

# The uneven distribution of fees for virtual academic conferences

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# The uneven distribution of fees for virtual academic conferences

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## Abstract

This study examines factors of importance for the pricing of virtual academic conferences based on information on their quality attributes. Data is based on 76 virtual conferences held or planned to be held in the field of tourism and related fields between April 2020 and December 2021. The distribution of fees is skewed with a median price of US\$61 and an average of US\$126. One fourth of the conferences is free of charge, although there is a trend towards increased prices the longer the time elapse from the outbreak of the pandemic, *ceteris paribus*. Count data model estimations show that the conference fee depends on size, academic field and location of the host. A one-day conference is on average US\$60 cheaper than a two-day event while pure tourism conferences are on average US\$34 more expensive than those in related fields. Conferences in the United Kingdom have the lowest fees while hybrid format is a factor of specific importance for the pure tourism events. Reputation of the host university and whether the conference is held by an association are aspects of no significance for the fee.

**Keywords:** Virtual conferences, Academic conferences, Conference fee, Tourism and hospitality, Count data model.

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## **1. Introduction**

In times of the Covid-19 pandemic, virtual academic conferences have become the new, but still unexplored reality (Dillette & Ponting, 2020, Roos et al., 2020; Mubin et al., 2021; Seraphin, 2021). A few conferences are offered in hybrid formats, especially in countries where domestic travel is allowed (an example is the 6th World Leisure Hybrid Congress in China in 2021). Since virtual conferencing is a new market, many organisers suffer from imperfect information on demand and how much they can or should charge for participation (Schoening, 2020). Scientific associations, for instance, may be concerned about the loss of important or even major sources of income if the trend goes towards virtual conferences free of charge (Hahm et al., 2016; Roos et al., 2020). Compared with face-to-face conferences, which usually include costs for venues, catering as well as accommodation and travel for guest speakers, virtual conferences are relatively cheap, unless fully new technology needs to be installed (Roos et al., 2020). The few studies available that examine the willingness to pay for virtual conferences are mainly in the format of small case studies, making it difficult to draw general conclusions (see for instance Ahn et al., 2021; Raby & Madden, 2021b).

Data on fees for all virtual academic conferences in tourism and related fields during the first year of the pandemic reveal that the range of fees is wide (Table A1, Appendix). A non-negligible proportion of the conferences is provided for free while some others cost several hundred US dollars. In this new market, there is a need for conference organisers to understand the value of different quality attributes that might be of importance for demand such as size (duration) and association.

The aim of this study is to investigate factors of importance for the pricing of virtual academic conferences in tourism and related sectors (leisure, hospitality and sports). A count data model is used to estimate the determinants with a specific focus on size,

format, host location, reputation and relation to an association. Data covers all virtual academic conferences held or planned to be held in the targeted fields between April 2020 and December 2021.

This study adds to the growing body of research on the importance of virtual conferences in times of restricted mobility. Dolasinski et al. (2021) suggest that further research is needed to better understand the impact and effectiveness of virtual events. In general, Ryan et al. (2020) conclude that digitally designed events are increasing, and this affects all stages of a conference from integrating communication systems to optimising digital operations and communication for event delivery, marketing and customer experience.

Before the pandemic and the increase of virtual events, studies on academic conferences were rare (Chen & Tham, 2019) despite their contribution to the economy in general (Jones & Li, 2015). A couple of exceptions include Edelheim et al. (2018) and Campos, Leon and McQuillin (2018), who emphasise that visits to academic conferences are important for networking and possible future collaborations. Academic conferences are also useful tools for informal peer review, something that may improve the quality of research and facilitate publication and citations (de Leon & McQuillin, 2020; Chalvatzis & Ormosi, 2021; Gorodnichenko, Pham & Talavera, 2021).

Literature on tourism and events commonly focusses on aspects relating to satisfaction and loyalty of participants at academic conferences or association meetings as well as on preferences by attendees (Hahm et al., 2016; Godovykh & Hahm, 2020; Kim, Kim, Milne & O'Neill, 2020). Mair, Lockstone-Binney and Whitelaw (2018) survey the motivations of 100 CAUTHE (Council for Australian University Tourism and Hospitality Education) members and find that their conference attendance is mainly related to opportunities to make professional contacts and to hear about new research within their fields.

Not only due to pandemic-related immobility interest in research related to virtual academic conferences is also surging because of environmental considerations (Chalvatzis & Ormosi, 2021). Organisers of virtual conferences do not need to look for venues with sustainable practices (Draper, Dawson & Casey, 2011). A virtual international conference reduces the number of air travels to zero when the organiser as well as participants can attend from in principle any number of locations (van Ewijk & Hoekman, 2020). Multi-site or virtual conferences are also likely to be more inclusive, as travel and attendance costs can be significantly lower, something that allows otherwise under-represented audiences to take part such as researchers from developing countries (Fraser et al., 2017; van Ewijk & Hoekman, 2020).

This study contributes a novel analysis of aspects that determine the fees for virtual (and hybrid) academic conferences in tourism and related fields, based on a universe of conferences since the outbreak of the Covid-19 pandemic. An estimation method is used that specifically takes into account the skewed distribution of the fees.

The study is structured as follows: Section 2 introduces recent literature and the conceptual background while Section 3 presents the empirical model. Section 4 describes the dataset, the empirical results are revealed in Section 5 and Section 6 concludes.

## **2. Recent literature and conceptual background**

### **2.1 Recent literature**

In the wake of the Covid-19 pandemic, virtual conferences are gaining in importance. Some researchers even believe that virtual academic conferences have the potential to become the new norm (Foramitti et al., 2021; Gill, 2021). During the pandemic, numerous virtual conferences are open to attend without fees (see for instance Speirs, 2020 for medical researchers).

An analysis of 270 in-person conferences held by 150 scientific societies in 2018-2019 concludes that these events are generally costly, exclusive and lack environmentally sustainable organisation (Sarabipour et al., 2021). Thus, one apparent advantage of virtual conferences is the potentially lower cost and an environmentally friendly format (Formatti et al., 2021; Raby & Madden, 2021b). Another is that they can help to overcome many access barriers that surround traditional conferences (Bottanelli et al., 2020; Niner & Wassermann, 2021). Enabling an extended reach of participants and accessibility are of primary importance in virtual events, something that benefits both attendees from developing countries and early career researchers (Fraser et al., 2017; Dolasinski et al., 2021; van Ewijk & Hoekman, 2020; Sarabipour et al., 2021).

Virtual conference formats also have several disadvantages, of which limited possibilities for networking is an obvious one (Fraser et al., 2017; Hamm, Frew & Lade, 2018; Raby & Madden, 2021a; Formatti et al., 2021) as are the different time zones presumptive participants reside in (Rich et al., 2020). Despite the fact that virtual conferences may not completely replace face-to-face meetings, several studies conclude that they are fast becoming an accepted alternative format (Roos et al.; 2020; Nahai, 2021).

There is limited evidence on the characteristics and patterns of fees or other features of face-to-face conferences. Chen and Tham (2019) investigate the fees for 360 tourism-related academic conferences between the period 2016 and 2018 and find that they are unevenly distributed. Kim, Kim and Oh (2020) show that participants of academic conferences who want to expand their knowledge and network show a willingness to pay for extra programmes such as local tours after the conference. In addition, women show a higher willingness to pay for these extra programmes than men.

Borghans et al. (2010) demonstrate that the majority of participants at academic conferences in the field of labour economics indicate that the fees and travel expenses are normally fully covered by their employers if a paper is presented. This could imply that the willingness to pay is insensitive to the conference characteristics. Another study reports that the cost of the conference is more important for individuals with the highest qualifications, since they tend to be interested in more regular attendance than other persons in a given period of time (Mair, 2010).

Studies on international academic conferences in the field of tourism focus on the factors that influence individual attendance and the choice of payment options for registration (fully covered by employer versus individual responsibility) (Kim et al., 2020). Evidence based on postgraduate students in the discipline of hospitality and tourism shows that there are four main choice factors of academic conferences: Educational opportunities, career development, travel ability and destination stimuli (Kim et al., 2020). The last two factors do not play a role for virtual conferences.

## **2.2 Conceptual background**

Virtual academic conferences have similarities with physical ones, such as calls for papers, scientific committees, the use of registration systems (EasyChair, for instance), a price-size relationship and a need for careful planning as well as functioning technology. While venue and hospitality costs of virtual conferences are zero, a significant portion of the budget still needs to be dedicated to pre-planning and pre-production of content and format of the virtual event (Gichora et al., 2010). Often a subscription to video conferencing software is required, as only a certain number of people can participate when using versions for free (Gottlieb et al., 2020). As an example, Raby and Madden (2021b) mention that a one-month licence for Zoom webinar access with up to 1,000 participants renders a price of £330.

Unlike physical conferences, virtual conferences may have a larger share of characteristics in common. Exotic locations and special food, amenities or other activities cannot outweigh mediocre academic content. Thus, destination-specific supply side factors not directly related to the conference itself are expected to play a minor role and the fee can be adjusted accordingly (Schoening, 2020). This means that the price primarily depends on the willingness to pay for the academic quality of the conference. Unfortunately, the few studies that examine this willingness to pay for virtual conferences relate to specific cases where respondents subjectively give their views on pricing strategies. Raby and Madden (2021b) find that 87 per cent of conference participants accept a fee of £10, but only half of them agree on a fee of £25 and more. Participants at a virtual reality conference in the United States appear to accept fees up to US\$237, but this is a specific case that might benefit more than others from the fully virtual version (Ahn et al., 2021).

Literature on the value of separate elements of physical conferences might have been useful as guidance on pricing strategies, but no such recent research is found. This means that organisers of virtual conferences do not yet know what fees they are allowed to charge.

There are also indications that successful virtual conferences attract larger groups of attendees, even those who during other circumstances would not have been able to participate (Peuler & McCallister, 2019; Niner & Wassermann, 2021; Raby & Madden, 2021). This is an additional factor that organisers need to reflect upon. Face-to-face conferences commonly have an alternative lower fee for part-time attendees or those accompanying a presenter.

Possible determinants of the fee consist of conference-specific and organisation-specific factors. Hansen, Pedersen and Foley (2020) identify four differentiating dimensions of



academic events: Size, focus, participants and tradition, which could also be relevant quality aspects for the conference fee of virtual conferences. Thus, by mirroring these dimensions, the determinants considered in this study are size (duration), location of the host, association conference, field (focus) and time from the outbreak of the Covid-19 pandemic of which at least the three first are different elements of quality.

Larger conferences offer several keynote speakers and are more diversified, possibly an indication of quality. Hybrid conferences usually have two prices, one for participants who come in person and one for virtual participants (an example for a hybrid conference is the Beijing-Pinggu 2020 World Leisure Hybrid Congress; <https://reg.2020bjpg-leisure.com/meeting/pinggu2020>).

Traditions and locations are other factors that may affect the fee. International academic conferences are usually held in larger cities that are academic centres and all have access to major transport hubs. This implies that large cities are particularly attractive as conference locations. An additional dimension to this attractiveness of face-to-face conferences arises if the location is also rich in cultural and other tourist attractions. Neither the accessibility nor the cultural attractiveness of the conference location are relevant for virtual conference fees.

Academic conferences organised by associations are likely to exhibit a higher reputation because there is often an international scientific committee organising the conference and the association also holds a scientific journal. The latter might mean that there is a specific issue dedicated to the conference to which the participants can submit their papers. In the field of economics and computer science, studies conclude that presenting at an academic conference increases the chance of being published in a top-tier journal (Eckmann, Rocha & Wainer, 2012; Gorodnichenko, Pham & Talavera, 2021).

Conferences organised by research organisations or universities in countries with many top universities may hold an advantage over other locations and this kind of organiser is also less likely in need of proceeds from the event. In the dataset at hand, the United Kingdom accounts for the largest share of conference organisers or hosts followed by the United States. The conference fee probably also depends on the time since the outset of the pandemic. Over time, conference organisers learn the optimal pricing. Therefore, conference fees are likely to vary over time.

Thus, as opposed to physical conferences, virtual ones have fewer attributes to compete with and despite a growing body of research in the field, mainly based on case studies, demand for and operational pricing strategies of these events are still largely unknown. Among the quality aspects that implicitly account for the willingness to pay, the size and price relationship is expected to be the most pronounced one, since it is impossible to provide a larger conference without funding.

However, it needs to be considered that the marginal willingness to pay for a virtual academic conference could be low, despite offerings of speeches by distinguished scholars. This low willingness to pay is well known for online journals and news websites (Goyanes, 2014). Another important aspect, not yet possible to explore, is that good digital conference experiences, including interaction and engagement, most likely affect the willingness to pay for future conferences (Dua et al., 2021).

### **3. Empirical approach**

The willingness to pay for virtual conferences can be estimated using different kinds of methods: the hedonic price model (Rosen, 1974), stated preference methods such as conjoint or contingent valuation analyses based on price-response functions (Green, Krieger & Wind, 2001; Crouch, Del Chiappa & Perdue, 2019) as well as experiments or surveys (Braidert, Hahsler & Reutterer, 2006; Miller et al., 2011). Conjoint and other

stated-preference methods are conducted in hypothetical situations without consumption consequences for the participants and thus it is questionable to what extent these studies uncover "true" consumer preference structures (Ding, Grewal & Liechty, 2005). Hedonic pricing models have the advantage that they do not require surveys but instead use actual market prices for the attributes of services that depend on both demand and supply factors, to implicitly estimate the price determinants (Rosen, 1974). This method is often used for the housing and tourism sectors (Sheppard, 1999; Abrate & Viglia, 2016). A disadvantage of the same model is that detailed information on the attributes must be available.

While there is still imperfect information on the demand for virtual conferences, data on a variety of quality characteristics such as size, location of the host, number of keynote speakers and responsible organisation are available. This means that the willingness to pay or demand for the conference may be identified by use of the hedonic model, where the implicit value of the underlying characteristics of a product or service is established (attributes, location/accessibility) (Rosen, 1974). This method assumes perfect competition, no significant transaction costs, correct measurement of all attributes and choice of the correct functional form (Rosen, 1974). The model predicts that the outcome of all independent decisions made by producers and consumers is an exact functional relationship between the price of the quality-differentiated good and the attributes embodied in that good (Rosen, 1974). Coefficients resulting from the hedonic price equation are then used to describe the valuation of the attributes. Commonly, hedonic price models use only those variables that are "direct characteristics", that is, "intrinsic" to the product (Griliches, 1971). In this case, which assumes that there are no search or information costs, the fees of virtual conferences can be described as a function of the attributes of the conference.

The hedonic pricing model is regularly employed in the tourism and hospitality literature where both prices and several measurable characteristics normally are available (see Papatheodorou, Lei & Apostolakis, 2012 for a review of the literature). Applications include determinants of hotel or Airbnb accommodation prices (Thrane, 2007; Becerra, Santaló & Silva, 2013; Abrate & Viglia, 2016; Wang & Nicolau, 2017), holiday package tours (Thrane, 2005) or movie theatres (Arteaga, Coronado & Flores, 2019) and urban recreation parks (Poudyal, Hodges & Merrett, 2009). Given the theoretical considerations outlined above the hedonic price model used to estimate the determinants of fees for virtual conferences within the broader field of tourism is specified as follows:

$$P_i = \beta_0 + \sum_{d=1}^3 \beta_{1d} Size_{id} + \beta_2 Location_i + \beta_3 Hybrid_i + \beta_4 Field_i + \beta_5 Association_i + \beta_6 Time_i + \beta_7 THE_i + \varepsilon_i, \quad (1)$$

where  $i$  denotes the conference,  $\beta_0$  is the constant and  $\varepsilon_i$  is the error term. Variable  $P$  reflects the conference fee in US Dollars for a non-member of the hosting association who presents a paper (author) and is based on late registration.  $Size$  is a set of dummy variables representing the duration of the conference measured in days,  $Location$  is a dummy variable equal to one for the country with the largest number of online conferences (the United Kingdom) and  $Hybrid$  is a dummy variable equal to one if the conference is organised in hybrid format. The dummy variable  $Field$  is equal to one if the conference is within the main area of tourism and hospitality and zero otherwise,  $Association$  is a dummy variable indicating if the conference is hosted by an academic association and  $Time$  measures the time in days since the start of the Covid-19 pandemic.  $THE$  is a dummy variable equal to one if the host university (or the main organiser) is listed in the Times Higher Education ranking and zero otherwise.

The conference fee variable is highly skewed and encompasses many zeros (no fees). Therefore, Ordinary least squares regressions are not suitable. Instead, the Poisson Pseudo Maximum Likelihood (PPML) regression developed by Santos Silva and Tenreiro (2006) can be employed and give consistent estimates. The PPML estimator follows a Quasi-Poisson distribution and a log-link:

$$E[P_i|X_i] = \exp(\beta'X_i + \varepsilon_i). \quad (2)$$

Cluster adjusted standard errors at the country level are used to account for the fact that conferences organised in the same country may share some common characteristics. As tourism conferences differ in their features from those in related fields results are presented for a subsample of conferences.

#### **4. Data sources and descriptive statistics**

Information on academic conferences in tourism and related fields originates from the Association for Tourism and Leisure Educational Research (<http://www.atlas-euro.org/events.aspx>) and from conference announcements in TRINet (Tourism Research Information Network). There are circa 200 conferences held or planned to be held during the period April 2020 to December 2021. More than half of these are postponed or cancelled. This leaves 76 academic conferences for the analysis of which 46 are in the core field of tourism while the remaining ones are in related areas (geography, leisure, events, sports, heritage etc.) (Appendix, Table A1). Conferences that do not published their programmes are excluded from the dataset. Facts on the start date, the number of days, main topic and the location of the organiser can be found on the website of each conference. Information on education ranking originates from the Times higher education database.<sup>1</sup> The dependent variable refers to a late registration

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<sup>1</sup> Source: <https://www.timeshighereducation.com/world-university-rankings>.

conference fee for non-members of the presumptive association. In case of hybrid conferences with differentiated rates, the online fee is used. All fees are expressed in US\$, converted from other currencies using the exchange rate of the actual month for the conference, or the last available rate for future conferences. An association label is given to conferences that appear repeatedly over time. Kind of conference is identified through keywords (tourism, hospitality, recreation, sustainability, human geography, sport). In addition, the information whether the conference is fully virtual or in hybrid format is captured.

< Table 1 about here >

< Table 2 about here >

< Figure 1 about here >

The average fee for a virtual conference is approximately US\$126 and the median is US\$61 (Table 1). Two-, three-, four- or several-days conferences are most common, while one-day events represents less than one sixth. Hybrid format appears nine times and associations host three out of four events. The United Kingdom hosts 15 online conferences followed by the United States with 12. Europe (excluding UK) holds 43 per cent of the virtual conferences. Conference fees also vary by attributes, but the differences are not significant at the five per cent level except for location and hybrid format, according to the t-tests applied (Table 2). The distribution of fees is right-tailed, with many free or low-cost conferences (Figure 1). A similar pattern appears for the subsample of pure tourism conferences.

## **5. Empirical results**

The Pseudo-Poisson Maximum Likelihood (PPML) estimates show that the conference fee is significantly associated with the size (duration), field and the location of the organiser (Table 3). Size is highly significant, with the four-days or larger events being

the most expensive ones. A conference within the core field of tourism means a higher fee (significant at the 10 per cent level). There are also variations connected to the location of the organiser, where those based in the United Kingdom drives a lower price. Organised by an association, specific format (hybrid or fully virtual), inclusion in the Times Higher Education ranking or time passed since the outbreak of the Covid-19 pandemic are all aspects of no relevance for the fee (Table 3). This indicates that associations are not more valued than standalone conferences. The pseudo-R-squared is 0.43, implying that 43 per cent of the variation of conference fees can be explained by the variables.

< Table 3 about here >

The marginal effects ( $dy/dx$ ) of the PPML estimates directly indicate the strength of the associations and reveal that size and location of the host organisation have the largest relevance for the willingness to pay for academic conferences. Shorter conferences are cheaper, with a one-day conference charging US\$129 less than conferences with a planned duration of four or more days (Table 3). Two-days conferences cost US\$69 less than conferences that are four days or longer. A one-day conference is on average US\$60 cheaper than a two-day conference (calculated as  $\$129-69$ ). The willingness to pay is US\$20 lower for hosts based in the United Kingdom, compared to those in other countries. The time elapse after the outbreak of the Covid 19 pandemic is significant at the 10 per cent level, suggesting that the willingness to pay for online conferencing builds up over time.

Estimates for the sub-group of tourism conferences reveal that the hybrid format requires significantly higher fees than standard virtual gatherings, although, the results should be interpreted with caution because the number of hybrid conference is small (Table 4). The number of days elapsed since the start of the pandemic is also significantly connected to

the price (five per cent level). This indicates that there is some learning effect in terms of pricing behaviour over time. Variables size and organiser located in the UK are equally significant for the sub-sample of tourism conferences.

As robustness checks, both alternative estimations and an additional variable for quality are tested. In a Probit estimation, the underlying outcome variable is binary and takes the value of one if the organiser charges for the conference and zero otherwise. By using this approach, all explanatory variables are identical to those in the PPML specification. Unreported results show that size, location, and kind of conference are significant at the five per cent levels (results are available upon request).

Typically, the offering of keynote speakers is an aspect that can attract participants and thus is also an important component of the price. Because of this, the number of academic keynote speakers at each conference is included as an additional quality variable. This estimation renders a positive and significant link, but unfortunately, the results are driven by outliers in the dataset, implying that the variable is too blunt in its present shape.

## **6. Conclusions**

Virtual conferencing is a new phenomenon and factors driving demand as well as supply are not yet fully identified. This study provides novel empirical evidence on the willingness to pay for virtual academic conferences in tourism and related fields in connection with the individual immobility caused by the outbreak of the Covid-19 pandemic.

Data on 76 academic conferences in tourism and related fields, held or planned to be held during the period April 2020 to December 2021 show a skewed distribution where the median price is US\$61 and the average is US\$126. One fourth of the conferences is free of charge. Count data model estimations reveal that the fee depends on the size of the



conference (duration), field and location of the organiser while other quality attributes such as reputation of the host university and whether the conference is annually re-occurring are not significant at conventional levels. Conferences in the core field of tourism are more expensive than in other areas, encompassing the hybrid format. Time elapsed after the outbreak of the pandemic is significant, indicating an increased willingness over time to pay for online conferences.

The median fee of \$61 is lower than for a face-to-face conference, possibly relating to the offerings of the narrower format of a virtual event. This could mean that virtual conferences to an even larger extent have to compete with academic excellence to attract paying participants, including high level keynote speakers and strictly selective processes for acceptance of submitted papers. Virtual conferences are certainly also a clear drawback for those associations depending on conference fees for their sustainability.

The skewed distribution of fees emphasises the uncertainty in the new market of virtual conferences and organisers have little information to guide them about the pricing of events. It is unclear if a high-priced virtual conferences can attract participants in the same way as physical gatherings or if it can compete with low-fee events. Organisers may have to consider if the conference costs can be fully covered by sponsors, or if the fee can take the format of cost-sharing among participants. Another aspect could be price differentiation, where those taking active part (presenters) pay less and possible additional attendees pay more, although still at a level far lower than for a physical conference. Since the technology allows reasonably large audiences, building on this might be a way forward to cover costs and also get some income to associations.

Still, there are apparent disadvantages with virtual conferences that are difficult to overbridge, such as the easy networking. Improvements in these aspects are needed to make virtual and hybrid conferences attractive in a post-pandemic era.

Future work would need larger datasets and more detailed information about quality attributes, such as the academic performance and reputation of the keynote speakers. This could also include other research techniques such as conjoint analysis to estimate willingness to pay for virtual conferences.

Conflict of interest: The authors have no conflicts of interests.

## References

- Abrate, G., & Viglia, G. (2016). Strategic and tactical price decisions in hotel revenue management. *Tourism Management*, 55, 123-132. doi.org/10.1016/j.tourman.2016.02.006
- Ahn, S. J. G., Levy, L., Eden, A., Won, A. S., MacIntyre, B., & Johnsen, K. (2021). IEEEVR2020: Exploring the First Steps Toward Standalone Virtual Conferences. *Frontiers in Virtual Reality*, 2(28). doi.org/10.3389/frvir.2021.648575
- Arteaga, J. C., Coronado, D., & Flores, D. (2019). On the pricing of quality attributes at movie theaters. *Journal of Media Economics*, 32(1-2), 1-16. doi.org/10.1080/08997764.2021.1883917
- Becerra, M., Santaló, J., & Silva, R. (2013). Being better vs. being different: Differentiation, competition, and pricing strategies in the Spanish hotel industry. *Tourism Management*, 34, 71-79. doi.org/10.1016/j.tourman.2012.03.014
- Borghans, L., Romans, M., & Sauermann, J. (2010). What makes a good conference? Analysing the preferences of labour economists. *Labour Economics*, 17(5), 868-874. doi.org/10.1016/j.labeco.2010.04.009
- Bottanelli, F., Cadot, B., Campelo, F., Curran, S., Davidson, P. M., Dey, G., ... & Swaffer, M. P. (2020). Science during lockdown—from virtual seminars to sustainable online communities. *Journal of Cell Science*, 133(15). doi.org/10.1242/jcs.249607
- Breidert, C., Hahsler, M., & Reutterer, T. (2006). A review of methods for measuring willingness-to-pay. *Innovative Marketing*, 2(4), 8-32. doi.org/10.1111/j.1369-7625.2011.00738.x
- Campos, R., Leon, F., & McQuillin, B. (2018). Lost in the storm: The academic collaborations that went missing in hurricane ISSAC. *The Economic Journal*, 128(610), 995-1018. doi.org/10.1111/eoj.12566
- Chalvatzis, K., & Ormosi, P. L. (2021). The carbon impact of flying to economics conferences: is flying more associated with more citations?. *Journal of Sustainable Tourism*, 29(1), 40-67. doi.org/10.1080/09669582.2020.1806858
- Chen, S. H., & Tham, A. (2019). Trends in Tourism-Related Academic Conferences: An Examination of Host Locations, Themes, Gender Representation, and Costs. *Event Management*, 23(4-5), 733-751. doi.org/10.3727/152599519X15506259855670
- Crouch, G. I., Del Chiappa, G., & Perdue, R. R. (2019). International convention tourism: A choice modelling experiment of host city competition. *Tourism Management*, 71, 530-542. doi.org/10.1016/j.tourman.2018.10.002
- de Leon, F. L. L., & McQuillin, B. (2020). The role of conferences on the pathway to academic impact evidence from a natural experiment. *Journal of Human Resources*, 55(1), 164-193. doi.org/10.3368/jhr.55.1.1116-8387R
- Dillette, A., & Ponting, S. S. A. (2020). Diffusing innovation in times of disasters: considerations for event management professionals. *Journal of Convention & Event Tourism*, 22(3), 197-220. doi.org/10.1080/15470148.2020.1860847
- Ding, M., Grewal, R., & Liechty, J. (2005). Incentive-aligned conjoint analysis. *Journal of Marketing Research*, 42(1), 67-82. doi.org/10.1509/jmkr.42.1.67.56890
- Dolasinski, M. J., Roberts, C., Reynolds, J., & Johanson, M. (2021). Defining the Field of Events. *Journal of Hospitality & Tourism Research*, 45(3), 553-572. doi.org/10.1177/1096348020978266
- Draper, J., Dawson, M., & Casey, E. (2011). An exploratory study of the importance of sustainable practices in the meeting and convention site selection process. *Journal of Convention & Event Tourism*, 12(3), 153-178. doi.org/10.1080/15470148.2011.598353
- Dua, N., Fyrenius, M., Johnson, D. L., & Moos, W. H. (2021). Are in-person scientific conferences dead or alive?. *FASEB BioAdvances*, 3(6), 420-427. doi.org/10.1096/fba.2020-00139
- Eckmann, M., Rocha, A., & Wainer, J. (2012). Relationship between high-quality journals and conferences in computer vision. *Scientometrics*, 90(2), 617-630. doi.org/10.1007/s11192-011-0527-2
- Edelheim, J. R., Thomas, K., Åberg, K. G., & Phi, G. (2018). What do conferences do? What is academics' intangible return on investment (ROI) from attending an academic tourism

- conference?. *Journal of Teaching in Travel & Tourism*, 18(1), 94-107. doi.org/10.1080/15313220.2017.1407517
- Foramitti, J., Drews, S., Klein, F., & Konc, T. (2021). The virtues of virtual conferences. *Journal of Cleaner Production*, 294, 126287. doi.org/10.1016/j.jclepro.2021.126287
- Fraser, H., Soanes, K., Jones, S. A., Jones, C. S., & Malishev, M. (2017). The value of virtual conferencing for ecology and conservation. *Conservation Biology*, 31(3), 540-546. doi.org/10.1111/cobi.12837
- Gichora, N. N., Fatumo, S. A., Ngara, M. V., Chelbat, N., Ramdayal, K., Opap, K. B., ... & Hide, W. (2010). Ten simple rules for organizing a virtual conference—anywhere. *PLoS Comput Biol*, 6(2), e1000650. doi.org/10.1371/journal.pcbi.1000650
- Gill, M. J. (2021). High flying business schools: Working together to address the impact of management education and research on climate change. *Journal of Management Studies*, 58(2), 554-561. doi.org/10.1111/joms.12575
- Godovykh, M., & Hahm, J. J. (2020). Does the sequence of presentations matter for academic conferences? An application of the peak-end rule in event management. *Journal of Convention & Event Tourism*, 21(3), 201-224. doi.org/10.1080/15470148.2020.1760159
- Gorodnichenko, Y., Pham, T., & Talavera, O. (2021). Conference presentations and academic publishing. *Economic Modelling*, 95, 228-254. doi.org/10.1016/j.econmod.2020.12.017
- Gottlieb, M., Egan, D. J., Krzyzaniak, S. M., Wagner, J., Weizberg, M., & Chan, T. (2020). Rethinking the approach to continuing professional development conferences in the era of COVID-19. *Journal of Continuing Education in the Health Professions*, 40(3), 187-191. doi.org/10.1097/CEH.0000000000000310
- Goyanes, M. (2014). An empirical study of factors that influence the willingness to pay for online news. *Journalism Practice*, 8(6), 742-757. doi.org/10.1080/17512786.2014.882056
- Green, P. E., Krieger, A. M., & Wind, Y. (2001). Thirty years of conjoint analysis: Reflections and prospects. *Interfaces*, 31(3\_supplement), 56-73. doi.org/10.1287/inte.31.3s.56.9676
- Griliches, Z. (1971). *Price indexes and quality change: Studies in new methods of measurement*. Harvard University Press. doi.org/10.4159/harvard.9780674592582
- Hahm, J. J., Breiter, D., Severt, K., Wang, Y., & Fjelstul, J. (2016). The relationship between sense of community and satisfaction on future intentions to attend an association's annual meeting. *Tourism Management*, 52, 151-160. doi.org/10.1016/j.tourman.2015.06.016
- Hamm, S., Frew, E., & Lade, C. (2018). Hybrid and Virtual Conferencing Modes Versus Traditional Face-to-Face Conference Delivery: A Conference Industry Perspective. *Event Management*, 22(5), 717-733. doi.org/10.3727/152599518X15299559637635
- Hansen, T. T., Pedersen, D. B., & Foley, C. (2020). Academic Events: An Empirically Grounded Typology and Their Academic Impact. *Event Management*, 24(4), 481-497. doi.org/10.3727/152599519X15506259856598
- Jones, C., & Li, S. (2015). The economic importance of meetings and conferences: A satellite account approach. *Annals of Tourism Research*, 52, 117-133. doi.org/10.1016/j.annals.2015.03.004
- Kim, B. H., Kim, S., & Oh, M. (2020). Determinants of convention attendees' willingness to pay for additional programs. *Journal of Convention & Event Tourism*, 21(2), 155-176. doi.org/10.1080/15470148.2020.1731727
- Kim, C. S., Kim, P. B., Milne, S., & O'Neill, L. (2020). Key Choice Factors and Preferences of Attendees at Academic Hospitality and Tourism Conferences. *Event Management*, 24(2-3), 335-346. doi.org/10.3727/152599519X15506259856020
- Mair, J. (2010). Profiling conference delegates using attendance motivations. *Journal of Convention & Event Tourism*, 11(3), 176-194. doi.org/10.1080/15470148.2010.502032
- Mair, J., Lockstone-Binney, L., & Whitelaw, P. A. (2018). The motives and barriers of association conference attendance: Evidence from an Australasian tourism and hospitality academic conference. *Journal of Hospitality and Tourism Management*, 34, 58-65. doi.org/10.1016/j.jhtm.2017.11.004

- Miller, K. M., Hofstetter, R., Krohmer, H., & Zhang, Z. J. (2011). How should consumers' willingness to pay be measured? An empirical comparison of state-of-the-art approaches. *Journal of Marketing Research*, 48(1), 172-184. doi.org/10.1509/jmkr.48.1.172
- Mubin, O., Alnajjar, F., Shamail, A., Shahid, S., & Simoff, S. (2021). The new norm: Computer Science conferences respond to COVID-19. *Scientometrics*, 126(2), 1813-1827. doi.org/10.1007/s11192-020-03788-9
- Nahai, F. (2021). Does Anybody Really Miss Live Meetings?. *Aesthetic Surgery Journal*, 41(1), 137-139. doi.org/10.1093/asj/sjaa292
- Niner, H. J., & Wassermann, S. N. (2021). Better for Whom? Leveling the Injustices of International Conferences by Moving Online. *Frontiers in Marine Science*, 8, 146. doi.org/10.3389/fmars.2021.638025
- Papatheodorou, A., Lei, Z., & Apostolakis, A. (2012). 9 Hedonic price analysis. *Handbook of Research Methods in Tourism: Quantitative and Qualitative Approaches*, in: Dwyer, L., Gill, A., & Seetaram, N. (Eds.), 170-182. Edward Elgar publishing. doi.org/10.4337/9781781001295
- Peuler, M., & McCallister, K. C. (2019). Virtual and valued: a review of the successes (and a few failures) of the creation, implementation, and evaluation of an inaugural virtual conference and monthly webinars. *Journal of Library & Information Services in Distance Learning*, 13(1-2), 104-114. doi.org/10.1080/1533290X.2018.1499240
- Poudyal, N. C., Hodges, D. G., & Merrett, C. D. (2009). A hedonic analysis of the demand for and benefits of urban recreation parks. *Land Use Policy*, 26(4), 975-983. doi.org/10.1016/j.landusepol.2008.11.008
- Raby, C. L., & Madden, J. R. (2021a). Moving academic conferences online: Understanding patterns of delegate engagement. *Ecology and Evolution*, 11(8), 3646-3655. doi.org/10.1002/ece3.7251
- Raby, C. L., & Madden, J. R. (2021b). Moving academic conferences online: Aids and barriers to delegate participation. *Ecology and Evolution*, 11(8), 3607-3615. doi.org/10.1002/ece3.7376
- Rich, S., Diaconescu, A. O., Griffiths, J. D., & Lankarany, M. (2020). Ten simple rules for creating a brand-new virtual academic meeting (even amid a pandemic). *Plos Computational Biology*, 16(12), e1008485-e1008485. doi.org/10.1371/journal.pcbi.1008485
- Roos, G., Oláh, J., Ingle, R., Kobayashi, R., & Feldt, M. (2020). Online conferences—Towards a new (virtual) reality. *Computational and Theoretical Chemistry*, 1189, 112975. doi.org/10.1016/j.comptc.2020.112975
- Rosen, S. (1974). Hedonic prices and implicit markets: product differentiation in pure competition. *Journal of Political Economy*, 82(1), 34-55. doi.org/10.1086/260169
- Ryan, W. G., Fenton, A., Ahmed, W., & Scarf, P. (2020). Recognizing Events 4.0: the digital maturity of events. *International Journal of Event and Festival Management*, 11(1), 47-68. doi.org/10.1108/IJEFM-12-2019-0060
- Santos Silva, J., & Tenreyro, S. (2006). The Log of Gravity. *The Review of Economics and Statistics*, 88(4), 641-658. doi.org/10.1162/rest.88.4.641
- Sarabipour, S., Khan, A., Seah, Y. F. S., Mwakilili, A. D., Mumoki, F. N., Sáez, P. J., ... & Mestrovic, T. (2021). Changing scientific meetings for the better. *Nature Human Behaviour*, 5(3), 296-300. doi.org/10.1038/s41562-021-01067-y
- Schoening, E. (2020). How to Rethink Event Pricing and Refunds. NorthStar Meetings Group. <https://www.northstarmetingsgroup.com/Planning-Tips-and-Trends/Event-Planning/Attendee-Engagement/Refund-Pricing-Strategy-Coronavirus-Meeting-Event-Conference-Postponed-Cancelled-Virtual> (accessed, 2021; February, 10).
- Seraphin, H. (2021). COVID-19: An opportunity to review existing grounded theories in event studies. *Journal of Convention & Event Tourism*, 22(1), 3-35. doi.org/10.1080/15470148.2020.1776657
- Sheppard, S. (1999). Hedonic analysis of housing markets, *Handbook of Regional and Urban Economics*, 3, Chapter 41, Mills E (ed.), 1595-1635. doi.org/10.1016/S1574-0080(99)80010-8

- Speirs, V. (2020). Reflections on the upsurge of virtual cancer conferences during the COVID-19 pandemic. *British Journal of Cancer*, 123(5), 698-699. doi.org/10.1038/s41416-020-1000-x
- Thrane, C. (2005). Hedonic price models and sun-and-beach package tours: The Norwegian case. *Journal of Travel Research*, 43(3), 302-308. doi.org/10.1177/0047287504272034
- Thrane, C. (2007). Examining the determinants of room rates for hotels in capital cities: The Oslo experience. *Journal of Revenue and Pricing Management*, 5(4), 315-323. doi.org/10.1057/palgrave.rpm.5160055
- van Ewijk, S., & Hoekman, P. (2020). Emission reduction potentials for academic conference travel. *Journal of Industrial Ecology*, 25(3), 778-788. doi.org/10.1111/jiec.13079
- Wang, D., & Nicolau, J. L. (2017). Price determinants of sharing economy based accommodation rental: A study of listings from 33 cities on Airbnb.com. *International Journal of Hospitality Management*, 62, 120-131. doi.org/10.1016/j.ijhm.2016.12.007

*Table 1: Descriptive statistics*

	Mean (median)	Standard deviation	Min	Max
Conference fee in US\$, no member, late registration	125.7 (60.9)	156	0	974
Number of days after the 1.3.2020	387	141	88	653
	Per cent			
<u>Size (duration)</u>				
1 day	16			
2 days	27			
3 days	31			
4+ days	27			
<u>Location</u>				
Europe	43			
UK	16			
US	14			
Other	27			
<u>Other characteristics:</u>				
Fully virtual	89			
Hybrid conference	11			
Field: Tourism	61			
Field: Other	39			
Times higher education ranking	49			
Not included in Times higher education ranking	51			
Association conference	75			
Non-Association conference	25			

Source: Websites of the conferences listed in <http://www.atlas-euro.org/events.aspx>.

Table 2: Conference fees by attributes

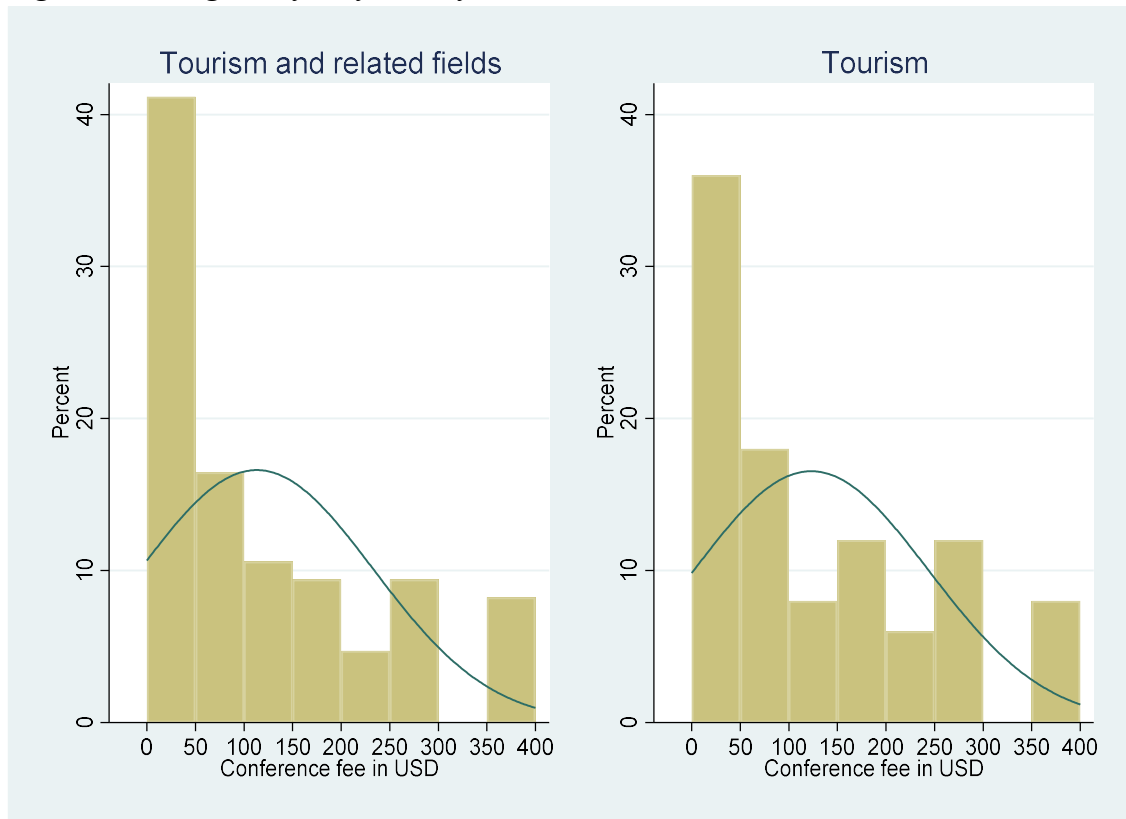
	Mean	Median	Test for equality of group means
	\$	\$	p-value
Size (duration):			
1 day	23	0	
2 days	86	60	
3 days	122	61	0.00
4+ days	243	178	
Location:			
Europe	120	37	
UK	91	62	
US	143	86	0.53
Other	146	135	
Other characteristics			
Fully virtual	109	60	
Hybrid	269	250	0.00
Tourism	134	64	
Other fields	112	57	0.27
Conference in 2020	95	61	
Conference in 2021	139	61	0.23
Not in the Times higher education ranking	137	61	
Times higher education ranking	113	61	0.21
No Association conference	95	50	
Association conference	136	84	0.24

Note: Test for equality of group means assumes homogeneity.

Source: Websites of the conferences listed in <http://www.atlas-euro.org/events.aspx>.



Figure 1: Histogram of conference fees in 2020-2021



Notes: Conference fees exceeding USD 400 are censored for a better graphical display. The curve shows the normal density curve. Source: Websites of the conferences listed in <http://www.atlas-euro.org/events.aspx>.

*Table 3: Determinants of fees for virtual conferences, PPML estimations (tourism and related fields)*

	Coeff.		z-stat	dy/dx		z-stat
Days=1 (ref. cat. Days 4+)	-2.541	***	-4.79	-128.71	***	-7.46
Days=2	-0.876	***	-4.51	-68.75	***	-5.01
Days=3	-0.654	***	-2.60	-54.73	***	-2.94
Hybrid	0.560	*	1.95	66.26		1.55
UK (ref. cat. other )	-0.229	**	-2.07	-19.83	**	-1.96
Field: Tourism	0.375		1.61	33.92	*	1.76
Number of days after the 1.3.2020	0.002	*	1.81	0.15	*	1.93
Times higher education ranking	-0.153		-0.89	-14.25		-0.88
Association conference	-0.088		-0.23	-8.42		-0.23
Constant	4.626	***	8.25			
Number of observations	76					
Pseudo R-squared:	0.43					
Pseudo log-likelihood:	-3905.9					

Notes: Asterisks \*\*\*, \*\* and \* denote significance at the 1, 5 and 10 per cent levels. dy/dx reflects the marginal effects. Estimated by the Poisson pseudo-maximum likelihood (PPML) estimator with clustered adjusted standard errors at the country level of the conference (31 countries).

*Table 4: Determinants of fees for virtual conferences, PPML estimations (tourism)*

	Coeff.		z-stat	dy/dx		z-stat
Days=1 (ref. cat. Days 4+)	-2.490	***	-4.99	-143.91	***	-6.23
Days=2	-0.983	***	-3.66	-70.80	***	-4.20
Days=3	-0.605	**	-1.97	-51.16	**	-2.11
Hybrid	0.946	***	3.55	127.25	***	2.63
UK	-0.268	**	-2.01	-22.22	*	-1.93
Number of days after the 1.3.2020	0.002	**	2.22	0.18	**	2.32
Times higher education ranking	0.119		0.48	10.94		0.48
Association conference	-0.188		-0.51	-18.06		-0.49
Constant	4.728	***	9.85			
Number of observations	46					
Pseudo R-squared:	0.59					
Pseudo log-likelihood:	-2123.1					

Notes: Asterisks \*\*\*, \*\* and \* denote significance at the 1, 5 and 10 per cent levels. dy/dx reflects the marginal effects. Estimated by the Poisson pseudo-maximum likelihood (PPML) estimator with clustered adjusted standard errors at the country level of the conference (number of countries 24).

Appendix: *Table A1: Lists of virtual conferences*

Start	Title	status	Fee
28/05/2020	NASSM 2020 Conference North American Society for Sport Management	online	260
07/06/2020	TEFI 11 What's Tourism got to do with it? Virtual Conference	online	100
09/06/2020	INC - Revisiting Co-creation and Co-destruction In Tourism, Hospitality and Events	online	113
26/08/2020	The Fifth Biennial Conference of the Association of Critical Heritage Studies	online	46
09/09/2020	Tourism as a Driver or Barrier for Quality of Life	online	0
17/09/2020	ICOT - Tourism in uncertain times: Issues and challenges	online	118
17/09/2020	2nd edition of the International Research Workshop on Wine Tourism will be an	online	0
24/09/2020	Tourism Economics and Management. Tourists as Consumers, Visitors and Travelers	online	0
24/09/2020	Living with Tourism: Paradoxes, Empowerment and Future Direction	online	0
27/09/2020	TTRA - Smart destinations - smarter tourists? A roadmap for the future	online	212
05/10/2020	AGE-IGU - Tourism Sustainability: Overtourism vs Undertourism	hybrid	265
22/10/2020	2020 ATLAS Events and Cultural Tourism Special Interest Group (SIG) Meeting	online	0
22/10/2020	Enabling Tourism To Integrate Ame Economies To Cope With Climate Change: Special Focus On The African Societies	online	0
27/10/2020	Virtual Conference – XII International Tourism Congress (ITC'20)	online	40
02/11/2020	EuroMed - Digital Heritage Documentation, Preservation and Protection	online	0
04/11/2020	The t-Forum Programme*	online	178
05/11/2020	GMC - Bridging Asia and the World: New Marketing and Management in a Digitally Connected World	online	400
09/11/2020	Food Futures in the Anthropocene: Place-Based, Just, Convivial	online	55
17/11/2020	Entrepreneurship for a better future Haaga-Helia Business Innovation Conference,	online	118
20/11/2020	IPSTH2020 is Tourism Restart and Recovery: Responsibility Today, Sustainability Tomorrow.	online	0
02/12/2020	ITSA - Culture, People, and Technology – the Driving Forces for Tourism Cities	online	150
03/12/2020	ATHE - Tourism Education in a Fragile World	online	68
16/12/2020	Consumers' travel behavior in transition: Between persistence and change". CBTS	online	61
07/01/2021	HTGrad - Graduate Education and Graduate Student	online	275
19/01/2021	ENTER/IFITT - eTOURISM: Development Opportunities and Challenges in an Unpredictable World	online	438
20/01/2021	Archaeological tourism and interpretation	online	0
21/01/2021	NETTRA NorthEast Chapter of the Travel & Tourism Research Association	online	0
21/01/2021	ATLAS SIG meeting - The New Normal in Business Tourism	online	37
27/01/2021	ESARN – Urban Sociology	online	0
03/02/2021	LIT&TOUR - Literature, tourism and cities	online	0
09/02/2021	CAUTHE - Transformations in Uncertain Times: future perfect in tourism, hospitality and events	online	263
18/02/2021	CHRIE - Hospitality Stronger, Together	online	49
25/02/2021	TTRA - The Path Forward	online	86
17/03/2021	CCTR - Climate, Tourism and Recreation	online	0
19/03/2021	The post-pandemic world: A bad picture or a good opportunity?	online	16
26/03/2021	7th IRFGT International Research Forum on Guided Tours	online	61
01/04/2021	Managing Tourism Across Continents – Tourism for a better World	online	50
07/04/2021	Worlds of Imagination: Media, Place and Tourism in Today's Global World	online	43
07/04/2021	AAG – American Geographers	online	385
12/04/2021	Persuasive Technology - eTourism the 16th international conference on Persuasive Technologies	online	217
15/04/2021	16th World Leisure Hybrid Congress	hybrid	0
03/05/2021	NASSM 2021 Conference North American Society for Sport Management	online	0
05/05/2021	INVTUR - Tourism and the Sustainable Development Objectives: From theory to practice	online	180
11/05/2021	Global Conference on Services and Retail Management (GLOSERV 2021)	online	0
12/05/2021	CHME - Creating Hospitality Experiences: Authenticity in an emerging world of Hyper-Reality	online	197
20/05/2021	ICTR - Tourism Research	online	360
21/05/2021	Tourman	online	0
25/05/2021	ORME AsTRES - City, Events, Mega-Events and Tourism	online	37
25/05/2021	4th International Research Symposium in Tourism, Hospitality and Events: Values and Transformations	online	0
26/05/2021	IGU - Heritage Geographies: Politics, Uses and Governance of the Past	online	37
29/05/2021	CCLR - Humanities and Social Sciences	online	131
14/06/2021	TTRA - Uncharted Territory: Reimagining Tourism in a New Era	online	400
15/06/2021	Phuket International Tourism Conference 2021	hybrid	100
30/06/2021	Places of Peace: Making Europe throughout Peace Treaties	online	0
30/06/2021	APTA - Asia Pacific Tourism	online	140
06/07/2021	LSA - Leisure Identities, Health and Wellbeing	online	54
08/07/2021	Im/mobile lives in turbulent times: methods and practices of mobilities research	online	41
08/07/2021	TOSOK - Rebuilding Tourism for a New Era: Opportunities and Innovative Ideas	hybrid	280
26/07/2021	Annual ICHRIE Conference & Marketplace 75th anniversary	online	110
27/07/2021	AIBR - Humanity: Unity and Diversity	online	382
16/08/2021	IGC – Geography: bridging the continents	online	280
16/08/2021	MMV10 - Monitoring and Management of Visitors in Recreational and Protected Areas	online	136
29/08/2021	AIEST - Shaping Tourism Futures	hybrid	974
31/08/2021	RGS-IBG - Borders, borderlands and bordering	hybrid	235
31/08/2021	TEBEC - Tourism, Economic, Business, education	online	146
07/09/2021	ATLAS annual conference - Tourism as a driver of regional development and collaboration	online	152

08/09/2021	Terres LAB - Audiovisual, Landscape and Tourism	online	61
04/10/2021	ISTTE - Instructional Innovations & Impactful Discoveries	online	25
05/10/2021	QS - Sustainable and Resilient Solutions in Tourism Today	online	250
08/10/2021	Spa & Wellness Tourism - Development, Opportunities, and Experiences	hybrid	37
12/10/2021	3rd International Tourism Retail and Service Management Conference (TRMC) 202	online	59
13/10/2021	TTRA - T4: Travelling Towards Tomorrow Together	online	241
14/10/2021	Tourism Naturally - Nature-based tourism, wellness, health & medical tourism	online	0
14/10/2021	FoodTreX - Food Travel Research	online	84
08/12/2021	ATHE - Hybrid and Virtual Experiences: Opportunity or Threat for Tourism Education and Industry?	online	56
14/12/2021	Resilience, adaptability, digital intelligence, innovation, and smart knowledge	hybrid	264

Note: Conference fee in US\$ refers to late registration and non-association member.

Source: Websites of the conferences listed in <http://www.atlas-euro.org/events.aspx> Data retrieved until 25 August 2021.