

Breakout Group 1

What are the most important research topics?

- Space-time data structures and representations to support ABM
 - getting better analytical tools and representations of dynamics of the model, especially of change over time
 - measures of changes in spatial structures; use quantitative analyses of dynamics of spatial patterns (process and pattern metrics)
 - structural similarity
- distributed systems applied to reality
 - agents as a kind of distributed system
- extent to which ABM are different from everything else we know about models
- significance of results - scaling to improve statistical measures on ABM
- Tractability/understanding results: how do we know what is produced (and why) of ABM? How do we follow what is produced and why?
- Integration of individuals into model - cognition and individual differences
 - inserting individuals
 - tracking individuals
 - seeing, modelling in our head , remodel (address community bias in representation)
- Provenance of data and results, and archiving - versions etc (random number generator + seed etc) - so that retrieval, re-use and replicability are possible
- methods and tools for exploring spaces of multiple models
- putting boundaries on limits of predictability of complex systems
- how to account for unexpected events in the model, including spontaneity
- community negotiation (social process) of derivation of models - 'truth/shared belief': apply to both users and agents, models etc
 - note differences in meaning - important information in this context
- Specification of agents
 - goal directed
 - autonomous
- Modelling in cartesian and socially-constructed spaces

what might be useful contributions to research infrastructure

- 'National Centre' for Complex Spatial Systems - includes social and physical, engineering and computing
- Sources of funding
 nationally (NSF, EPSRC)
 for transatlantic partnership?

Are there other mechanisms that might advance work in the field?

- Links with programmers from games industry
- Links with climate modellers
- This is a diverse group – a conference or workshop?
 - Second World Congress on Social Simulation (George Mason University, August 2008)
 - GIScience 2008

**Can we reach consensus
on methodological
questions?**

Is this the question? The diversity at this meeting has been constructive

Is space special? - do we think this? If it isn't, then we are out of luck. Or is it important (as opposed to special)?

non-Cartesian formulations of space - abm in socially-constructed spaces?

Mix of large and small events

Perhaps GIScience is a place where this could be nurtured

If workshops on all or some of the research topics identified then we would want to have participants from a range of fields

abm a middle ground between quantitative geography and other types of space (e.g. community and definition of space)

from dynamic and social constructions (of space), distributed nature of space - so separation creates a different dynamics

need to think about these things on an everyday street level - emergency response, transportation

Other comments

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