Agent-based modelling for archaeologists
free 2 days workshop at the CAA2016

Oslo, Norway 28-29 March 2016
Agent-based modelling in archaeology

Agent-based modelling (ABM) has taken by storm disciplines from all corners of the scientific spectrum, from ecology to transport and social sciences and it is becoming increasingly popular in archaeology. Now it is your turn to give it go! Learn how to use the simulation software and explore how this popular complexity science technique can complement your research. This two-day workshop will provide an introduction to ABM using NetLogo – an open-source platform for building agent-based models, which combines user-friendly interface, simple coding language and a vast library of model examples, making it an ideal starting point for entry-level agent-based modellers, as well as a useful prototyping tool for more experienced programmers.

Attempts at quantification and simulation modelling appear essential. It is striking that such methods play a central role in other disciplines dealing with long term change (...) but have been neglected in palaeoanthropology.

- Mithen & Reed 2002
If you are:
an undergraduate, master or PhD student in archaeology, anthropology, history
or a similar subject, an early career researcher, a lecturer, a commercial
archaeologists or a heritage specialist

and if

● you are interested in computational modelling and simulations, or
● you work on a complex problem which can only be solved by modelling, or
● your supervisor told you to ‘go an learn how to do simulations’, or
● your students seem to be doing some magic with computers and you want to help them but don’t know the tools, or
● you have once heard of agent-based modelling so you want to check what is the whole fuss about, then

this workshop is for you!

What will you learn?

● the theory and practice of agent-based modelling;
● how to create an archaeological simulation;
● basic and intermediate programming skills in NetLogo;
● the modelling process, from finding the right research questions to publishing your groundbreaking results;
● how to make your code better, clearer and faster;
● NetLogo extensions incorporating GIS, network science, and stats.

Coding experience is NOT required.
You need to bring your own laptop.
Teachers
Iza Romanowska, Ben Davies, Stefani Crabtree, Colin Wren, Juan Barceló, Tom Brughmans, Xavier Vila, Francesc Miguel Quesada, Florencia del Castillo

Day 1 - morning session
● Introduction to modelling: what is a simulation?
● First Steps in NetLogo: hands-on tutorial in basic NetLogo.

Day 1 - afternoon session
● Learning to walk in NetLogo: local and global variables, loops control statements, lists;
● Group exercise: build your own archaeological simulation;
● Drop-in session: consultations with a modeller.

Day 2 - morning session
● Model development step by step: finding research questions, defining the ontology, coding, testing, parameterisation, experiment design, dissemination;
● NetLogo extensions: GIS, networks, profiler, Behavioural Space;

Day 2 - afternoon session
● Dealing with the results. Data analysis and interpretation.
● Where to go from here? Resources for modellers.

To secure a place please send an email to i.romanowska@soton.ac.uk expressing your interest and briefly describing your background and the reasons why you want to attend. The event is free of charge, but you need to register to the CAA conference. Please note that places are limited and early applications will be given preference.