

# Multi-Agent Oriented Programming

– Agenda –

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CPS2 M1 – Fall 2020



# Objectives

- ▶ To get a brief overview of the programming of open and decentralized systems using a multi-agent oriented perspective
- ▶ To understand the problems, the questions that are addressed in the multi-agent domain
- ▶ To practice existing multi-agent technologies
- ▶ To acquire some skill in multi-agent oriented programming
- ▶ To provide the basis on which **Coordination Models** can be developed (CPS2 M2)

# Content

- ▶ Existing models defining multi-agent oriented programming approach:
  - ▶ Agent models,
  - ▶ Environment models,
  - ▶ Organisation Models,
  - ▶ and Interaction models.
- ▶ Existing programming languages and platforms supported by these models
- ▶ Special focus on :
  - ▶ Multi-Agent Based Simulation (MABS)
  - ▶ **Open and decentralized AI Systems**

# Timings

- ▶ October 22, 2020:
  - ▶ Introduction to Multi-Agent Oriented Programming (MAOP)
  - ▶ **Practical Work** on the JaCaMo platform
  - ▶ Programming autonomous agents in a shared working environment (I)
- ▶ November 12, 2020:
  - ▶ **Practical Work** on programming Autonomous Agents with the JaCaMo platform
  - ▶ Programming autonomous agents in a shared working environment (II)
- ▶ November 26, 2020:
  - ▶ **Practical Work** on programming Autonomous Agents with the JaCaMo platform
  - ▶ Programming working environment for autonomous agents
- ▶ December 10, 2020:
  - ▶ **Practical Work** on programming Working Environments with the JaCaMo platform
  - ▶ Programming organisations of agents in a shared working environment
- ▶ December 17, 2020:
  - ▶ **Practical Work** on programming Organisations of Agents with the JaCaMo platform
  - ▶ Conclusion

# Grading Policy

- ▶ Practical Work ( $PW$ )
- ▶ Grade =  $PW$

# Work on MAOP and JaCaMo

in tight collaboration with

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# Acknowledgements

- ▶ Tutorials
  - ▶ @European Summer Schools (EASSS'10, EASSS'11, EASSS'12)
  - ▶ @Brazilian Agent School (WESAAC'11, WESAAC'12, WESAAC'13, WESAAC'14)
  - ▶ @AAMAS (2015), @IJCAI (2015)
  - ▶ @Agreement Technology Summer School (2017)
  - ▶ Graduate Programs (@ EMSE, @ UFSC, @PUCRS, @ Bologna University)
- ▶ Dagstuhl Seminars:
  - ▶ #12342 (2012), #08361 (2008), #06261 (2006)
- ▶ Bilateral Projects:
  - ▶ USP-COFECUB 98-04
  - ▶ CMIRA Rhône-Alpes Region 2010
- ▶ French National Project:
  - ▶ FORTRUST Project ANR 06-10
  - ▶ ETHICAA Project ANR 14-18