

## Academic Conferencing Reimagined in the COVID-19 Era: The Vision Health Research Network Experience

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### Abstract

The Coronavirus disease 2019 pandemic has reshaped academic conferencing and the experience for many research students and trainees. Scientific associations have adapted to new public health restrictions by adopting virtual conferences to maintain the dissemination of knowledge. The Vision Health Research Network (VHRN) has brought its annual meeting online in 2021. The virtual conference format reduces its associated carbon footprint and encourages increased participation by eliminating barriers to access such as transportation, accommodation fees and scheduling conflicts. The annual meeting has been divided into several smaller themed days to increase participation throughout the year. The use of novel online platforms for information sharing such as FOURWAVES and Zoom has enabled an ease of interaction but has brought unique challenges as well. The technical learning curve and functionality of these programs may initially impact accessibility. Leveraging deliberate usage of social media to promote conference events and highlighting projects are also avenues to be further explored.

**Keywords:** Conference, COVID-19, Ophthalmology, Visual, Science, Virtual, Hybrid, Social Media, VHRN, Student Research, Sustainability

### Introduction

The Coronavirus disease 2019 (COVID-19) pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) swept across the globe in early 2020 and profoundly impacted every facet of life. In academia, medical researchers had to rapidly focus their efforts on understanding this novel virus and developing targeted therapeutics and vaccines [1]. As public health guidelines recommended social distancing and cancellation of in person events, conference organizers had to find an alternative platform to share ongoing research—COVID-related or not. While many conferences were postponed, some moved to virtual platforms [2]. This editorial will explore the advantages and shortcomings of virtual academic conferencing with a focus on the Vision Health Research Network's (VHRN) experience [3].

Academic conferences are crucial for knowledge dissemination, academic exchange and professional development [4]. This platform provides unique opportunities for trainees to present their work, learn about new areas of research and innovation in their discipline of interest, and network with key stakeholders (guest speakers, senior researchers, and peers). Additionally, conferences allow trainees to get involved within their scientific community, to refine their communications skills and to receive valuable feedback on their own research projects [5]. Despite these advantages, traditional in-person conferences have important limitations, ranging from generating high CO2 emissions to being perceived as intimidating for learners [6]. Other barriers to attending in-person meetings include financial costs and travel time considerations [6]. The digital conference format addresses many of the shortcomings of in-person academic events when properly implemented

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and may serve as an appropriate alternative. Recent findings on virtual conferences in ophthalmology and vision research that occurred during the pandemic highlight this format's major benefits: flexibility with scheduling and asynchronous content delivery, significant reduction in registration fees and cost of travel, and reduction in carbon footprint of the event [7].

Although the benefits of virtual conferencing are significant, these online events are not without limitations. Chief among these are technical difficulties with regards to video and/or audio for presenting speakers, poor internet connection for participants, and security and privacy protections for conference organizers [8]. Virtual conferences also decrease the opportunities for networking and serendipitous encounters within a scientific community [9]. This may disproportionately impact the ability of junior trainees to create meaningful professional relationships and engage in fruitful collaborations. Moreover, conference etiquette should be maintained at the same standard as in-person meetings. The virtual format allows both participants and presenters to speak with their webcam turned off. The lack of face-to-face interaction may disrupt the atmosphere of discussion and lead to a more didactic format of information relay. For these reasons, some moderators advocate leaving the video feed turned on to maintain professional etiquette [10].

The strategies employed to transform in-person conferences into virtual ones depend largely on the number of attendees, participation style, and the available technological infrastructure. Conferences that typically have a high number of attendees should aim to be articulated into smaller specialized rooms. This year, the VHRN divided its one day in-person conference into four day-long virtual conferences. These four days were spread throughout the year, allowing for increased participation. Each day had specific themes such as Retina and Posterior Segment, Brain and Perception, Cornea and Anterior Segment, and Vision Rehabilitation. Oral presentations took place on the Zoom platform and poster presentations were adapted to interactive virtual poster sessions using 4WAVES. During oral presentations, attendees had the choice to interact with speakers with their camera and microphone, as well as the chat function on Zoom. During poster sessions, attendees were able to access abstracts and posters of interest and had the option to submit questions during the allocated time. The VHRN also aims to improve the experience of members-in-training in by offering multiple presentation prizes and increase the exposure of their work across the province through its website and social media [11]. Thirty-two laureates were awarded distinction prizes for their oral and poster presentations over the course of the four meetings. With more conferences going online, the strategic use of social media to share research findings has become critically important. Social media platforms, such as Twitter, Facebook, YouTube, Instagram and more recently TikTok, have transformed the traditional ways by which scientists and clinicians disseminate medical knowledge within and outside the medical community [12]. For instance, the American Society of Cataract and Refractive Surgery (ASCRS) 2020 Virtual Meeting garnered over 737

tweets identified by a hashtag on Twitter. A significant percentage of these posts (62.9%) promoted conference events, and many others highlighted findings from research studies presented at the conference (27.1%) [13]. Almost half of the tweets came from private accounts, a quarter were posted by academic institutions and the rest were from professional organizations or industry [13]. The judicious use of social media may heighten conference spirit, summarize the research being presented and discussed, and serve as a strategic marketing tool to encourage participation in following years [14]. However, the ubiquity of social media will also require professional and educational guidelines to maintain scientific rigor.

The VHRN adapted to the unique challenge of a pandemic by using an online virtual conference platform that circumvents the obstacles of public health restrictions. Hybrid conferences may prove useful to combine the advantages of in-person and virtual conferences, but their sustainability due to technological and logistical costs has yet to be examined. Nevertheless, virtual conferences could pave the way towards a more meaningfully interconnected global research community.

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