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STEM For Britain

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Letter of Reference for Ms Susannah Brown

To whom it may concern:

Dear Sir or Madam,

I have been asked to write in support of the application of Ms Susannah Brown to present a poster at the 2020 STEM for Britain event and I am very happy so to do.

I first met Susannah in October 2017 when she joined the prestigious OxWaSP (Oxford-Warwick Statistics Programme) Centre for Doctoral Training which has a focus on computational statistics and big data. In her first year within this doctoral training centre (in which studies comprise a number of short courses, intensive study groups and two mini-projects) Susannah completed a ten week project under the supervision of myself and Dr Jere Koskela. Her performance in that project was impressive and Dr Koskela and I were delighted to take on the supervision of her main PhD project for the subsequent three years of her studies, which has also involved collaboration with Dr Paul Jenkins.

Susannah joined us from the University of Bristol from which she received an MSci in Mathematics with first class honours. While at Bristol she completed a dissertation on Hamiltonian Monte Carlo under the supervision of Prof. Jonathan Rougier, and so was already well-versed in many of the tools and methods of modern computational statistics when she joined us.

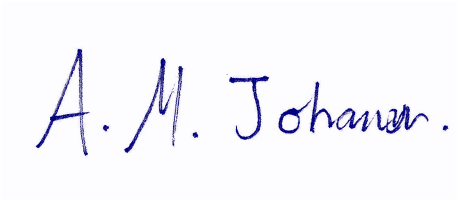
Susannah is a personable and dependable individual and one with whom it is a pleasure to work. I have no reason to doubt her integrity. She is an energetic and enthusiastic communicator and I have no doubt that she will do an excellent job if given the opportunity to present a poster at this event. Her commitment to communicating scientific ideas is illustrated by her prize-winning delivery, at the recent *2019 Warwick Research Harambee*, of ideas related to her research work through the medium of cake: *Genealogies in Cakeland*. Her work on scientific outreach dates back even to her time at school where she again received an award for a display on *The History of the Universe* aimed at children of ages 9–13. She clearly has a long-standing appreciation the importance not just of doing excellent work, but also of telling people about it and doing so clearly and at an

appropriate level of abstraction.

Her research work thus far, and which she aims to present in the poster, concerns the development and understanding of a framework for understanding a broad class of simulation algorithms which arise in computational statistics, engineering and cognate disciplines. Her work also has implications within the field of population biology. One piece of work is essentially complete and is in the process of being written up for submission to a journal; current indications are extremely encouraging and although at an early stage in her research career, Susannah already has interesting findings to present. The work has the scope to have significant impact, for example, in various aspects of biomedical imaging (tracking individual cells within microscopy images is one area in which the methods under study have found widespread application), target tracking and, indeed, most areas within which sophisticated computational methods are deployed in order to facilitate statistical inference.

In short, Susannah has both the technical skills and dedication necessary to do excellent research and the soft skills and enthusiasm required to disseminate that research to a broad audience. I recommend her to you very strongly. If you require any further information then please do not hesitate to contact me.

Yours Faithfully,



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