



**Tourism Forecasting Competition amid COVID-19 Round II:
Recovery of the Chinese Outbound Travel Market from the Pandemic
Call for Participation**

Background

Following China's announcement of the new optimizing COVID-19 rules in late 2022, outbound tourism bookings have been booming. China was the biggest outbound travel market before the pandemic, and the recovery of this market has profound impacts on many destinations. DOMs and the travel industry around the world are keen to learn about the prediction of this market's recovery. The academic community of tourism forecasting is obliged to offer intellectual support to the global tourism industry.

In 2021, the Curated Collection of Tourism Demand Forecasting of *Annals of Tourism Research* organised the first round of tourism forecasting competition amid COVID-19, and published the outcomes of the three international participating teams in the curated collection. This competition was very successful and attracted broad interests both within and beyond the academic community. The outcomes of the competition were further presented at the International Association for Tourism Economics conference in July 2022. Each of the three publications has obtained many citations and the one by the Asia and Pacific team (Qiu et al., 2021) has been ranked "the highly cited paper" by SSCI with 38 citations.

This competition attracted nearly 20 forecasting scholars who formed three international teams; it represented an initial attempt in exploring tourism forecasting amid a crisis; some innovative methodologies were proposed, but there is still scope for further improvements of these methods, in order to produce more accurate *ex ante* forecasts in a crisis situation, and forecasting of **demand recovery from a crisis** has yet to be explored. In addition, the forecasting methods applied were mostly time-series and econometric forecasting models; the latest developments of artificial intelligence (AI), such as machine learning/deep learning techniques, have not been fully implemented in this competition.

Based on the successful experience of organising the first round of tourism forecasting competition amid COVID-19, Curated Collection of Tourism Demand Forecasting of *Annals of Tourism Research*, together with the [Tourism and Hospitality section of the International Institute of Forecasters](#) jointly call for the second round of tourism forecasting competition amid COVID-19, with a particular focus on **the recovery of the Chinese outbound market**.

Aim of the competition

Given the above background, the aim of this tourism forecasting competition is three-fold:

- To further advance the methodology of tourism forecasting in a crisis, particularly for demand recovery, and contribute to the development of this field of research;



- To inform the tourism industry and destination management and marketing organisations of the good forecasting practice and the predicted recovery of the Chinese outbound market;
- To promote the Curated Collection on Tourism Demand Forecasting of *Annals of Tourism Research* as a leading and main outlet for state-of-the-art tourism forecasting research.

Organisation of the competition

Organisers:

Gang Li and Haiyan Song: Curators of Curated Collection of Tourism Demand Forecasting of *Annals of Tourism Research*

Doris Chenguang Wu: Chair of the Tourism and Hospitality Section of the International Institute of Forecasters

Participants:

The competition is open to all who are interested; participants can form their own team with **no more than five members per team**. The team lead should contact Gang Li (g.li@surrey.ac.uk) and Doris Chenguang Wu (wucheng@mail.sysu.edu.cn) by email to express their interest in participation by the given deadline below. Please include a short biography of no more than 150 words of the team lead and a list of the tentative team members in the email.

Time scale

- Expression of interest in participation: by **5pm GMT, 24 April 2023**
- Issue of data and rules: by 28 April 2023
- Deadline for submission of forecasting results (forecasting period: August 2023 – July 2024): **5pm GMT, 31 July 2023**
- Announcement of monthly competition performance: December 2023 – November 2024 (through some online platforms)
- Announcement of the overall results and invitation of three teams to submit full articles to ATR: November 2024
- Full article submission deadline: January 2024
- Final publication after review: Early (April) 2025

Scope and rules of the competition

- *Variables to be forecast*

The most up-to-date historical data (up to February 2023) of Chinese outbound tourist arrivals in 20 selected destinations will be provided to each team. These series will be forecast for this competition. The forecasts for the period from **August 2023 to July 2024** will be used for competition evaluation.

- *Rules of competition*

Participants can form their own teams, and each team should have no more than **five** members. Each team is encouraged to have a methodological focus among the following:



- Time-series forecasting
- Econometric forecasting
- Artificial intelligence/machine learning methods
- Judgmental forecasting
- Hybrid methods

Each team is allowed to collect any **publicly available data** up to the result submission deadline (31 July 2023) as potential explanatory variables of their forecasting models as they wish.

Three scenarios of market recovery (including the baseline, a more optimistic scenario and a less optimistic scenario) need to be set up and clearly defined, and the scientific procedures and evidence of scenario forecasting need to be explained in detail. The competition evaluation will be based on the most accurate set of scenario forecasts among the three (not the most accurate scenario for each destination) over the forecasting period.

- *Accuracy evaluation*

This competition will focus on point forecasts only. The mean absolute scaled error (MASE) proposed by Hyndman and Koehler (2006) and widely used in previous forecasting competitions is used as the forecast error measure for this competition (see Athanasopoulos et al. 2011, p831 for the formula).

- *Submission of results*

- Original forecasts in a spreadsheet, including baseline forecasts, more and less optimistic scenario forecasts for the 20 given destinations during the period: August 2023 to July 2024;
- Codes of the forecasting programme (or equivalent) used for the best performing model;
- A report of no more than 3000 words including all elements such as references, tables and figures) in a word document should also be submitted. The report should contain the following sections: Introduction; Modelling Strategies; Results and Discussion, and Conclusion.
- Other necessary supplementary materials. These include the data and explanation of any explanatory variables including dummy variables used. The raw data should be provided in a spreadsheet with clear explanation of the definition of each variable and the data source.

Deadline of the competition

All participating teams will submit their forecasting results and any additional data to Gang Li (g.li@surrey.ac.uk) and Doris Chenguang Wu (wucheng@mail.sysu.edu.cn) by **5pm GMT, 31 July 2023**.

Outputs of the competition

Key results of the competition will be published in the Curated Collection of Tourism Demand Forecasting of *Annals of Tourism Research*, including:

- A commentary to summarise the results of the competition
- **Three full articles from the top three teams**, respectively, based on the overall forecasting accuracy

Contacts

Should anyone have any queries about this competition, please do not hesitate to contact the organisers by email:



- Haiyan Song: Haiyan.song@polyu.edu.hk
- Gang Li: g.li@surrey.ac.uk
- Doris Chenguang Wu: wucheng@mail.sysu.edu.cn

References

Athanasopoulos, G., Hyndman, R. J., Song, H., & Wu, D. C. (2011). The tourism forecasting competition. *International Journal of Forecasting*, 27(3), 822–844.

Hyndman, R. J., & Koehler, A. B. (2006). Another look at measures of forecast accuracy. *International Journal of Forecasting*, 22, 679–688.

Qiu, R. T.R., Wu, D. C., Dropsy, V., Petit, S., Pratt, S. and Ohe, Y. (2021). Visitor arrivals forecasts amid COVID-19: A perspective from the Asia and Pacific team. *Annals of Tourism Research*, 103155.