

Giovedì 14 gennaio 2021, ore 18:00

Francesca Rossi

IBM fellow and AI Ethics Global Leader

## **Thinking fast and slow in AI**

### **Abstract:**

AI systems have seen dramatic advancement in recent years, bringing many successful applications that are pervading our everyday life. However, we are still mostly seeing instances of narrow AI. Also, they are tightly linked to the availability of huge datasets and computational power. State-of-the-art AI still lacks many capabilities that would naturally be included in a notion of intelligence, for example, if we compare these AI technologies to what human beings are able to do: generalizability, robustness, explainability, causal analysis, abstraction, common sense reasoning, ethics reasoning, as well as a complex and seamless integration of learning and reasoning supported by both implicit and explicit knowledge. We argue that a better comprehension regarding of how humans have, and have evolved to obtain, these advanced capabilities can inspire innovative ways to imbue AI systems with these competencies. To this end, we propose to study and exploit cognitive theories of human reasoning and decision making (with special focus on Kahneman's theory of thinking fast and slow) as a source of inspiration for the causal source of these capabilities, that help us raise the fundamental research questions to be considered when trying to provide AI with desired dimensions of human intelligence that are currently lacking.

### **Bio:**

Francesca Rossi is an IBM fellow and the IBM AI Ethics Global Leader. She is an AI scientist with over 30 years of experience in AI research, on which she published more than 200 articles in top AI journals and conferences.

She co-leads the IBM AI ethics board and she actively participate in many global multi-stakeholder initiatives on AI ethics. She is a fellow of both the worldwide association of AI (AAAI) and of the European one (EurAI), and she will be the next president of AAAI.