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# [ISPRS2021] Abstract 749 decision

**XXIV ISPRS Congress** <isprs2020@conftool.com> 9 March 2021 at 05:13
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Dear Awase Khirni Syed,

We are delighted to inform you that the paper 749 - “HUMAN MOBILITY PATTERNS WITH SOCIAL NETWORK DATA USING HIDDEN MARKOV MODELS TO SIMULATE AND PREDICT TRANSMISSION OF CORONAVIRUS (SARS- CoV-2)” has been accepted for publication in the International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences. The Archives act as the proceedings of the 2021 edition of the XXIVth ISPRS Congress.

The program of the 2021 digital edition of the Congress will be released in May, once all camera-ready contributions will have been received.

In order to be integrated in the Archives, you must submit a full paper version of your abstract by *April 21, 23h59h59s Pacific Time* (camera-ready version). This deadline is strict and will not be extended. Once submitted, the paper will be accepted in the ISPRS Archives after i) passing the plagiarism check, ii) verifying that the paper is in line with the ISPRS guidelines, and iii) checking that its technical content is conform to the first version and follow reviewers’ recommendations.
We wrote some useful guidelines for you: http://www.isprs2020-nice.com/index.php/guidelines-for-camera-ready-papers/

Inclusion in the proceedings requires to have registered for the 2021 edition of the XXIVth ISPRS Congress. More details about registration and refund policy will be available on ISPRS Congress website soon: http://www.isprs2020-nice.com/index.php/participate-submit/#register.

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CONTRIBUTION DETAILS
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ID: 749
Title: HUMAN MOBILITY PATTERNS WITH SOCIAL NETWORK DATA USING HIDDEN MARKOV MODELS TO SIMULATE AND PREDICT TRANSMISSION OF CORONAVIRUS (SARS-CoV-2)

REVIEW RESULT OF THE PROGRAMME COMMITTEE:
This contribution has been accepted and will be published in the 2021 proceedings
Your paper will be published in the ISPRS Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences: https://www.isprs.org/publications/archives.aspx

One of the co-authors has to be registered to the 2021 edition of the Congress for final publication of your paper.

OVERVIEW OF REVIEWS
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Review 1
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Contribution of the Submission
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This abstract addresses the timely topic of COVID-19 transmission modelling. The approach is to analyse the spatio-temporal dynamics of social media data using Hidden Markov Models. The results of the work are not shown in the abstract but could be of potential interest to the scientific community.

Evaluation of the Contribution
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*Innovation (10%): 6
Scientific formulation (10%): 6
Experiments and validation (10%): 6
Relevance (10%): 8
Quality of Presentation (10%): 8
Overall Recommendation (50%): 7
Total points (out of 100) : 69

Comments for the authors
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The approach proposed for modelling the social media data appears reasonable. You plan to divide the data into pre- and post-pandemic periods, which will reveal changes in patterns. Going beyond the abstract stage, there are a number of questions that should be answered:

1. What social media data is being used? No particular datasets are mentioned in the methodology.
2. How representative are the different social network datasets you are using? COVID-19 is known to disproportionately affect certain groups such as the elderly and BAME groups. Are these groups represented adequately in your data?
3. If you plan to use Twitter data, how will you deal with way in which it is now geolocated via check-ins rather than coordinates?
4. What specific benefits will your approach bring over using large scale mobility datasets (e.g. mobile phone, GPS) or data from 'track and trace' apps, which may have linked demographic data.

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Review 2
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Contribution of the Submission
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The authors propose to build a model of mobility during the Covid-19 crisis, utilising social media data to inform a hidden Markov model trained on pre- and post-pandemic data. They apply this to the Toronto region. Experimentally, they assess the effectiveness of this model-based technique, comparing it with recurrent neural networks (which are more data-dependent).

Evaluation of the Contribution
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*Innovation (10%): 8

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Scientific formulation     (10%): 10
Experiments and validation (10%): 6
Relevance                  (10%): 10
Quality of Presentation    (10%): 10
Overall Recommendation     (50%): 8
Total points (out of 100)       : 84


Comments for the authors
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The authors present very clearly their purpose and their methods in training HMMs on the two different sets of data. The utility of such a
method is self-evident, and the approach suggests good progress. It fits the call well. Overall, I think it is a strong candidate for
inclusion.




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Best regards,
Clément Mallet and Florent Lafarge
Program chairs of the the XXIV ISPRS Congress

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XXIV ISPRS Congress (Nice, France)
Submission/registration website: http://conftool.com/isprs2020/
General website: http://www.isprs2020-nice.com/
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