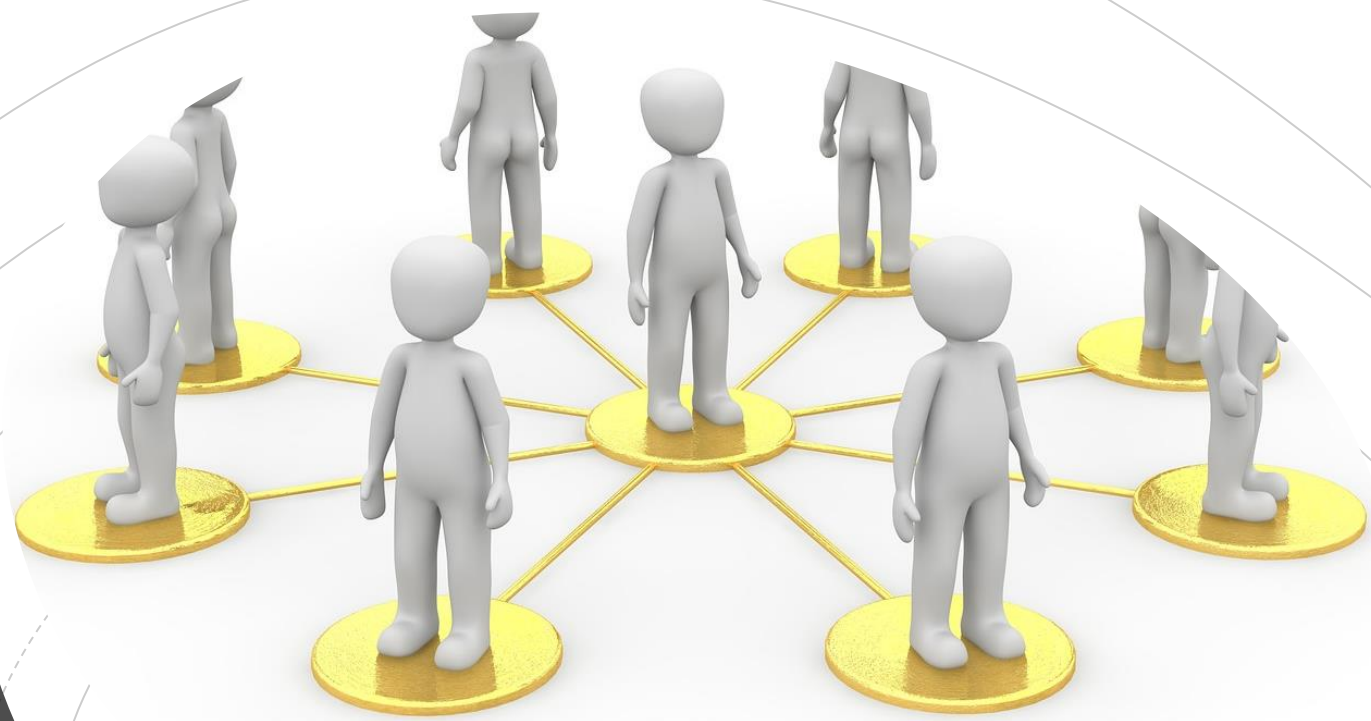


Foundations of how to communicate, collaborate, negotiate, reach agreements, with other agents and humans?

Social AI

Foundations of how to reason and learn to:
communicate,
collaborate, negotiate,
reach agreements,
with other agents and
humans



Modelling social cognition, collaboration and teamwork



- Study the modelling of **agent's cognitive capabilities** that integrate individual knowledge and behaviour with knowledge available to and from other agents (possibly obtained at different times and from different perspectives).
- Studying the foundations, techniques, algorithms and tools for designing social AI systems

Theoretical models for cooperation between agents



- Using **economic paradigms** to study and advance the foundations, techniques, algorithms and tools for collaborative decision making by social agents.
- **As AI agents act on behalf of people**, how to model and elicit their preferences and in particular to aggregate and mediate preferences of multiple agents in a fair manner.
- **How to motivate self-interested agents** to execute their tasks faithfully and often towards the greater good (or to benefit the others) by **given additional incentives** .

Interaction with others



- Studying the **foundations, techniques, algorithms and tools for creating agents that are able to interact with others and with humans**
- This includes areas such as **NLP, Dialogue Systems and other mechanisms of communication.**

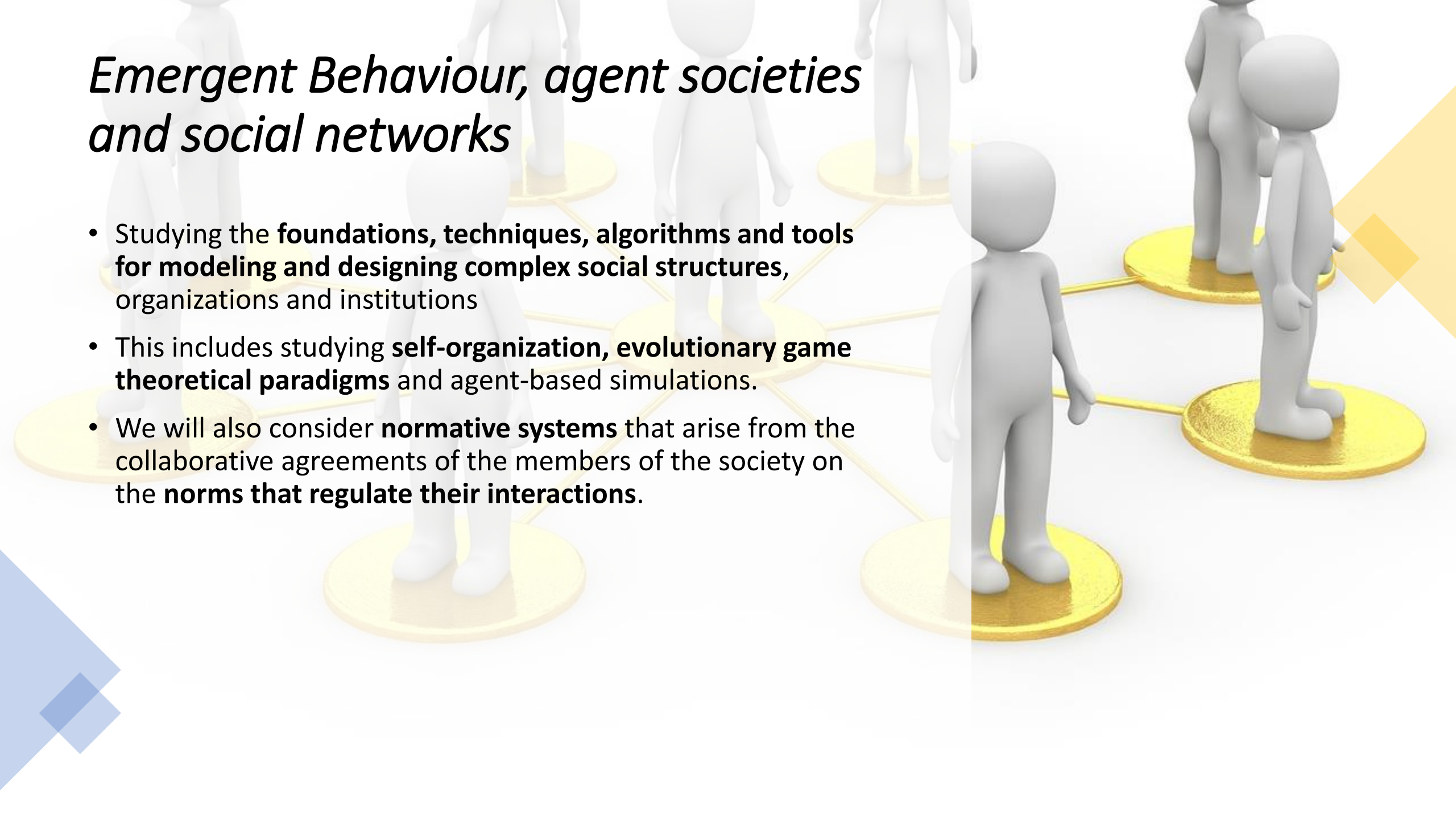
Learning from others



- Study the **foundations, techniques, algorithms and tools for social learning.**
- Who should learn from whom, and what should be learned.
- The setting of a single learning agent guided by another agents, through shaping and interaction

Emergent Behaviour, agent societies and social networks

- Studying the **foundations, techniques, algorithms and tools for modeling and designing complex social structures, organizations and institutions**
- This includes studying **self-organization, evolutionary game theoretical paradigms** and agent-based simulations.
- We will also consider **normative systems** that arise from the collaborative agreements of the members of the society on the **norms that regulate their interactions.**



Presentations on the Theme

- *Short presentations (5 minutes each)*
 - *#17 Learning in Text Streams: Discovery and Disambiguation of Entity and Relation Instances (Andrea Zugarini, Giuseppe Marra, Stefano Melacci and Marco Maggini)*
 - *#45 AI-Supported Innovation Monitoring (Barteld Braaksma, Piet Daas, Stephan Raaijmakers, Amber Geurts and André Meyer-Vitali)*
 - *#51 Process-To-Text: a framework for the quantitative description of processes in natural language (Yago Fontenla-Seco, Manuel Lama and Alberto Bugarín)*
- *Long presentations (10 minutes each)*
 - *#4 Shapley-Lorenz decompositions in eXplainable Artificial Intelligence (Paolo Giudici and Emanuela Raffinetti)*
 - *#9 Viewpoint: Human-In-The-Loop Artificial Intelligence (Fabio Massimo Zanzotto)*
 - *#13 Election Control in Social Networks via Edge Addition or Removal (Matteo Castiglioni, Diodato Ferraioli and Nicola Gatti)*
 - *#24 What do you really want to do? Towards a Theory of Intentions for Human-Robot Collaboration (Mohan Sridharan, Rocio Gomez and Heather Riley)*
 - *#37 Value alignment equilibrium in multiagent systems (Nieves Montes and Carles Sierra)*