

Name: Parke Wilde

Is this a project that you will work on alone, or will you collaborate with others? If you are collaborating with others, list their names, their Tufts affiliation, and their contact emails. Please indicate which member of your team will be the principle contact.

Parke Wilde (Professor, principal contact, parke.wilde@tufts.edu); Jason McClellan (Senior Director of Auxiliary Services, Jason.McClellan@tufts.edu); Adam Cotton (Director of Conference and Event Services, adam.cotton@tufts.edu); Caitlin Colino (undergraduate, caitlin.colino@tufts.edu); Yuemeng Li (undergraduate, yuemeng.li@tufts.edu).

Please provide a 300-350 word description of your project

Multi-site Conference Hosting (MULCH) This collaboration led by Tufts University will develop and pilot an innovative format for hosting simultaneous conferences in several linked sites. The sites will offer simultaneous in-person events, linked through internet connections. We will develop links for 4 main conference components: (1) Keynote Presentations. Using existing broadcast technology, we will develop procedures for remote questions and effective testing protocols to avoid mishaps. (2) Panel Discussions. For panels of 1 to 4 people, we will enable varying combinations of in-person and remote participation. (3) Receptions and Social Settings. We will develop and pilot an arrangement for numbered camera/screen locations along a wall in a reception hall, linked across sites. (4) Online participation. For participants who are not attending one of the in-person sites, we will provide an online participation option. We are working with Blair MacIntyre, a professor at the Georgia Institute of Technology (Georgia Tech) and a developer with Mozilla, to develop a virtual reality (VR) environment for online participants. This format builds on two prior initiatives. Parke Wilde gave one of the talks in 2016 for the first Nearly Carbon Neutral (NCN) format from Professor Ken Hiltner at University of California Santa Barbara (UCSB), and Tufts served in 2017 as a pilot hub for the Low-Carbon Multi-Hub from Professor Richard Parncutt at Uni Graz in Austria. These formats are reviewed in a 2018 AASHE webinar, for which Tufts Sustainability Director Tina Woolston was the moderator. Link: <https://academicflyingblog.wordpress.com/2018/10/29/fall-2018-flyingless-update/> By enhancing ease and feasibility, this initiative will empower academic associations to use hub-based formats. We envision an ongoing business partnership among at least four universities – most likely Tufts, Northwestern (near Chicago), University of Washington (in Seattle) and Georgia Tech (Atlanta). Early investment in equipment, space arrangements, and linking procedures will pay off over multiple conference events.

What is the problem that you are looking to solve?

In this time of climate crisis, academic and professional associations need alternatives to traditional in-person conferences. The current fly-in conference model is environmentally unsustainable, and it also excludes some potential conference

participants based on care-taker responsibilities, geographic access, and funding. Sara Peach in Yale Climate Connections this October summarized the intensifying interest in distributed conferencing, including at major associations such as the American Geophysical Union. The article quotes one of our project partners, climate scientist and professor Kim Cobb of Georgia Institute of Technology (Georgia Tech), who explains that – in addition to the environmental problems -- the current “fly-in” conference model raises severe barriers for new parents and other caretakers. The article also explains the need for pilot-testing and early preparation to enhance the feasibility of alternative models. Link: <https://www.yaleclimateconnections.org/2019/10/how-can-academic-and-professional-organizations-reduce-flying-to-conferences/> This project will solve the problem by building a partnership between several U.S. universities, developing a set of methods and a written protocol for setting up site-based conferences. This will make it much easier for professional associations that want to replace some of their current fly-in conference events. For associations that are intimidated by the challenge of developing a format themselves, we will lower the hurdles and fill an important market niche.

Has this been done before? How is this project different?

No.

How would you sustain or expand the project after the pilot has ended?

A key deliverable for this project, enabled by Tufts Green Fund support, is a business plan, marketing materials, and price list for conference-hosting services that our consortium will offer to academic and professional associations as clients.

Is this an event? When will you hold it? Where will you hold it?

Yes; Summer 2020; Tufts Campus and one partner university site.

Knows how to: reserve the space, order food, set up and clean up the space, request equipment

How will you measure success?

Process measures. We will judge success by completion of key project deliverables: (1) Developing the advisory team at Tufts and 2-3 partner universities and hosting an online brainstorming event with this team by March 2020, (2) drafting a protocol document with replicable methods and instructions for the sites by May 2020, (3) hosting a pilot event by July 2020, (4) drafting a business plan, price list, and marketing materials by August 2020. Satisfaction measures. We will use a Qualtrics survey of participants in the brainstorming event and the summer 2020 pilot event, including Likert scale (degree of agreement/disagreement) responses for several statements: (a) Overall, my impression of the event was favorable, (b) The multi-site event replicated important features of a traditional in-person event, (c) This approach to conferencing has promise for future growth. Emissions measures. For participants in the pilot event,

we will use the Qualtrics survey to ask about actual transportation to the event and also hypothetical questions about long-distance alternatives that would have been used if the nearby site had not been available. We also will estimate climate impact of energy for audio-visual facilities, and for food and beverage service.

How many people would this project impact? Please categorize them as students, faculty, staff, and other

The pilot event in summer 2020 will include approximately 100-150 participants (50 persons per site in 2-3 sites). Eventually, this project has the potential to influence conference practices that affect many thousands of people.

What is the environmental impact?

For academics, the environmental impact of conferencing is large in proportion to total emissions from the academic sector. For example, Wynes and Donner (2018) found that business-related air travel at the University of British Columbia was responsible for 26k-32k tons of CO₂ equivalents per year, equivalent to 63-73% of UBC campus emissions. University sustainability reports generally relegate flying emissions to “scope 3” (off-campus) and do not include all business-related flying, so it is seldom possible to compute similar statistics for other universities, but the UBC estimates likely are typical. There have been several estimates of the climate impact of single conferences. For example, Judith Totnam Parrish (2017) estimated the immense impact of the American Geophysical Union’s large annual meeting (24k participants), leading her to ask, “How can AGU ‘walk its talk’ on environmental stewardship when participation in its annual meetings requires such carbon-intensive travel?” For the Nearly Carbon Neutral (NCN) online conferencing format, Ken Hiltner (2018) estimates emissions that are just a small fraction of comparable emissions for an in-person fly-in event. Wynes, S. and Donner, S.D., 2018. Addressing Greenhouse Gas Emissions from Business-Related Air Travel at Public Institutions: A Case Study of the University of British Columbia. Pacific Institute for Climate Solutions. Putnam, J. T. 2017. Should AGU have fly-in meetings anymore? EOS. <https://eos.org/opinions/should-agu-have-fly-in-meetings-anymore> Hiltner, K. 2018. A Nearly Carbon-Neutral Conference Model: White Paper / Practical Guide. <https://hiltner.english.ucsb.edu/index.php/ncnc-guide/>

What are the educational impacts of this project?

For the two participant leaders (Colino and Li), and for other students who will be involved in smaller roles including pilot-testing, this project will contribute to their undergraduate education program. Moreover, this project offers innovations in distance communication with broader educational applications, by enhancing the personal experience of long-distance conferencing.

What is the social impact (excluding educational aspects)? (e.g. alleviating climate injustice, community resiliency, culture change, equity, etc)

The climate emergency not only presents physical challenges (sea level rise, drought), but also a political and social challenge of confronting injustice (intergenerational, and across rich and poor countries, for example). A large fraction of total global emissions is attributable to the spending of the top tenth of most privileged emitters globally (a group that includes most educated people in the United States). Sometimes, U.S. climate communicators have been resistant to discuss consumption-side societal changes, for fear the discussion will dismay the audience and impair their motivation to seek social action. We disagree. Following the work of Peter Kalmus (Being the Change), Greta Thunberg (Swedish climate activist), Kevin Anderson (UK climate scientist), and others, we argue instead that institutional change in comparatively privileged communities is both important for its direct impact on emissions, and even more valuable for the inspirational example of leadership. What we do in university communities will influence larger economic sectors. Developing new conferencing alternatives is an intersectional endeavor. The hub-based conference in music and psychology organized by Professor Richard Parncutt at Uni Graz in Austria included a site in La Plata Argentina, near Buenos Aires, indicating the potential for using this format to increase access for researchers outside of the USA and Europe. For researchers who are new parents or have other care-taking responsibilities, the current expectations for travel are a frequently noted source of career disadvantage. If our format is adopted widely, people will still be able to travel long- distance when they want, but the option for closer access to conferencing will be enhanced.

Will it help Tufts meet its sustainability goals? If so, how?

This project contributes to several goals from the Talloires Declaration, in which Tufts University played an important leadership role: (2) Create an institutional culture of sustainability, (5) Practice institutional ecology, and several others. Moreover, as university reporting through the Association for the Advancement of Sustainability in Higher Education (AASHE) begins to report flying as part of Scope 3 emissions, this initiative will help prepare Tufts for success. Finally, several aspects of this project have potential for generating publicity that reflects well on Tufts leadership in sustainability.

What are the life cycle cost savings or the immediate cost savings, if applicable?

One sometimes reads in the media that aviation is just a small fraction of global CO₂ emissions from combustion. These estimates understate the impact of aviation. The estimates may account for just jet fuel combustion, and the most commonly cited percentage is long out of date, given that aviation emissions are growing much faster than total emissions. By contrast, life-cycle estimates of emissions also include ground vehicles and infrastructure emissions attributable to airports. Finally, the radiative forcing from aviation is much greater still, by a factor of 1.9X to 4.9X, due to high-altitude emissions that produce contrails. The total impact of global aviation is 5% of human-caused radiative forcing globally (Lee et al. 2009), and much more in developed countries such as the USA. Lee, D.S., Fahey, D.W., Forster, P.M., Newton, P.J., Wit, R.C., Lim, L.L., Owen, B. and Sausen, R., 2009. Aviation and global climate change in the 21st century. *Atmospheric Environment*, 43(22-23), pp.3520-3537.

How much funding are you requesting from the Green Fund? Are you seeking funding from other places?

We seek \$9410 from Tufts Green Fund for this pilot project. A key deliverable will be a business plan for future conferences, and we believe these will be revenue-generating for the University add full rates for space use, catering, and audio/visual vendor services.

Are reserved spaces and A/V equipment truly at no cost?

We took this question to heart in revising this proposal. We confirmed that Tufts is likely to offer the modest space use required for summer 2020 pilot event (one lecture hall and 2 classrooms for a single day during the summer) without charge, if we agree to a date that fits the university's schedule. I would be happy to arrange instead for an estimate from Adam Cotton for full space use charges, if that is preferred (in a spirit of demonstrating the financial viability of the eventual project). In addition, we discussed your query about A/V equipment. Paul Bergen from TTS confirmed his interest in this project and said some use of borrowed equipment is possible on a pilot basis, but, as noted above, we also asked Adam Cotton to get a quote from a commercial vendor. As noted, this quote is quite high, so we assumed the pilot event would absorb only part of such costs.