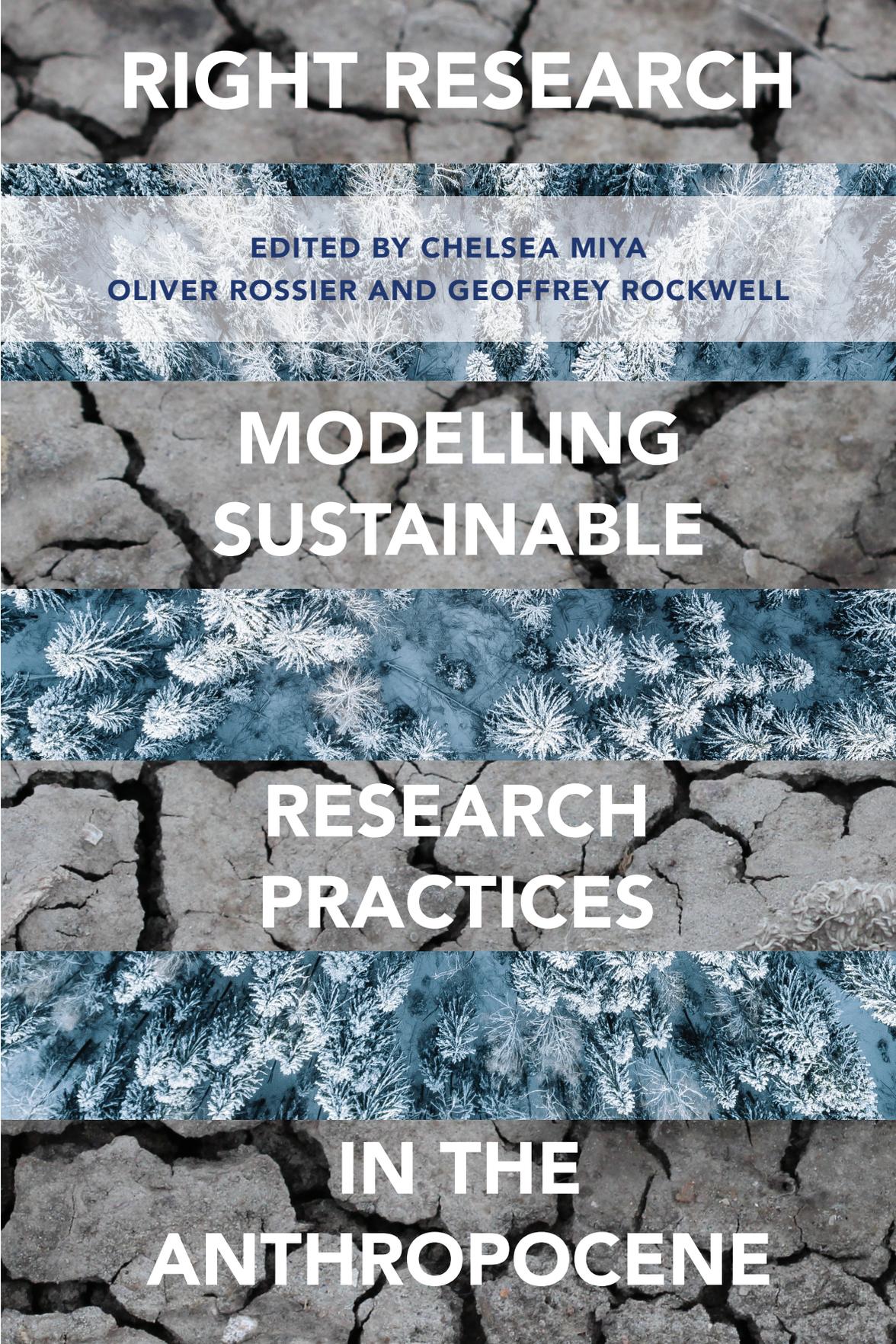


RIGHT RESEARCH



EDITED BY CHELSEA MIYA
OLIVER ROSSIER AND GEOFFREY ROCKWELL

MODELLING SUSTAINABLE

RESEARCH PRACTICES

IN THE ANTHROPOCENE



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Chelsea Miya, Oliver Rossier and Geoffrey Rockwell (eds), *Right Research: Modelling Sustainable Research Practices in the Anthropocene*. Cambridge, UK: Open Book Publishers, 2021. <https://doi.org/10.11647/OBP.0213>

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ISBN Paperback: 9781783749614

ISBN Hardback: 9781783749621

ISBN Digital (PDF): 9781783749638

ISBN Digital ebook (epub): 9781783749645

ISBN Digital ebook (mobi): 9781783749652

ISBN Digital (XML): 9781783749669

DOI: 10.11647/OBP.0213

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Cover design by Emilie St-Hilaire.

15. An Intro to Econferences

*Chelsea Miya, Geoffrey Rockwell
and Oliver Rossier*

Reading maketh a full [person], *conference a ready* [person],
and writing an exact [person].

Francis Bacon, 'Of Studies', in *Essays* (1625)¹

Flying is one of the most environmentally detrimental activities associated with our research practices. Until recently, even as colleges and universities took steps to green their campuses, conference-related air travel was on the rise. The COVID-19 pandemic forced academics (along with much of the world) back to the ground, but what will happen after travel restrictions are lifted? Will we slip back into old habits? Our reliance on flying is unsustainable, but research depends on open and timely communication of ideas, methods and results. How then can we adapt our conferencing practices to preserve their communicative value while reducing the need to fly so often? The following chapter introduces the econference medium and makes the argument for bringing academic conferences online, and maintaining these efforts after travel restrictions are lifted.

1 'Of Studies' (1597, enlarged 1625), *The Works of Francis Bacon*, Volume 1, https://en.wikisource.org/wiki/The_Works_of_Francis_Bacon,_Volume_1/Essays/Of_Studies (emphasis added).

In 2019, the ‘green leaders’ gathered at the World Economic Forum in Davos, Switzerland set an uncomfortable milestone. A record-breaking number of private jets—1,500 in all—landed in the city for the event.² The irony of burning massive amounts of fossil fuels to fly in speakers and attendees for a talk on global warming was not lost on observers, and points to not only a lack of self-awareness on the part of the organizers, but a wider problem within the research community. Flying is one of the most environmentally detrimental activities associated with our research practices.³ Post-secondary institutions are increasingly prioritizing eco-friendly initiatives, as shown by the formation of organizations like the International Sustainable Campus Network in 2007, which at last count has 93 member institutes⁴ and the University Climate Change Coalition in 2018.⁵ But even as colleges and universities take steps to green their campuses, the amount of air travel that academics engage in continues to rise.⁶ Our flying is unsustainable and yet research depends on open and timely communication of ideas, methods and results. How then can we adapt our conferencing practices to preserve their communicative value while reducing the need to fly so often? While there have been major transitions to using the Internet for teaching using online content management systems and publishing through e-journals, the academic conference has been slow to change. Small group meetings have gone virtual, thanks to phone conferencing and now video conferencing tools like Skype, Google Hangouts, LifeSize, and Zoom, but until recently we had not seen a similar transition in how larger conferences are hosted.⁷

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- 2 Rebecca Ratcliffe, ‘Record private jet flights into Davos as leaders arrive for climate talk,’ *The Guardian* (January 22, 2019), <https://www.theguardian.com/global-development/2019/jan/22/record-private-jet-flights-davos-leaders-climate-talk>.
 - 3 Malabika Pramanik, ‘On the environmental impact of academic conferences,’ *The Wall Papers* (September 23, 2019), <https://pwias.ubc.ca/wall-stories/the-environmental-impact-academic-conferences>.
 - 4 International Sustainable Campus Network (ISCN), <https://international-sustainable-campus-network.org/>.
 - 5 University Climate Change Coalition (UC3), <https://secondnature.org/initiative/uc3-coalition/>.
 - 6 Ken Hiltner, *A Nearly Carbon-Neutral Conference Model: White Paper/Practical Guide*, <https://hiltner.english.ucsb.edu/index.php/ncnc-guide/>.
 - 7 See Lynne Anderson and Terry Anderson, *Online Conferences: Professional Development for a Networked Era* (Information Age Publishing, 2010); Lucy Gilson et al., ‘Virtual teams research: 10 years, 10 themes, and 10 opportunities,’ *Journal*

However, in face of the double crisis of both climate change and the COVID-19 pandemic, researchers have been forced to reconsider our reliance on in-person gatherings. To understand the attraction of traditional academic conferences and the need for alternatives, we must first examine how they function and what they offer researchers.

Communities of Inquiry

One way to understand the importance of conferences to research is to think about how they help develop communities of inquiry (CoI). D. Randy Garrison, Terry Anderson and Walter Archer developed a CoI model as a framework for improving the integration of new communication media into distance education.⁸ CoI research was conducted in conjunction with one of the first virtual, text-based conferences.⁹ The model helped researchers conceptualize the levels of cognitive, social and teaching presence in a particular learning environment. CoI has become the most widely cited model for aspects of online education and teaching research.¹⁰

In order to adapt the CoI model to the conference environment, we can replace ‘teacher’ presence with ‘leader’ presence, as shown in Figure 1 below. Research leaders serve on conference organizing committees to select the content of conferences and set the climate for participants.

of Management, 41.5 (2015), 1313–1337, <https://doi.org/10.1177/0149206314559946>; and Corinne Le Quéré et al., ‘Towards a culture of low-carbon research for the 21st Century’, Tyndall Centre for Climate Change Research, *Working Paper 161*, 2016, <https://tyndall.ac.uk/sites/default/files/publications/twp161.pdf>.

8 D. Randy Garrison, Terry Anderson and Walter Archer, ‘The first decade of the community of inquiry framework: A retrospective’, *The Internet and Higher Education*, 13.1–2 (2010), 5–9, <https://doi.org/10.1016/j.iheduc.2009.10.003>.

9 Ibid.

10 Terry Anderson, ‘How communities of inquiry drive teaching and learning in the digital age’, *North Contact* (September 2017), <https://teachonline.ca/tools-trends/how-communities-inquiry-drive-teaching-and-learning-digital-age>; Aras Bozkurt, et al., ‘Trends in distance education research: A content analysis of journals 2009–2013’, *The International Review of Research in Open and Distributed Learning*, 16.1 (2015), 343–344, <https://doi.org/10.19173/irrodl.v16i1.1953>.

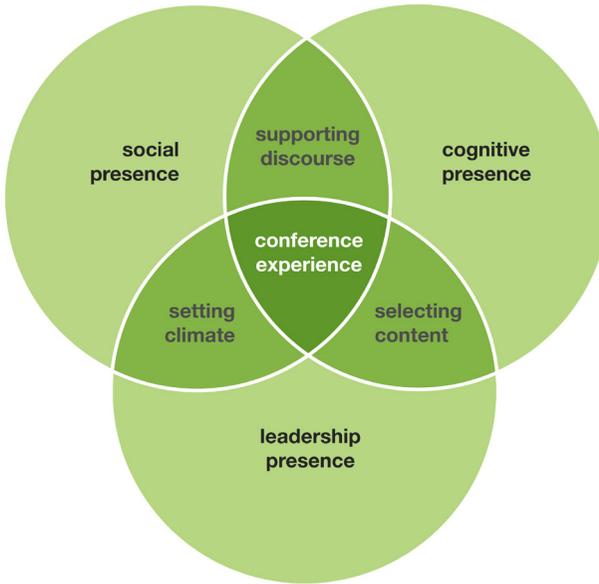


Fig. 1 Adapting CoI for conferences: proposed *conference* community of inquiry.¹¹

Leadership presence in academic conferences contributes to the academic rigor and peer review aspects of the climate of these conferences.¹² Leadership presence in the conference experience can come from a wide range of sources. Core leadership presence in academic conferences may come from senior scholars, keynote speakers, administrative leadership, research innovators, and panel chairs. Other examples of academic conference leadership might come from organizing committees and conference coordinators. Theoretical models like CoI help frame future research into econferencing as an evolving modality of communicative interaction. The next section will explore key terminology related to econferencing, which has also been evolving with discourse related to this field.

11 Communities of Inquiry model adapted from Garrison, Anderson and Archer (2010).

12 See for example: Richard Katz, 'The Gathering Cloud: Is this the end of the middle', in *The Tower and the Cloud: Higher Education in the Age of Cloud Computing* (Educase, 2008), pp. 2–42; T. Storme, et al., 'Mobility and professional networks in academia: An exploration of the obligations of presence', *Mobilities*, 12.3 (2017), 405–424, <https://doi.org/10.1080/17450101.2015.1116884>.

Key Terminology

Econference

For the purposes of this chapter we will use the term *econference* to describe the act of conferencing via digital media. There are several other terms currently used: *web conference*, *online conference*, *virtual conference*. The problem with the phrase *web conference* is that it is also often used to describe one-to-one discussions online, or face-to-face (f2f) conferences which focus on issues of the World Wide Web.¹³ Both *online conference* and *virtual conference* are plausible phrases, but are somewhat cumbersome when used as search terms and in metadata. It seems very possible that the term *econference* will evolve into common use at some point in the near future, similar to the evolution of terms like *e-books*, *email*, *e-transfer*, and *e-research*.¹⁴ Finally, *econference* is more nuanced, as the “e” invokes the dual electronic and environmental dynamics of the medium. Our definition of econference is adapted from the one put forth by Anderson and Anderson to describe ‘online conference’ and reads as follows:

An [*econference*] is a structured, time delineated... event that is organized and attended on the Internet by a distributed population of presenters and participants who interact synchronously and/or asynchronously by using online communication and collaboration tools.¹⁵

Hybrid Conference

A *hybrid conference* is a conference that uses a combination of online and face-to-face (f2f) communication and collaboration.¹⁶ As will be

13 Katz (2008), p. 14.

14 Chris Armstrong, ‘Books in a virtual world: The evolution of the e-book and its lexicon’, *Journal of Librarianship and Information Science*, 40.3 (2008), 193–206, <https://doi.org/10.1177/0961000608092554>; Ask Oxford, *Frequently Asked Questions* (2008), <https://web.archive.org/web/20080701194047/http://www.askoxford.com/asktheexperts/faq/aboutspelling/email?view=uk>; Paul Genoni, Helen Merrick and Michele Willson, ‘E-research and scholarly community in the humanities’, in *E-Research: Transformation in Scholarly Practice*, ed. by Nicholas Jankowski (Routledge, 2009), pp. 91–108, <https://doi.org/10.4324/9780203875049>.

15 Anderson and Anderson (2010), p. 15.

16 Matt Bower, Mark J. Lee and Barney Dalgarno, ‘Collaborative learning across physical and virtual worlds: Factors supporting and constraining learners in a blended reality Environment’, *British Journal of Educational Technology*, 48.2 (2017), 407–430, <https://doi.org/10.1111/bjet.12435>; Kirsten Broadfoot, Debashish Munshi

discussed in the Around the World (AtW) case study, the hybrid model may provide a key opportunity for conference organizers to strategically balance the core motivations of f2f social networking with the mitigation of environmental impact by using digital platforms to replace travel where possible.¹⁷

Motivations: Why do We Have Academic Conferences?

Universities and colleges are complex environments with a range of stakeholders who influence aspects of academic conferences. This includes how they are organized, conducted, and located, and whether the conferences happen at all. Key stakeholders include: academics, students, administrators, staff, organizations, politicians, and governments. Despite the importance of conferencing to academia, there is a general lack of research on the functions and modalities of academic conferences.¹⁸

While there are some major overlaps, the motivations for organizing and hosting conferences can be quite different for different stakeholders. Even academics themselves have different motivations at different stages of their careers.¹⁹ Early career academics, like graduate students and pre-tenure professors, might need to build their research networks, to establish their place in the field by presenting and publishing, and to connect to leading researchers in their fields.²⁰ Many mid-career professors seek to broaden their research networks, build on their reputation in the field, and take leadership roles in journals and society conferences. University administrators might see conferences as venues for recruiting potential students and staff,

and Natalie Nelson-Marsh, 'COMMUNEdcation: A rhizomatic tale of participatory technology, postcoloniality and professional community', *New Media & Society*, 12.5 (2010), 797–812, <https://doi.org/10.1177/1461444809348880>.

17 Bower, et al. (2017); Broadfoot, et al. (2010).

18 N. Jacobs and A. McFarlane, 'Conferences as learning communities: Some early lessons in using "back-channel" technologies at an academic conference—distributed intelligence or divided attention?', *Journal of Computer-Assisted Learning*, 21.5 (2005), 317–329, <https://doi.org/10.1111/j.1365-2729.2005.00142.x>.

19 Le Quéré (2016); Andrew Glover, Yolande Strengers and Tania Lewis, 'The unsustainability of academic aeromobility in Australian universities', *Sustainability: Science, Practice and Policy*, 13.1 (2017), 1–12, <https://doi.org/10.1080/15487733.2017.1388620>; Storme, et al. (2017).

20 Storme, et al. (2017).

building capacity in current students and staff, fostering research collaborations, building prestige for the host institution, and generating conference tourism revenue.

Similarly, external stakeholders like business and political leaders, organizations and governments (civic, regional and national), might see conferences as venues for fostering research collaborations, building prestige for their jurisdiction, generating tourism revenue, and building capacity in current staff. Finally, there has been an important change on many campuses in Canada and across the Western World with the rise of profit-focused conference service departments.²¹ In short, there are a range of key stakeholders influencing both the choice of whether or not to host conferences and the manner in which conferences are carried out on campuses.

On a political level, governments at all three levels, civic, regional, and national, can contribute financial and other resources to assist with academic conferences, particularly with large-scale conferences.²² In Canada, national funding agencies like the Social Sciences and Humanities Research Council (SSHRC) prioritize knowledge mobilization activities like conferencing for collaboration building and research dissemination.²³

On an organizational level, universities have three main mandates: teaching, research, and service.²⁴ Broadly speaking, conferences are primarily research dissemination vehicles, but also augment teaching and service. For example, conferences can augment teaching by allowing students to engage more deeply through personal presentations or conversations with top scholars from other locations. Academics who organize conferences are also often seen as serving the host universities by bringing a reputation boost. The importance of conferences at an organizational level is illustrated by the fact that even universities

21 See for example: UBC Conferences, <http://ubconferences.com>; University of Toronto, 'Conference & Catering', <http://www.food-beverage.utoronto.ca/conference-catering>.

22 Joyce Pittman and Brian McLaughlin, 'Professional conferences, social capital and tourism: Is the alliance in jeopardy?', *Tourism and Hospitality*, 1.2 (2012), e109, <https://doi.org/10.4172/2167-0269.1000e109>.

23 SSHRC, Connection Program (2019), http://www.sshrc-crsh.gc.ca/funding-financement/umbrella_programs-programme_cadre/connection-connexion-eng.aspx.

24 Katz (2008).

facing financial challenges will often offer funding for academic staff to participate in conferences.²⁵

Universities must also attend to financial and reputational issues related to conferences. Over the last several decades, with more financial pressure on core funding based on traditional teaching and research activities, universities in North America have turned more to auxiliary service activities like conference hosting to bolster financial resources.²⁶ Academic reputation is the largest single factor in the overall ranking metrics for universities.²⁷ Some researchers have described the key motivations for academics to attend conferences to be opportunities for social networking, keeping current in research areas, pressure to participate in an internationalized workforce, and building social capital.²⁸

Looking at the core reasons why academics participate in conferences, it is evident that the focus is around presence.²⁹ On an individual level, conferences serve a diverse range of uses for academics because knowledge work ‘involves communication among loosely structured networks and communities of people, and understanding it involves identifying the social practices and relationships that are operative in a particular context’.³⁰ International travel has become an important aspect of building and maintaining social capital for academics.³¹

A very pragmatic reason for academics to attend conferences is knowledge mobilization. Academics often find it challenging to keep up-to-date on the latest research developments.³² Conferences can serve

25 Jacobs and McFarlane (2005).

26 M. Layton Turner, ‘Boosting the bottom line’, *University Business* (January 2, 2012), <http://dev-new.universitybusiness.com:8080/article/boosting-bottom-line#main-content>

27 QS World University Rankings, *QS World University Rankings Methodology*, <https://www.topuniversities.com/qs-world-university-rankings/methodology>.

28 Anderson and Anderson (2010); Broadfoot, et al. (2010); Helen E. Fox et al., ‘Why do we fly? Ecologists’ sins of emission’, *Frontiers in Ecology and the Environment*, 7.6 (2009), 294–296, <https://doi.org/10.1890/09.WB.019>

29 Storme, et al. (2017).

30 J. C. Thomas, W. A. Kellogg and T. Erickson, ‘The knowledge management puzzle: Human and social factors in knowledge management’, *IBM Systems Journal*, 40.4 (2001), 863–884 (p. 868), <https://doi.org/10.1147/sj.404.0863>.

31 Glover, et al. (2017); Storme, et al. (2017).

32 Ben Levin, ‘To know is not enough: research knowledge and its use’, *Review of Education*, 1.1 (2013), 2–31, <https://doi.org/10.1002/rev3.3001>.

as spaces where relevant knowledge can be surveyed through shared presence in a scholarly community environment.

Not only are conferences a way to promote finished research, but also to develop and refine research-in-progress. They provide an opportunity to test out new ideas and solicit feedback. As such, finding ways to create lively discussions online, as shown in the Byrd and Rossier et al. case studies, is essential to running a successful econference.

Ultimately, the key motivations for academic conferences include the creation of spaces for social presence, cognitive presence, and access to leadership presence. Conferences are also important spaces where the agenda of research fields are negotiated. However, a key distinction between virtual and f2f conferences lies in how these spaces are structured and organized.

Traditional f2f gatherings are organized around the physical flows of people. When planning an in-person conference, one might, for instance 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.

By contrast, online events are not organized around the flow of people through a physical space, but rather the flow of ideas and dialogues through a virtual one. Econference organizers need to consider how to design this virtual space for the smooth engagement of cognitive and social presence. With this goal in mind, econference organizers might create a welcoming website, choose technology that is accessible on various platforms and devices, and creatively facilitate online discussion.

Having explored some aspects of why academics engage in conferences, the next section will look at how econferences have evolved over time.

Evolution of Econferences

Bangkok Project

The formation of the Internet set the stage for text-based conferences, which represent an important phase in the evolution of econferences. The first international econference was likely the 1992 Bangkok Project,

organized by Terry Anderson whose article ‘Virtual Conferences Are Not The Same But Are They Good Enough?’ also appears in this collection.³³ This conference was an extension of the XVI World Congress of the International Council for Distance Education (ICDE) and used carefully coordinated email relays to make a major f2f conference available to virtual participants.³⁴ This conference also serves as an early model for exploring dual presence, as there were contributors who both sent email messages and made in-person presentations. In this way the Bangkok Project also prototyped hybrid methods of engaging a distributed audience in the dialogue of a f2f conference. The Bangkok Project was held as an asynchronous set of interactive sessions over a longer period than most traditional conferences. The conference ran for three weeks, nearly as long as the Council of Nicaea, which lasted a month, and almost the same length as the Nearly Carbon Neutral Conference discussed below.

Nearly Carbon Neutral Conferences

The Nearly Carbon Neutral (NCN) econference concept was created by Ken Hiltner as a part of a response to a sustainability audit at UCSB, which found that nearly 30% (55,000,000 lbs.) of the CO₂ footprint of its entire campus in 2014 came from air travel (UCSB Climate Action Plan, 2014). Hiltner and his colleagues used this stark finding as a motivation to explore alternative methods of conferences with a lighter environmental footprint. The NCN model, which was developed for the 2016 conference ‘Climate Change: Views from the Humanities’ and which is featured in Hiltner’s Practical Guide, has three phases:

1. Speakers [pre]record their own talks.
2. Talks are viewed on the conference website.
3. Participants contribute to online Q&A sessions.³⁵

33 Terry Anderson and Robin Mason, ‘International computer conferencing for professional development: The Bangkok project’, *American Journal of Distance Education*, 7.2 (1993), 5–18, <https://doi.org/10.1080/08923649309526819>.

34 Anderson and Anderson (2010).

35 Ken Hiltner, *A Nearly Carbon-Neutral Conference Model: White Paper/Practical Guide* (n.d.), <http://hiltner.english.ucsb.edu/index.php/ncnc-guide/#intro>.

The main goals of the NCN event organizers were ‘to encourage the cross pollination of ideas across a broad range of disciplines’ and ‘help establish relationships and to build a community.’³⁶ In total, this econference featured 4 keynote speakers and 50 research presentations from 8 countries.³⁷ The online question and answer sessions are still available and provide insight into some of the successes and shortcomings of this format. Hiltner’s opening remarks and corresponding discussion section have a particularly rich discussion of both the NCN application techniques and the philosophical underpinnings of the econference.³⁸

Most significantly, the NCN econference model provides opportunities for several layers of cognitive and social presence among the presenters and participants by hosting both the presentations and the discussion online in three formats. In terms of cognitive presence, NCN presenters disseminate their research through video via Vimeo, voice via SoundCloud, and text via conference website comments.³⁹ Social presence was also augmented by some presenters’ use of social media. The NCN econferences created access to research detailing climate change constraints and specific techniques for hosting similar econferences.⁴⁰

NextGen Conferences: Unconferences, Hackathons and Beyond

The digital world continues to inspire new forms of gatherings, both on and offline. For instance, the ‘unconference’, which is less structured and more collaborative than a traditional conference, has become a mainstay of the digital humanities.⁴¹ Unconferences bring together participants who are united by ‘shared experience and expertise’. Often the participants, rather than the organizers, set the agenda, and the sessions can focus on exploring a topic or achieving an outcome, rather than on

36 Ken Hiltner, ‘Opening Remarks’, *Climate Change: Views from the Humanities—A Nearly Carbon-Neutral Conference* (UCSB, 2016), <http://ehc.english.ucsb.edu/?p=13550>.

37 Ibid.

38 Ibid.

39 Ibid.

40 Ibid.

41 See, for example: THAT Camp, ‘About’, <https://thatcamp.org/about/>.

set presentations.⁴² Hackathons, likewise, invite participants to come together to tackle a specific problem, which can be, but is not necessarily, computational in nature.⁴³ There are many other variations of academic events including: poster sessions, exhibitions, performances, reading groups, workshops, and code-a-longs, to name a few. How might a poster session be optimized for online delivery? Could we host a poetry reading or teach a class in an online gaming environment? As academics experiment with bringing these formats online, the formats themselves will undoubtedly be transformed and reimaged.

The final section delves further into the affordances and constraints of econferences, in comparison to the traditional, f2f format.

Affordances and Constraints Technological

The speed of travel and flow of information have been among the most important technological affordances supporting research conferences. Following World War II, improvements in aviation created many more opportunities for individuals to fly internationally, contributing to a rapid increase in larger international academic conferences. In particular, aviation has created opportunities for academics in wealthier countries with access to travel funds from research grants and institutional professional development funds. For individuals in other parts of the world the cost of travelling to distant conferences is often prohibitive, as the cost of airfare to a major conference in Europe or North America can be greater than the average annual income in developing countries.⁴⁴ The costs of conferences, which include not just travel but registration fees, also weigh more heavily on graduate students, many of whom live at or below the poverty line, and are consequently disproportionately affected by cuts to travel grants and bursaries. This has created a situation where researchers who have travel support, which usually means established academics in the Global North, have disproportionate international

42 Aidan Budd et al., 'Ten simple rules for organizing an unconference', *PLoS computational biology*, 11.1: e1003905 (2015), <https://doi.org/10.1371/journal.pcbi.1003905>.

43 Joshua Tauberer, *How to Run a Successful Hackathon*, <https://hackathon.guide/>.

44 Hiltner (2016).

visibility. The rich travel more and those without funding struggle to be heard.

Over the last fifty years, there has been an exponential growth in the technologies that accelerate the movement of information along with a simultaneous reduction in the financial cost of using those technologies.⁴⁵ With many currently forced to work remotely due to the COVID-19 pandemic, tech companies are rushing to fill the demand for video conferencing software and hardware. At the same time, the pandemic has laid bare the gaps in computing infrastructure. Despite the fact that communication technology has been rapidly advancing, there are significant populations in all parts of the world who have only limited access to computing devices and infrastructure.⁴⁶ Online delivery can exacerbate the digital divide and create barriers to participation for those without access to computing devices and to high-speed Wi-Fi. There continue to be important technological constraints and challenges for econferencing including maintaining acceptable levels of video and audio streaming quality.⁴⁷ There are, moreover, a variety of reasons why students and colleagues might feel uncomfortable broadcasting from home. Not all have access to a quiet, private workspace, for instance. As remote events grow in popularity, maintaining users' security and privacy presents an additional ongoing challenge to software companies and to the educational and research institutions that rely on them.

Accessibility

In addition to the technological considerations, there are also physical, social, and political constraints to conference participation. When it comes to traditional f2f conferences, an example of a physical barrier is a disability which makes travel and/or navigating the potentially crowded and cacophonous spaces of conference halls challenging. Social barriers to physically travelling to an event might include issues like family care.

45 Elizabeth Altman, Frank Nagle and Michael L. Tushman, 'Innovating without information constraints: Organizations, communities, and innovation when information costs approach zero', in *The Oxford Handbook of Creativity, Innovation, and Entrepreneurship*, ed. by Christina E. Shalley, Michael A. Hitt and Jing Zhou (Oxford: Oxford, 2014), pp. 353–378, <https://doi.org/10.1093/oxfordhnb/9780199927678.013.0031>.

46 Ibid.

47 Bower, Lee and Delgarno (2017).

For example, parents of young children may not have the resources or support structures to allow them to simultaneously travel and provide care.

The COVID-19 pandemic dramatically changed how we interact. In the initial stages of the outbreak, more than a few clusters of infections were traced to conference events.⁴⁸ Since then, as a result of the necessity for physical distancing, countless gatherings have been either postponed or cancelled outright. In a post-pandemic world, academics will likely be more hesitant to travel abroad. Conference organizers will need to put safeguards in place to protect participants. Though the COVID-19 pandemic is unprecedented in its scale and impact, even in non-pandemic times there are myriad factors, from bad weather to family emergencies, that can force last-minute cancellations. Offering alternative modes of delivery in case of unforeseen events helps reassure participants by ensuring that organizers have a viable contingency plan.

Political constraints are, for example, situations where a conference is hosted in a country which restricts visas for visitors from other parts of the world. The travel ban enacted by then-President Donald Trump in 2017, which barred citizens from seven Muslim majority countries from entering the US, had a direct impact on the ability of scholars from those nations to participate in academic life. In response, thousands of academics signed petitions denouncing the ban.⁴⁹ Some conference organizers even took steps to relocate their events outside of the US.⁵⁰ Despite the backlash, the travel ban was not only upheld, but expanded, with restrictions placed on citizens from an additional six countries in February 2020;⁵¹ and it was not until January 2021 that the ban was finally

48 Simon Little, 'B.C. dentist dies after attending dental conference with COVID-19 outbreak', *Global News* (March 23, 2020), <https://globalnews.ca/news/6722164/dentist-dies-coronavirus-conference/>; Farah Stockman and Kim Barker, 'How a premier U.S. drug company became a virus "super spreader"', *The New York Times* (April 12, 2020), <https://www.nytimes.com/2020/04/12/us/coronavirus-biogen-boston-superspreader.html>.

49 Michelle Ghossoub, 'Canadian professors join academic boycott of U.S. in protest of Trump travel ban', *CBC News* (February 3, 2017), <https://www.cbc.ca/news/canada/british-columbia/canadian-professors-join-academic-boycott-of-u-s-in-protest-of-trump-travel-ban-1.3966122>.

50 James McLeod, 'Tech conferences moving north as trump policies turn off attendees', *Financial Post* (May 1, 2018), <http://business.financialpost.com/technology/tech-conferences-moving-north-as-trump-policies-turn-off-attendees>.

51 Nicole Narea, 'Trump's expanded travel ban just went into effect for 6 new countries', *Vox* (February 21, 2020), <https://www.vox>.

lifted by President Joe Biden. Nationalistic and xenophobic policies, such as those implemented by the former Trump administration, threaten the integrity of our research communities. In the current political climate, to rethink traditional conference gatherings and to seek out new ways of mobilizing and exchanging knowledge can be a form of productive resistance.

Hosting virtual or hybrid academic events can be a way to overcome the physical, social, and political barriers of f2f conferences and to build strong, vibrant research communities online. At the same time, online gatherings are not without their own challenges. One drawback to virtual gatherings is the risk of online surveillance and censorship. Governments can use a variety of means to restrict access to information online: from filtering specific content to blocking entire websites and platforms to complete Internet blackouts.⁵² What is more, there is evidence that these tactics are becoming more widespread.⁵³ As reported by Human Rights Watch, in 2019 alone ten countries imposed partial or full Internet shutdowns.⁵⁴ As Internet censorship grows increasingly ubiquitous, the world wide web no longer functions as a singular ‘world’, but rather many separate worlds that are split along geopolitical lines. The ‘fragmented web’, as Kalev Leetaru terms it,⁵⁵ frustrates efforts to build transnational research communities. Government surveillance can also put participants in harm’s way. Conference organizers need to consider these risks when deciding how open and publicly accessible the conference material should be. Will the conference content be publicly available or limited to registered participants? If the latter, how will access be mediated? Will the material be recorded and archived? If there is an online discussion, will commenters be anonymous or named?

com/2020/1/31/21116736/trump-travel-ban-nigeria-immigrant; Nazita Lajevardi, Kassra AR Oskooii, and Loren Collingwood, ‘Biden reverses Trump’s ‘Muslim ban.’ Americans support the decision.’, *Washington Post* (January 27, 2021), <https://www.washingtonpost.com/politics/2021/01/27/biden-reversed-trumps-muslim-ban-americans-support-that-decision/>.

52 Justin Clark et al., *The Shifting Landscape of Global Internet Censorship* (Berkman Klein Center for Internet & Society Research Publication, 2017), <http://nrs.harvard.edu/urn-3:HUL.InstRepos:33084425>.

53 Ibid.

54 Human Rights Watch, ‘Shutting Down the Internet to Shut Up Critics’, *World Report 2020*, <https://www.hrw.org/world-report/2020/country-chapters/global-5>.

55 Kalev Leetaru, ‘Will increasing government censorship lead to a fragmented web?’, *Forbes* (June 4, 2019), <https://www.forbes.com/sites/kalevleetaru/2019/06/04/will-increasing-government-censorship-lead-to-a-fragmented-web/#56662a0f3de1>.

These points deserve careful consideration, and furthermore conference protocols regarding privacy and security, once established, need to be clearly communicated to participants prior to the event.

Temporal

Time limits give an ephemeral immediacy to conferences. Conferences are designed to focus attention and have people examine something together for a limited period of time.⁵⁶ In the academic milieu, this distinguishes conferences from research groupings, online email lists, and other longer-term working collaborations. One advantage of traveling to a conference is that you can leave the busy work behind and focus on a topic away from distractions. The travel creates a time and space away that mark the conference as research. There are, however, trade-offs embedded in time constraints. For example, in order to attend a major conference, researchers may have to travel for a day or more to get there and as much to return. In the same way, when a group of academics are brought together to focus on a particular issue at a conference, they are by definition not focusing on other areas of their own research. Another constraint of traditional f2f conferences is that participants must return to their home institutions, therefore ending the conference dialogue. Online conferencing, by contrast, has an immediate affordance of allowing asynchronous dialogue relatively unconstrained by time and interwoven into other activities.⁵⁷

Environmental

Mitigating climate change is one of the greatest challenges of the current era.⁵⁸ Air travel is a significant contributor to climate change

56 'Conference, n.', OED Online, Oxford University Press, September 2019, www.oed.com/view/Entry/38740; Anderson and Anderson (2010).

57 See for example: Anderson and Anderson (2010); Charlotte N. Gunawardena, 'A cross-cultural study of group process and development in online conferences', *Distance Education*, 22.1 (2006), 85–121, <https://doi.org/10.1080/0158791010220106>; Hiltner (2016).

58 United Nations, *Climate Change* (n.d.), <http://www.un.org/en/sections/issues-depth/climate-change/index.html>; Gwynne Dyer, *Climate Wars: The Fight for Survival as the World Overheats* (Oneworld Publications, 2010); Peter Kalmus, *Being the Change: Live Well and Spark a Climate Revolution* (New Society Publishers, 2017);

and one of the largest discretionary aspects of an individual's CO2 footprint.⁵⁹ At the University of Alberta, sustainability efforts are woven into the strategic mission.⁶⁰ In the broader context, Canada has taken a leadership role in establishing CO2 footprint formulas for the aviation industry in order to help mitigate some of the environmental impacts of flying.⁶¹ As discussed above, academics can influence change at many levels of conference culture, as participants, attendees, keynote speakers, funders, and conference organizers.⁶² In short, academics have both an opportunity and a responsibility to make personal and organizational choices that make sustainable conferencing more broadly available.⁶³

At the same time, as pointed out by other authors in this book, information technology also has a carbon cost. Notably, energy emissions from computers were among the few sources of greenhouse gases that have not declined during the pandemic lockdown, but rather shot up.⁶⁴ As our appetite for data (and the energy that supplies it) continues to increase, we need to be wary of uncritically replacing one form of energy consumption with another. For that reason, the NCN conference model should be expanded to incorporate more rigorous reflection and interrogation of, not just our flying habits, but our computational habits.

Joseph Nevins, 'Academic jet-setting in a time of climate destabilization: ecological privilege and professional geographic travel', *The Professional Geographer*, 66.2 (2014), 298–310, <https://doi.org/10.1080/00330124.2013.784954>.

- 59 Vlad Coroama, Lorenz M. Hilty and Martin Birtel, 'Effects of Internet-based multiple-site conferences on greenhouse gas emissions', *Telematics and Informatics*, 29.4 (2012), 362–374, <https://doi.org/10.1016/j.tele.2011.11.006>; Hiltner (2016); Kalmus (2017); Niko Kommenda, 'How your flight emits as much CO2 as many people do in a year', *The Guardian* (July 19 2019), <https://www.theguardian.com/environment/ng-interactive/2019/jul/19/carbon-calculator-how-taking-one-flight-emits-as-much-as-many-people-do-in-a-year>.
- 60 University of Alberta, 'For the Public Good: Institutional Strategic Plan' (2016), <https://www.ualberta.ca/strategic-plan>, Objective 20.
- 61 Kathleen Harris, and Margo McDiarmid, 'Canada helps broker negotiations for UN pact on airline emissions', CBC (Sept. 9, 2016), <https://www.cbc.ca/news/politics/aviation-carbon-emissions-agreement-icao-1.3753139>.
- 62 Hiltner (2016); Kalmus (2017); Nevins (2014).
- 63 Coroama, et al. (2012); Glover, et al. (2017); Hiltner (2016); Kalmus (2017).
- 64 Michael Fuhrer and Errol Hunt, 'Bingeing Netflix under lockdown? Here's why streaming comes at a cost to the environment', *The Conversation* (August 6, 2020), <https://theconversation.com/bingeing-netflix-under-lockdown-heres-why-streaming-comes-at-a-cost-to-the-environment-143190>.

Conclusion

As shown, econferences can, in some ways, improve accessibility, lower cost, and significantly reduce carbon emissions. Even so, online gatherings are not without obstacles and come with a different set of considerations. Rather than attempt to replicate face-to-face interactions, the econference should be embraced as its own medium, one with unique affordances and constraints, and if econferences are to disrupt and not simply rebuild the status quo the research community needs to be rigorous in acknowledging and confronting these challenges head-on.

In the following articles, Terry Anderson, Nick Byrd and Oliver Rossier et al. share concrete examples of how to create and run econferences across a range of disciplines. These studies highlight the benefits and challenges of moving academic gatherings online, and it is the authors' hope that the academic community can learn from their findings to build capacity for future econferencing initiatives.

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