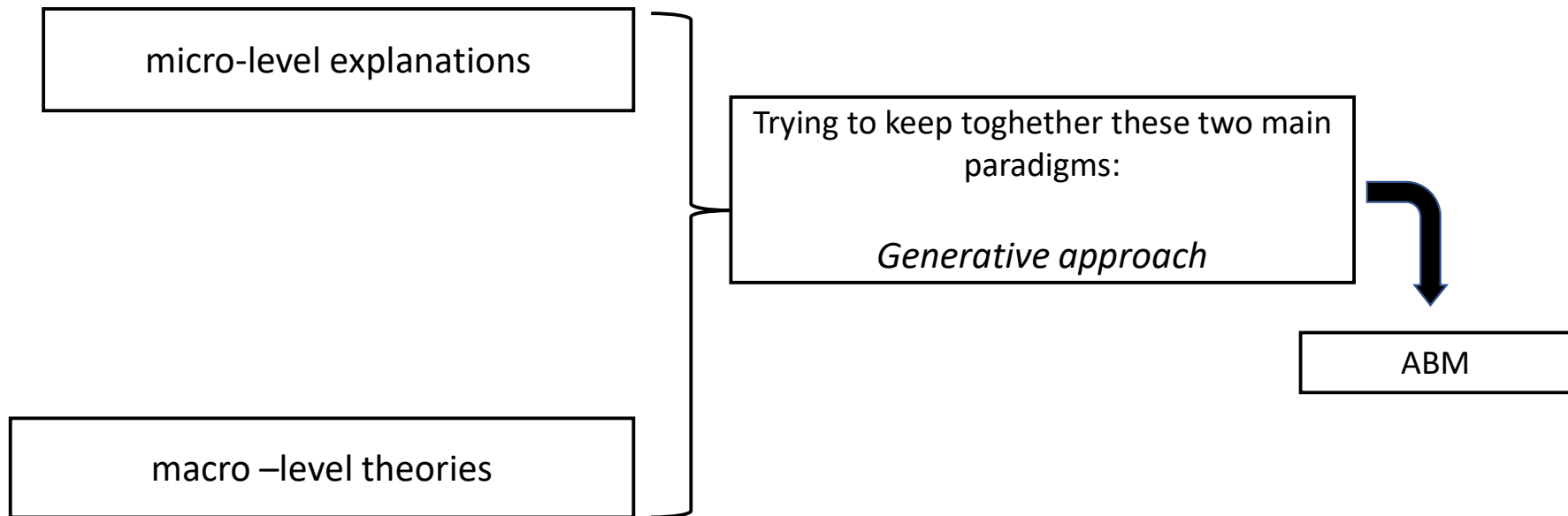


# **Dissecting crime through ABM. From theory testing to policy design**

**Workshop on Agent-based Modelling and Policy-Making  
JURIX 2021 - 8th of December 2021**

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Criminological theories have developed through alternative explanations of why people come to engage in criminal behavior.

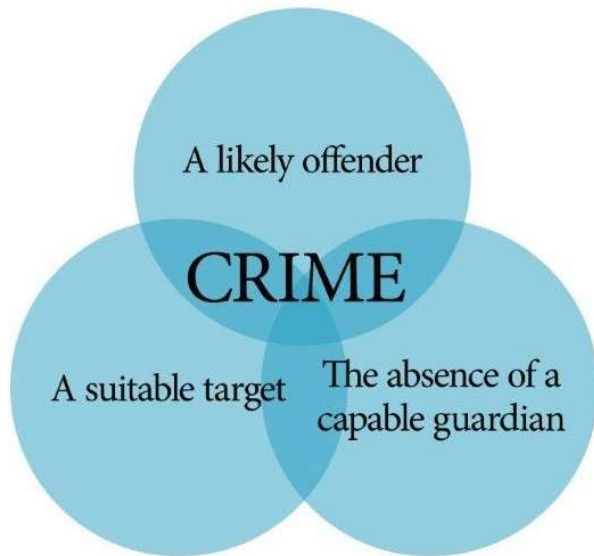


# ABM and criminological theory

- Theory formalization
- Theory testing and falsification
- Theory advancement

## ABM and crime research

- Empirical research is limited by the inability to conduct field trials
- Moral boundaries to empirical experimentation that operates with human subjects
- Data limitations and limited behavior observed, in empirical studies



## Spatio temporal dynamics of crime

### Representation of a «local environment»

The focus is the study of crime, criminality, and victimization as they relate to particular places.

**Different properties of the “local” environment** in which agents are situated.

- The simulated landscape can be simple or complex



## *Hot spots* analysis

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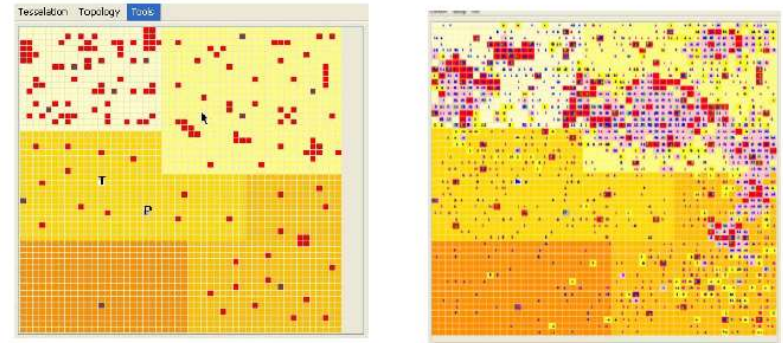


Figure 5: Hot spot positions at beginning of simulation (left) and end of simulation (right)

Integration between agent-based simulation and georeferenced information system (GIS) in order to "locate" the computational agents within their environment and to include both time and space.

- Which factors influence the emergence of the **hot spots**?
- How the displacement of criminal **hot spots** can be predicted and prevented?

# ABM, policy and crime prevention

- ABM as a policy evaluation tool
- ✓ ABM to:
  - Compare crime prevention strategies
  - Replicate an experiment hundreds or thousands of times
  - Evaluate the deterrent effect of policies between the short and the long term
  - Participatory modeling

# Thank you for you attention

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