

## Training course “Agent-based modelling for social research”

University of Southampton, Southampton, United Kingdom, 6–10 July 2020

Organised by the ERC project Bayesian Agent-based Population Studies (725232), involving the University of Southampton and the University of Rostock, Germany, in collaboration with the ESRC Centre for Population Change and the Max Planck Institute for Demographic Research.

### Call for applications

#### Summary and learning objectives

With agent-based simulation models gaining traction amongst social scientists, the main aims of this week-long course are to familiarise the participants with the most recent advances in building, analysing and documenting agent-based models of social processes. During the course, we will cover aspects related to the choice of modelling language and environment, tailoring models for specific research purposes, statistical analysis of model results and key principles of experimental design, inclusion of realistic cognitive assumptions in models, and documenting the modelling endeavours by using a variety of approaches.

In particular, by the end of the course, the participants will be able to:

1. Discuss different principles of agent-based modelling and apply them in practice
2. Reflect on the history and uses of agent-based models in social sciences
3. Evaluate the relative merits of different approaches for implementing agent-based models
4. Analyse the results of agent-based models by using selected statistical methods
5. Include psychologically and cognitively realistic assumptions in agent-based models
6. Document models by using documentation standards and provenance-based approaches

#### Target groups

The course is aimed particularly at PhD level students and early career researchers, with some prior experience with coding and interest in computational modelling in social science, who will have priority when applying. Applications from other participants will be considered depending on the place availability. The key prerequisites include familiarity and experience with computer programming and statistical analysis. No prior knowledge of agent-based models is assumed.

## Practicalities

The course will start in the afternoon on Monday, 6 July 2020, and finish by lunchtime on Friday, 10 July. The classes will be normally held from 9:30 to 13:00 and from 14:00 to 17:00, with interim breaks for lunch and coffee, which will be provided for participants.

We are also delighted to announce that the course will be opened with a **keynote lecture** by Professor Alexia Fürnkranz-Prskawetz from the Vienna University of Technology, one of the pioneers of application of agent-based models in population sciences.

All the sessions will be held at the University of Southampton, Highfield Campus, Southampton, SO17 1BJ, United Kingdom (<https://maps.southampton.ac.uk>). Further details will be announced closer to the date of the course. The course organisation is led by Prof. Jakub Bijak, University of Southampton. Any queries are to be addressed to [abm2020@soton.ac.uk](mailto:abm2020@soton.ac.uk).

## Tuition fees

There are no tuition fees associated with this course, but the participants are expected to cover their related costs, such as travel, accommodation and subsistence. A limited number of bursaries will be available for EU-based doctoral students, to contribute towards their expenses. If you would like to be considered for a bursary, please see further information below.

## Assessment and certificates

The course is not formally assessed, but interested participants will be able to obtain certificates for the purposes of documenting their continuous professional development.

## How to apply?

Please send the following information to [abm2020@soton.ac.uk](mailto:abm2020@soton.ac.uk), with 'ABM course 2020 application' in the subject line, merged into a **single pdf file**:

- 1) A two page curriculum vitae (Europass or similar), including the list of key publications;
- 2) A 500-word research statement, including a description of how the course fits your own research objectives;
- 3) If you would like to be considered for a bursary, a 250-word justification.

The places will be allocated based on the CV and match of the research statement with the aims and scope of the course. Additionally, we may prioritise participants with a strong motivation to work on a specific project involving agent-based modelling, at the organisers' discretion.

Please submit your application by midnight (anywhere) on **29 February 2020**. The successful participants will be notified of acceptance by 15 March 2020.