016/j.tbs.2016.04.001; Duncan Clark, 'The surprisingly complex truth about planes and climate change', the Guardian (Sept. 9, 2010) <https://www.theguardian.com/environment/blog/2010/sep/09/carbon-emissions-planes-shipping> [accessed 21 April 2017]; Piers orster, Keith Shine, and Nicola Stuber, 'It Is Premature to Include Non-co2 Effects of Aviation in Emission Trading Schemes', Atmospheric Environment, 40.6 (2006), 1117-1121, DOI: 10.1016/j.atmosenv.2005.11.005; A. Gettelman and C. Chen, 'The climate impact of aviation aerosols', *Geophysical Research Letters*, 40.11 (2013), 2785-2789, DOI: 10.1002/grl.50520.

[24] United States Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator (December 2018) <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator> [accessed 19 October 2019].

[25] Olenka Bilash, Conversation with Oliver Rossier (2018).

audiences.[26] Fair suggested that the Mysterious Barricades project would not have been possible without the capacity building work that KIAS had done over the previous years at UAlberta.[27]

Perhaps the clearest success of modelling sustainability is the econference Toolkit[28], which KIAS co-produced with the Office of Sustainability in the spring of 2018.[29] The primary audiences for this document are tenured academics and conference organizers who can immediately influence change. There is a significant opportunity to create change, with some urgency given that UAlberta has a goal of reducing the university's greenhouse gas emissions to 17 per cent below 2005 levels by 2020.[30] The goal of the toolkit is to increase the number of UAlberta-based academic events that use econferencing to facilitate sustainable research practices.[31]

1.4 Opportunities

Econferencing is a versatile communication method that should be added to an array of options for conference organizers. One of the key opportunities for econferencing in general is simply building awareness and receptivity for it among key stakeholders in academia and conference organizers. It was disappointing that the Cities and Climate Change Science Conference,[32] a major conference on environmental sustainability in March 2018, did not allow for remote presentations. Technology can allow accessibility affordances for econference presenters and participants from around the globe, giving them an opportunity to contribute more regularly to academic discourse. Academic conference organizers should add digital participation to the set of options available to presenters and participants.

A particularly promising area of opportunity is in developing hybrid modes of conferencing. Econferencing need not, and almost certainly will not, replace f2f conferencing.[33] However, hybrid modes of presentations and online discourse can augment f2f conferencing and give important alternatives to flying all participants and presenters to a single location for a synchronous meeting. Hybrid models include having local or regional f2f meetings connected by econference. Hybrid events, like those of several of the AtW research teams who met locally to participate in the global dialogue, create opportunities for both the interaction of f2f presence and the sustainability benefits of hosting the extended dialogue online. We need to try more variations of hybrid formats.

In order to draw attention to the ecological case for econferencing, national funding agencies like SSHRC should include online hosting as an alternative to f2f conferencing. Major

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[26] Lianne Faulder, 'Mysterious Barricades: Edmonton-based National Concert Raises Awareness of Suicide', Edmonton Journal (Sept. 8, 2016) <http://edmontonjournal.com/entertainment/music/mysterious-barricades-edmonton-based-national-concert-raises-awareness-of-suicide> [accessed 19 October 2019].

[27] Ivan Fair, Conversation with Oliver Rossier (2016).

[28] Available at: http://aroundtheworld.ualberta.ca/wp-content/uploads/2018/05/E-Conferencing-Toolkit.pdf

[29] Chow-Fraser, Trevor, Oliver Rossier and Chelsea Miya, *Moving Ideas Without Moving People: How to eConference at the University of Alberta* (University of Alberta, Office of Sustainability toolkit, 2008) <https://app.box.com/s/c50oak44wh209ntkqs8sg6dnff4zv4v4> [accessed 19 October 2019].

[30] University of Alberta, *Sustainability Plan 2016-2020: Building a Sustainable Future* (2016) <https://cloudfront.ualberta.ca/-/media/sustainability/1-about/sustainability-plan/sustainabilityplan2016202020170317singlesoptimized.pdf> [accessed 19 October 2019].

[31] Chow-Fraser, Trevor, Oliver Rossier and Chelsea Miya (2018).

[32] https://citiesipcc.org/about/conference-faqs/

[33] Storme, and others (2017).

conferences, like the Congress of the Humanities and Social Sciences, might create incentives for econference capacity building.[34] At the very minimum, websites like the Elsevier Global Events List might have a separate location for econference, or hybrid, conferences in order to assist researchers with accessibility or mobility issues (Elsevier, n.d.).[35] Perhaps most importantly, senior academics might begin to advocate for econferencing options inside their home departments and institutions, as well as when they are invited to give research talks at remote locations. Similarly, academics should advocate for hybrid econference options from their scholarly associations.

1.5Challenges

There were several challenges to conducting the AtW case study. First, this is a developing field with little guidance available. The hope is that this case study can add to and inspire more work in this area. Further, the process of experimenting with technology has inevitably led to some data loss. For example, several times our team lost data regarding the number of viewers of the live-streaming because we lost our connection to a live-streaming platform, which only retained data during the actual transmission. To make matters more complicated, our technicians were able to negotiate our use of a live-streaming software subscription through other parts of the campus at a reduced rate. While this reduced costs, it created a situation where KIAS was dependent on an external group for data and in the end, there was data loss due to communication issues with partners and lack of understanding of YouTube analytics protocols. Additionally, the AtW conferences were usually run during busy work weeks and some basic best practices of quality control and conference evaluation were not followed. Of particular significance, conference participant evaluations were neither solicited nor gathered, so the qualitative assessment of participant engagement need to be inferred from public facing social media communication.

As mentioned, there was significant loss of live-stream and archived video viewership data, which impacted our ability to estimate the true numbers of viewers. AtW live-streaming was conducted on the ClearSea/LifeSize platform and the organizing team was much more focused on maintaining the flow of communication than preserving viewing data. In addition, each time the YouTube video was relocated, or edited into a different video, we would lose data from the previous version.

1.6Lessons Learned

There were many lessons learned in the AtW series, particularly regarding scheduling, technical support and communications.

Technical Support/training. A number of the obstacles addressed in AtW 2013 and in the subsequent years required experienced technical personnel to navigate. The availability of freely available video conference platforms like Skype and Google Hangouts, and recent live streaming options like YouTube Live and Facebook Live, might make it seem like econferences should be easy to set up and organize. However, just as we engage architects to design the safe and secure flow of people in physical spaces, we need to involve experts to design secure and stable online

[34] Federation for the Humanities and Social Sciences, Congress of the Humanities and Social Sciences 2019 (2019) <https://www.congress2019.ca/> [accessed 19 October 2019].

[35] Elsevier Global Events List (n.d.) <http://www.globaleventslist.elsevier.com/events/> [accessed 2 November 2017].

conversation spaces. For example, in 2013 we had a research team who did not realize that their presentation had started streaming as there was a fairly significant delay between when the video stream in was processed and then re-streamed out. They had turned down the volume on the communications channel from our technician. Without an audio connection, the only way we could communicate with them was through the video feed. One of our team wrote: "You are now live!" in very large font and held this up to the video camera so they could see it. The researchers quickly realized that they were streaming and began their presentation. Afterward, the AtW technicians were able to edit the final version of the presentation to remove the awkward initial portion of the presentation. In future iterations of the conference, we created "cheat sheets" or technical guides for our participants to consult.[36] Scheduling "test runs" with speakers prior to the event, so that they could become familiarize themselves with the software and we could have an opportunity to identify and debug any issues, also proved essential. Other econferences, like the Nearly Carbon-Neutral Conference and Library 2.0, opt for online training, using instructional videos and livechats to teach participants how to do things like: record and upload presentations, use software and join live sessions.[37]

Another key finding for conducting econferences is the importance of having short pre-recorded sessions ("pre-records") readily available. To recommend that researchers from both extremes of technical capacity use pre-records might seem counter-intuitive. For example, if it appears that a researcher has a poor connection, organizers can suggest pre-recording the talk. Having even a medium quality video preloaded at your site is better than risking losing connection with a live presentation if there are potential bandwidth or access issues. Likewise, if there is a situation where two groups request the same time slot organizers can ask the teams with stronger technical resources to provide a pre-record of their talk to be played later. For instance, in 2014, there were several teams asking for similar time slots, so the AtW organizers asked the Huygens Institute for the History of the Netherlands to pre-record their session and send the video file in advance.

Social media: attempting to have hallway conversations. As discussed above, one of the most important aspects of participating in conferences is social networking. The AtW conference organizers attempted to use Twitter as a conversation zone with limited success. There was some success in communication outreach and broadcasting general information using Twitter. For example, as discussed above, some of the most popular KIAS tweets were those that announced each AtW conference with links to the website. Live-tweeting notes about the individual talks also created some engagement through retweets by the presenters or members of their networks. Unfortunately, other than announcements and attempts to live-tweet key concepts from presenters there was very little other engagement and communication on Twitter. Despite the use of hashtags, it was challenging to maintain a sense of shared presence and conversation. Indeed, while many of the participating researchers and organizers had Twitter handles, many did not use Twitter very frequently. Very few specific questions delivered via Twitter were content-related and interactive. Most tweets were attempting to build audience, summarize key presentation quotes, or congratulate presenters.

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[36] See: Appendix 5.

[37] 'Tips for speakers for recording your talk,' Climate Change: Views from the Humanities <http://ehc.english.ucsb.edu/?page_id=12523> [accessed 10 November 2019]; 'Training,' Library 2.0 <https://www.library20.com/page/training> [accessed 10 November 2019].

A model we tried in 2016 was to have prepared papers and designated respondents. The Minds Online philosophy conference also used this approach.[38] Organizing respondents is a way to involve students and colleagues who don't want to submit papers. It also creates an audience, which is important in econferencing because the experience online is often one of talking into the void with no audience.

Drawing on Eisenstein's observations of the persistence of the past, it should be apparent that academics who attend conferences with a level of f2f social interaction will not simply and suddenly transition to econferences with social media.[39] Using Twitter did not prove very successful in terms of creating an atmosphere of social presence in the 2013 to 2017 AtW conferences. In 2018, KIAS tried a new online platform by following the NCN example of using web comments to create more flexible communicative opportunities. The level of engagement in website comments appeared to be slightly better than the previous efforts via Twitter; however, more research and experimentation in online social presence tactics for econferences is needed.

Ephemerality of social media. A key lesson learned is that some aspects of social media are ephemeral. YouTube analytics can be easily lost if any of the core identifying information is changed, such as if video titles are changed or when editing a large video into several smaller segments. Storify appeared to be a viable system of capturing Tweets into a magazine format for future reference, but the website was closed down five years into the AtW series and all data had to be removed or it would have been lost. In short, you should plan how you will gather data about participation. Good data is important to making the case that organizing an econference is serious academic work in the face of the impression that the technology has made it easy.

Scheduling. The challenge of having presenters from a wide range of time zones was addressed in several ways, firstly by anchoring the key institutional partners in any time period that would facilitate their participation. Our approach was to set up a Google sheet to manage scheduling (see Appendix 4). The key information captured included: local time in Edmonton, whether the presentation was live or pre-recorded, local time for presenters, the name of the institution, the type of presentation, the technical contact, and any special notes about the research team. This scheduling tool developed over time as coordinators developed expertise and experience with multi-time zone conferences. Early in the 2013 planning we had indications that teams from the University of Western Sydney, Trinity College (Dublin) and the University of Tokyo were interested in participating. We immediately locked down the best potential time periods that would be convenient times for them, even though that meant that our own work day might be very stretched. Indeed, the 2013 conference was approximately 17 hours of programming, and was physically challenging for the AtW organizers and technicians to conduct. All subsequent conferences were scheduled to be 12 hours or less.

Avoid remediating the traditional conference. It is tempting when designing an econference to remediate the f2f conference, but there really is no reason one needs to stick to the intense 2-5 day conference model. In our AtW 2018 we experimented with a model where the conference sessions ran for 2 hours a day for 5 days. Similarly, other experiments like the Minds Online series have spread out the conference over a week or more. One can also have local events that tie into the larger conference. For example, for each AtW we hold a reception with the local UAlberta speakers before their live session. We invite colleagues to this reception

[38] See Chapter X for more on Minds Online.

[39] Elizabeth Eisenstein, 'The End of the Book?: Some Perspectives on Media Change', *The American Scholar*, 64.4 (1995), 541-555.

and ask research administrators to speak at the reception (as opposed to speaking live online.) This local reception complete with a nice lunch creates local visibility which can be important to the presenters and organizers.

Sustainability: plates vs planes. Ironically, KIAS was in jeopardy of not receiving a campus sustainability recognition certificate for the AtW 2017 conference based on the use of an ineligible type of paper plates. To put this in perspective, the estimated CO2 output from each paper plate used in 2017 was 3.8 g.[40] The total estimated CO2 emissions avoided by not flying presenters to Edmonton that year was 44.17 metric tons. In other words, AtW 2017 was saving the CO2 emissions equivalent of over 11.6 million paper plates, but the sustainability program used a methodology which did not recognize the environmental benefits of econferencing. KIAS was the first team at UAlberta and perhaps one of the first research conference organizing teams in Canada to focus attention on the strategic importance of avoiding air travel by academics for climate change mitigation efforts. Fortunately, communication efforts allowed KIAS not only to help bridge this knowledge gap, but also set the stage for broader collaborations with the Office of Sustainability.

Conclusion

The AtW series has demonstrated that econferencing can be an effective communicative tool for knowledge dissemination and academic discourse. AtW econferencing shared an average of over 40 research presentations to an estimated 1200 participants annually for less than the cost of return air transport for 5 researchers, all the while avoiding over 50 mT of CO2e per year. Given the importance of reducing C02e emissions generally and the unsustainable impact of academic flying in particular, demonstrating viable sustainable research alternatives is vital at this time. We simply cannot continue as before and must confront our unsustainable practices.

Now is the time for further experiments into how academic conferences could evolve with changing communication technology. Hybrid conference designs which incorporate both digital and local/regional f2f appear to be promising, but there is little research on these to date. The gender balance of AtW presenters was also promising, but needs further validation. More research is required to explore whether there might be other accessibility advantages of econferences. How can we do a better job of making econferences truly international? Further, a key question will be how to foster 'hallway' or 'back-channel' conversations online. These intertwingled, serendipitous social presence experiencers are important to collaboration building. Can we find ways to create virtual hallways for networking?

Academic organizations need to design econferences that allow for the best flow of people, thoughts, and dialogue on issues. As a comparison, traditional f2f conference organizers need to primarily consider the physical flows of people. For example, traditional conference organizers might attempt to balance the number of concurrent sessions versus keynote sessions; choose venues that have break out spaces for smaller discussions; consider the proximity to washrooms, food, and transit; strategize on where to set up wayfinding signage to help people navigate the conference space; and identify social spaces for networking. Rather than concentrating on the physical flow of participants, econference organizers need to design for smooth engagement of

[40] Winnie Chan and Kevin To, 'A Life-cycle And Economic Analysis: Paper Versus Ceramic Plates In The Barn Restaurant' (UBC Social Ecological Economic Development Studies (SEEDS) Student Reports, 2006), DOI: 10.14288/1.0108084.

cognitive and social presence. Econference organizers might create a welcoming website, choose technology that is accessible on various platforms and devices, and creatively facilitate online discussion.

Fortunately, there is a small but growing body of scholarship on econferences, which includes the articles by Terry Anderson and Nick Byrd that appear in this collection. The NCN guide by Hiltner and his colleagues at UCSB stands out as an excellent tool for research teams considering econferencing.[41] Given their geographical locations, perhaps it is not a coincidence that other innovative teams working on econferencing include the Australia-based Follow the Sun conference[42]; the Hawaii-based Teaching Colleges and Community (TCC) Worldwide Online Conference[43]; and the South Africa-based e/merge online conferences.[44] Very recently, the University of British Columbia completed a case study looking at the environmental impact of air travel by that institution.[45]

The climate imperative. One of the greatest challenges we face as a society is climate change.[46] Academics are uniquely situated to model behaviour that will help mitigate the amount of air travel, and concurrent CO2e emissions, associated with research conferences.[47] The AtW econference series contributes to a growing body of practice that uses technology to mobilize global academic discourse without relying so heavily on face-to-face meetings, and we have an indisputable climate imperative to do so.

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[41] Hiltner (2016).

[42] Angela Murphy and Shirley Reushle, 'Following the Sun: Sustainable conferencing in a climate of change', in Proceedings of the 29th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education (ASCILITE 2012).

[43] Bert Kimura and Curtis Ho, 'Online conferences and workshops: Affordable & ubiquitous learning opportunities for faculty development', Distance Learning and Internet Conference 2008 (Waseda University, 19-22 November 2008), pp. 61-65, <http://www.waseda.jp/DLI2008/program/proceedings/pdf/session3-1.pdf>.

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[47] Glover, Strengers and Lewis (2017); Hiltner (n.d.); Holden, and others (2017); Nevins, 2014; Wilde, 2017)

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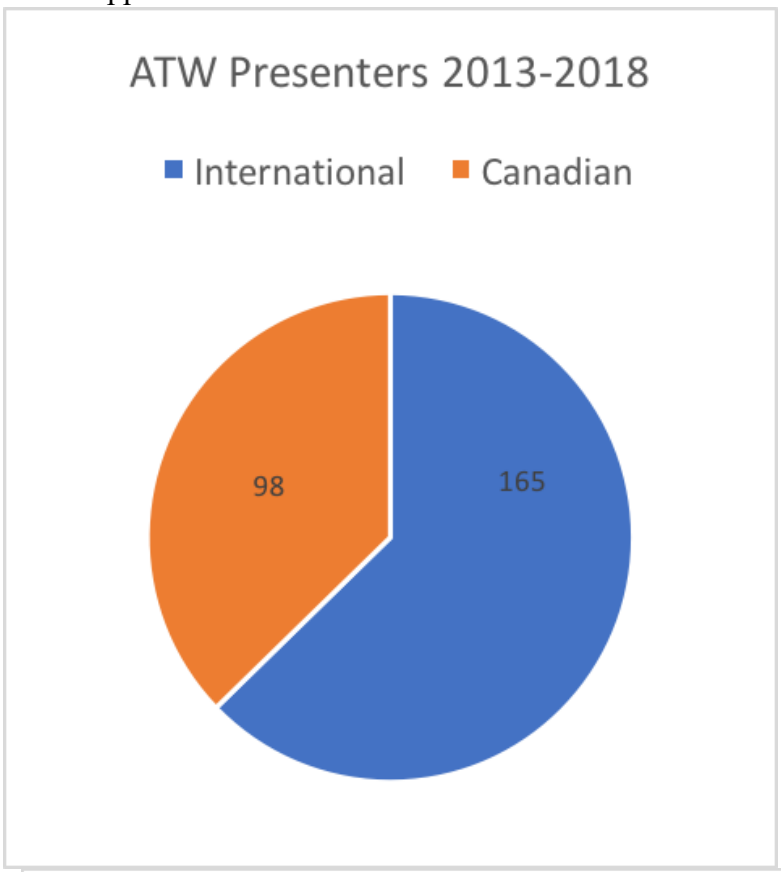
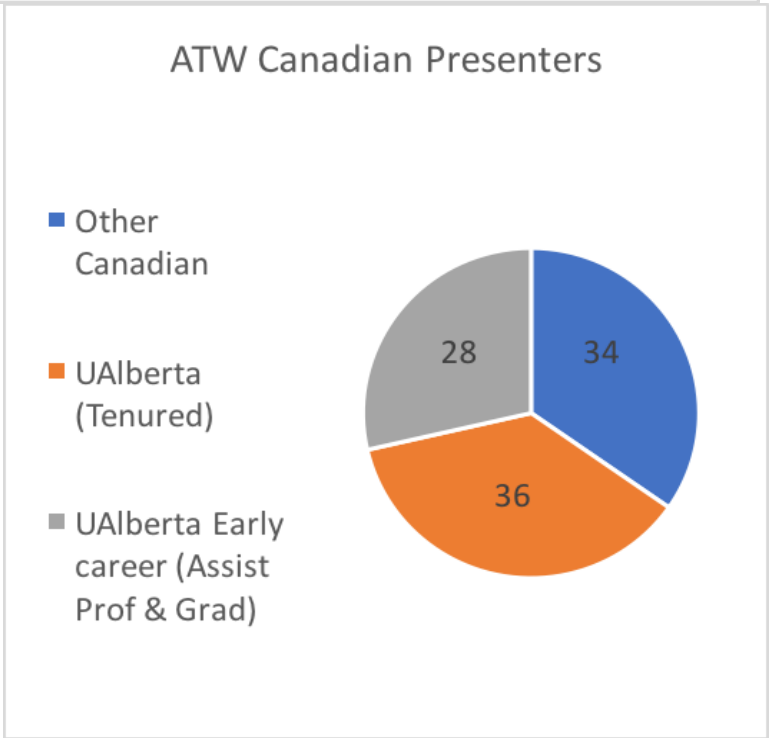
Appendix 1: Charts of Overall AtW Presenters





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Appendix 2: Call for Expressions of Interest in 2013

The Kule Institute for Advanced Study (KIAS) at the University of Alberta would like to invite your research team to participate in an international Around the World Symposium on Technology and Culture.

At this stage we're looking for expressions of interest from key institutes around the world. The idea is that among us we would organize a symposium that travels around the world, with each institute being responsible for approximately 1 to 2 hours of internet conferenced talks on a common theme. Imagine a 24 hour conference that winds its way around the world bringing together institutes with recognized strengths in the area of culture and technology!

The specific theme and date would be something that we, the participating centres and institutes, would decide. KIAS has funding to support the project management and promotion, as well as the conferencing technology, recording the talks and archiving the conference.

Right now all your institute will have to do is commit to is the local organization of a tightly curated 1-2 hour panel, made up of faculty, fellows, researchers or graduate students working on projects related to the theme we decide on.

Are you interested? If so, please send me (and CC the coordinators) an email and we will send you more details. We hope you will join us in this research symposium experiment.

Yours,

Geoffrey Rockwell
Interim Director of the Kule Institute for Advanced Study
University of Alberta

Coordinators:
Justine Gill
Oliver Rossier

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Appendix 3: AtW 2013 General Invitation and Schedule

The Around the World Symposium on Technology and Culture is an innovative forum that will bring together scholars from around the world to talk about digital culture! The entire Symposium will be live-streamed world-wide and archived after the event.

The theme is Digital Culture. This event will be live-streamed on May 30th, 2013.

Hosted by the Kule Institute for Advanced Study, with partner institutions from around the world, the Symposium presents live panels or pre-recorded content over a 24 hour period.

Imagine a full-day conference that winds its way around the world bringing together leading institutes in the digital humanities! Imagine a sustainable conference that is global in scope!

Visit this web site on May 30th or later and catch the talks and panels that interest you. Be a part of this exciting experiment!

Join us at any time during the Symposium. Comment through Twitter or by using this site! #UofAWorld

UAlberta reception and panel

May 30 - 11AM MST

3-26 Arts & Convocation Hall

Please join us in person, online, or both!

Program: http://aroundtheworld.ualberta.ca

The following represents a *tentative* schedule of events for MAY 30, 2013.
All events can be streamed on this site – Click the "Stream Online" tab, above.

- 06:00 – 07:00 MST – USA, U.Virginia, Scholars' Lab their Neatline Tool
- 07:00 – 08:30 MST – Ireland, LongRoomHub
- 08:30 – 08:45 MST - Canada, UofAlberta: David Holmes
- 08:45 – 10:30 MST – Brazil, DH at Vitoria, Universidade Federal do Espírito Santo
- 10:30 – 10:40 MST - Canada, UofAlberta: Pipelines Project (Dr. Heather Zwicker, ErikaLuckert, Dr. Kisha Supernant); part of the KIAS family
- 10:40 – 11:00 MST - Canada, UofAlberta: Shannon Lucky
- 11:00 – 11:15 MST - Canada, UofAlberta: Dr. Natalia Kononenko
- 11:15 – 11: 30 MST - Canada, UofAlberta: Dr. Russell Cobb
- 11:30 – 11:50 MST – Canada, UofAlberta: Dr. Scott Smallwood
- 12:00 – 14:00 MST – Canada, UofAlberta: Dr. Geoffrey Rockwell, Dr. Maureen Engel, Dr. Julie Rak, Dr. Ofer Arazy
- 14:00 – 16:00 MST – USA, U.Virginia and the Innovation in Pedagogy Summit
- 16:00 – 17:30 MST – USA, IDHMC at Texas A&M: IDHMC, Dr. Laura Mandell
- 17:30 – 17:45 MST - Canada, UofAlberta: Dr. David Kahane
- 18:00 – 18:30 MST - Canada, York University and Institute for Research on Learning Technologies: Dr. MaryLeigh Morbey; Maureen Senoga; Dennis York
- 19:00 – 20:00 MST – Japan, University of Tokyo: Dr. A. Charles Muller (University of Tokyo); Dr. Toru Tomabechi (International Institute for Digital Humanities); Mr. Kiyonori Nagasaki (International Institute for Digital Humanities)
- 20:00 – 22:00 MST – Australia, DH at U.of Western Sydney

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Appendix 4: AtW 2017 Scheduling Notes

Edmonton Time	Length	Local time	Institution	Organizer	Contact Email, Phone	Panelists	Other contact info (ie: cell phone, IP or ClearSea)	Notes
7:30	5 min		UAlberta	Geoffrey Rockwell				
07:35 - 08:45	55 - 70 min?	LOCAL TIME IRELAND: 2:30 PM GMT	National University of Ireland Maynooth	Neale Rooney		Speakers: Gavan Titley, Jane Suiter, Andrea Martin, Peter McGuire, Chris Brunsdon Chairs: Neale Rooney, John Chambers, Susan Schreibman		**May need more grad, or other video
08:45 - 9:00	15 min	**Depends on Ireland						
09:00 - 10:00	60 min	LOCAL TIME MONTREAL: 11:00 EST	Université de Montréal	Michael Sinatra		Speakers: Marcello Vitali-Rosati, Servanne Monjour, Enrico Agostini		
10:00 - 10:45	45 min (vid. 50:48)	LOCAL TIME HAIFA: 7:00 PM	Haifa University (sending via FTP wed. night)	Ofer Arazy		Speakers: Oren Meyers, Roei Davidson, Noa Lavie		**Length of video is 50:48... May need to fade out after 45? (Full video will be on website)
11:00 - 11:45	45 min		UAlberta Panel 1	Julie Rak		Speakers: Sourayan Mookerjea, Carrie Smith-Prei, William Anselmi, Steve Patten, Donia Mounsef Chair: Julie Rak		
11:45 - 12:15	30 min (vid 19 min)	LOCAL TIME MALTA: 7:45 PM	University of Malta	Marc Kosciejew		Solo Presentation: Marc Kosciejew		**May need more grad, or other video
12:15 - 1:00	45 min		UAlberta Panel 2	Geoffrey Rockwell		Speakers: Tami Oliphant, Jennifer Chesney, Gerald Beasley Chair: Geoffrey Rockwell		
1:00 - 1:30	27 min	LOCAL TIME NEW YORK: 15:00	Fordham University	Shira Atkinson		Panelists: Shira Atkinson, Kindra Becker-Redd		
1:30-1:55	25 min	LOCAL TIME SAN FRANCISCO: 12:30 PDT	Internet Archive	Roger Macdonald		Q&A with Roger Macdonald Moderator: Geoff Harder		
1:55-2:05	10 min		Grads or Short talk					
2:05-3:00	55 min	LOCAL TIME TEXAS: 3:05PM CDT	Texas A & M	Laura Mandell		Speakers: Heidi Campbell, Sandra Braman, Laura Mandell		
3:00-3:30	30 min (vid. 28 min)	LOCAL TIME CALIFORNIA: 2:00 PM	UC Irvine	Peter Krapp		Speaker: Peter Krapp Moderator: Catherine Liu		
3:30-4:40	68 min	LOCAL TIME SYDNEY: 7AM	Western Sydney University	Rachel Hendery		Speakers: Hart Cohen, Jason Ensor Chair: Rachel Hendery		
4:40	5 min		UAlberta Closing Words	Geoffrey Rockwell				

Appendix 5: Technical Details for AtW

For Pre-Recorded Video Submissions:

We would like to have the video in 16:9 format if possible, shot in landscape (not portrait) orientation. In order to ensure the high-quality video for web-streaming, we would prefer it to be in **720P resolution**. File format for the video is something we can be fairly accommodating on but preferences will be MP4 and then Apple Quicktime's .MOV or Microsoft's .WMV but we can also accept AVI or MPEG.

If you are shooting with a cell phone please attach it somehow to a stand or tripod so it is solidly anchored.

If you are using slides but are unable to edit the slides into the presentation, we have found the best way to overcome this issue is to stand in front of the projector screen (so that both you and the slides are visible). If you are using a presentation clicker or your computer to change slides, make sure the screen is not being blocked.

Tips for Uploading Large Video Files:

We will send you a link to a GoogleDrive folder where you can upload your video. GoogleDrive supports free storage of video files up to 5TB. However, it can sometimes take awhile to upload large video files. Here are a few tips:

- **Upload from your university, not from home:** home networks often have fast download but very slow upload times.
- **Compress the video for web-streaming:** If the file is very large (eg. several GB), it is also helpful to compress it for web-streaming. This will help achieve a higher quality video with a much smaller size.

  Using Quicktime (for mac users):

  - Open the video in Quicktime.
  - Choose File > Export > ipad, iphone, ipad touch & apple TV > and choose the **second option (up to 720p)** *It should list under each option how large the final compressed file will be.
  - *Click here for more detailed instructions.

  Using Adobe Media Encoder (for mac or windows):

  - Under System Presets scroll to Web Video and choose YouTube HD preset settings. For this conference, you would want to choose the **YouTube HD settings in 720p** HD format (not 1080p HD). Leave the other settings as is (with the YouTube HD settings the target and maximum bitrate are both automatically set to 16 which is what you want).
  - *Click here for more detailed instructions.

Technical Details for AtW (con't)

For Live-Streamed Presentations:

This is a pre-print version of a chapter from the anthology *Right Research: Modelling Sustainable Research Practices in the Anthropocene* forthcoming in 2020 with Open Book Publishers (https://www.openbookpublishers.com/product/1178).

Option one: use a video conferencing room

The best option is for you to find a video conferencing room at your institution and make arrangements to use it for the times you are "On Air" with us here at the University of Alberta.

Option two: use a laptop/computer

Requirements:

- Laptop/Computer
- Preferred wired LAN connection
- External Webcam and microphone (if possible)
- Downloaded software app (https://call.lifesizecloud.com/download)

If it is not possible to use a video conference room, you can also stream from your laptop/computer by connecting to our conference using the Lifesize app (similar to Skype but with better quality video and audio that requires a higher standard of bandwidth). The Lifesize app also gives you the ability to screen powerpoint presentations and maintain a live video of you doing the presentation at the same time. ****You will need to practice this so we set aside time to do test calls with all participants.****

If you are using your own computer, we would prefer that you **use an external webcam** with a good quality microphone (e.g. a Logitech C930). The reason we ask for this is that the camera and mic on your laptop are basic equipment offerings and are really not meant for a broadcast situation. In order to ensure better quality streaming (with less chance of accidentally dropping the call), we also ask that you **connect your laptop directly to your internet modem** using an LAN cable (see here for instructions). If possible, it is also best to **do your presentation from your institution** rather than from home. Home networks are typically not capable of uploading enough bandwidth to do video conference properly (that is why Skype calls need to be reconnected often), so if you can do the presentation from your institution you will be attached to a much higher bandwidth network.

****If you are using tech support, it might be easier to have our tech team to coordinate with yours directly. Send us your tech member's contact info and/or contact us with any questions****

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Appendix 6: AtW 2017 Invitation to Research Institutes

Dear (**XXXXX**),

The Kule Institute for Advanced Study at the University of Alberta is again organizing a live-streamed world-wide conference, this year on the topic of **Digital Media in a Post-Truth Era**. The Around the World Conference is an annual event sponsored by KIAS that brings together research institutes and researchers from around the world for a dialogue without the environmental and other costs of traditional conferences. The full-day internet event will be held on **Thursday, May 4, 2017**.

I am pleased to invite you and your colleagues at **XXXXX** to participate in this year's Around the World Conference. Would you be interested in getting involved in this event by organizing a panel of speakers on this subject?

Why the theme of "Digital Media in a Post-Truth Era"?

The unfolding of recent political events in the United States has sparked much debate around 'fake news,' disinformation and trustworthiness on the web. We hope to use these developments as a starting point for a broader discussion of how digital media has challenged and/or unsettled our notion of truth. The conference theme of 'post-truth' is loosely-defined and we welcome considerations of this topic from a wide range of perspectives: from the algorithmic to the philosophical. We welcome, as well, discussion of 'post-truth' as a notion reflecting a certain insularity and how questions of the 'truthiness' and the web resonate differently across the world.

On the day of the event, participants will be asked to give a short presentation, either streamed live or a pre-recorded video clip. The presentation will be followed by a live discussion with fellow panelists.

The Around the World Conference organizers pride ourselves in making sustainable and inclusive practices part of our core mandate. For this reason, we would especially like to reach out to members of institutions for whom international travel can be a barrier. We are also happy to accommodate presentations from non-English speakers.

We ask each participant in the conference to:

- email interest to the project manager, Chelsea Miya, by Friday, February 24
- submit a brief abstract and biography as well as a photograph by Friday, March 31
- help to publicize the event at your home institution and participate on the day

KIAS will:

- support all the technological requirements in association with your tech support contact
- create the schedule and event infrastructure, including the pre-recorded talks
- advertise online and locally
- digitally archive the event and host the talks for future use

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If you would like to take part in the Around the World Conference on Digital Media in a Post-Truth Era, contact the Around the World project manager Chelsea Miya by Friday, February 24.

We hope you will join us in this research symposium and look forward to hearing from you soon.

Yours,

Geoffrey Rockwell
Director, KIAS

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Appendix 7: eConferencing Presentation Guides

[Reprinted with permission from 'Moving Ideas Without Moving People: How to e-conference at the University of Alberta' By Trevor Chow-Fraser, Chelsea Miya and Oliver Rossier.

First published: March 20, 2018.]

Available at: www.ualberta.ca/sustainability/resources/econferencing

Choose a format—or invent your own!

Both live presentations and pre-taped videos can be used with any of the following delivery modes.

1. **Traditional conference**: a live audience interacts in-person with presenters.
2. **Live streaming**: a single camera captures a presentation and broadcasts to the world. There may be a live audience interacting with presenters.
3. **Video conference**: interaction is between two or more locations connected over video stream.
4. **Hybrids**: may combine aspects of all three of the options above. Hybrids can be very technically complex and require careful planning.

Comparing live streaming and video conferencing:

Live streaming includes YouTube Live, Facebook Live, Vimeo Live, IBM Ustream and Livestream. These services broadcast a one-way video feed to a worldwide online audience. There is no limit to the number or geographic location of this audience. Unlike video conferencing, interaction is possible using messaging or comments on the livestream, but not by two-way voice or video.

Because the video stream isn't interactive, live streaming can incorporate a slight delay and provide higher quality video. Most of these services will also provide low bandwidth versions so that viewers can tune in on a tablet or smartphone. After broadcasting, most services save your video and you can choose to keep it private or to publish it for later viewers to watch.

Video conferencing includes Skype, Google Hangouts, LifeSize, Zoom and BlueJeans. Video conferencing enables conversation between two or more screens, including meeting spaces and individual computers. Live, real-time interaction between presenters and participants is possible. The maximum number of participants varies. Free services can reliably handle 2–4 participants, but may have trouble if they are on different continents. Paid services can handle 10–25 participants or more without trouble.

Since video conferencing is interactive, it is typically more technically advanced than live streaming. Dedicated video conferencing facilities using subscription services can help mitigate the technical challenge. These facilities tend to have more dependable connections and their picture quality can be close to HD, which is important if the feed is being projected onto a large screen (for an auditorium audience, for instance).