

Gauthier PICARD

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Professor, PhD., Hab.

Senior Research Scientist

AI and Multi-Agent Systems

Education

- 2014 **HDR in Computer Science**, *Université Jean Monnet*, Saint-Etienne, France
Dissertation on "Adaptive multiagent systems: engineering and problem solving"
- 2004 **PhD in Computer Science**, *Université Paul Sabatier*, Toulouse, France
Dissertation on "Multiagent-oriented methodology for self-organizing systems"
- 2001 **Master in Artificial Intelligence**, *Université Paul Sabatier*, Toulouse, France
Dissertation on "Cooperative self-organization for collective robotics"
- 2000 **Maîtrise in Computer Science**, *Université Paul Sabatier*, Toulouse, France
- 1999 **Licence (BSc) in Computer Science**, *Université Paul Sabatier*, Toulouse, France
- 1995 **Baccalauréat in Maths & Physics**, *Lycée Blaise Pascal*, Clermont-Fd, France

Experience

- 2020+ **Senior Research Scientist (Directeur de recherche)**, *ONERA*, Toulouse, France
Head of the Artificial Intelligence Laboratory
- 2018+ **Full Professor in Computer Science**, *Ecole des Mines*, Saint-Etienne, France
On secondment to ONERA since 2020
- 2007–2018 **Associate Professor in Computer Science**, *Ecole des Mines*, Saint-Etienne, France
- 2006–2007 **Research Engineer**, *IRIT, CNRS*, Toulouse, France
- 2004–2006 **Assistant Lecturer (ATER) in Computer Science**, *Université Paul Sabatier*, Toulouse, France
- 2011–2004 **Teaching Assistant (Moniteur) in Computer Science**, *Université Paul Sabatier*, Toulouse, France
- 2021+ **Adjunct Instructor in Computer Science**, *ISAE-SUPAERO*, Toulouse, France
- 2021+ **Adjunct Instructor in Computer Science**, *Université Jean Jaurès*, Toulouse, France
- 2018–2020 **Visiting Researcher**, *IRIT, CNRS*, Toulouse, France

Temporary

Associations

- 2024–2028 **Board Member**, *International Foundation for Autonomous Agents and Multi-Agent Systems (IFAAMAS)*
- 2018–2025 **Board Member**, *French Association for Artificial Intelligence (AFIA)*

Research Interests

- **Multi-agents systems**, and more specifically adaptive multi-agent systems (AMAS)
- **Distributed optimization** by cooperation between agents
- **Resource and task allocation**, to coordinate agents
- **Hybrid AI and Decision-focused Learning**, to adapt and learn heuristics, constraints and criteria
- **Self-organisation**, as a mechanism to design artificial systems
- Application to **collective robotics, space systems, UAVs**

Committees

- Chair** Program Chair (MASSpace'24, OptLearnMAS'21, JFSMA'18, SASO'16, AIPower'16, ESAW'09, ESAW'08), Tutorial Chair (PFIA'19), Workshop Chair (SASO'15), Doctoral Consortium Chair (SASO'14), Steering Committee (ESAW), Session Chair (IICAI'07, ROADEF'11), Demo Chair (WI-IAT'11), Organisation Chair (SASO'12)
- Conferences** ECAI'25, PRIMA'25, PAAMS'25, IWPSS'25, IJCAI'25, AAMAS'25, AAMAS'24, ECAI'24, IJCAI'24, JFSMA'24, OptLearnMAS'24, PAAMS'24, OptLearnMAS'23, PAAMS'23, IJCAI'23, ECAI'23, JFSMA'23, AAMAS'23, AAMAS'23 Blue Sky Ideas, DARS'22, OptLearnMAS'22, ACSOS'22, EPIA'22, PAAMS'22, EXTRAAMAS'22, IJCAI-ECAI'22, The WebConf'22, AAMAS'22, AAAI'22, ACSOS'21, PAAMS'21, EXTRAAMAS'21, OptLearnMAS'21, AAMAS'21, IJCAI'21, AAAI'21, The WebConf'20, AAMAS'20, AAAI'20, ECAI'20, ICSOS'20, IJCAI'20, EPIA'19, PAAMS'19, EXTRAAMAS'19, CP'19, SASO'19, OPTMAS'19, JFSMA'19, AAMAS'19, AAAI'19, ICAART'19, IJCAI'19, AAMAS'18, AAAI'18, ICAART'18, WWW'18 Demo Track, SmartIoT@AAAI'18, AISGSB@AAAI'18, IJCAI-ECAI'18, ICCS'18, CP'18, OPTMAS'18, IJCAI'17, OPTMAS'17, SASO'17, JFSMA'17, PRIMA'17, SASO^ST'17, MAS&'16, IB-ERAMIA'16, OPTMAS'16, AAMAS'15, ISMIS'15, JFSMA'15, MAS&S'15, SASO'15, AHPC'14, AMSTA'14, AAMAS'14, MAS&S'14, ICRA'13, IJCAI'13, JFSMA'13, JFSMA'12, SASO'12, AOSE'12, MAS&S'12, PAAMS'12, AOSE'11, BADS'11, IDETC'11, IICAI'11, SASO'11, AAMAS'10, BADS'10, AOSE'10, SASO'10, WIVE'10, BADS'09, SARC'09, IICAI'09, IAMA'09, SASO'09 (posters), SARC'08, IICAI'07, RJCIA'07, EUMAS'05, ESAW'04, EUMAS'04
- Journals** AIJ, JAIR, AMAI, COIN, JAAMAS, Journal of Control, FGCS, IJAOSE, ACM TAAS, ROIA, SIMPAT, WIC, IJPR
- Organization** JFSMA'15, SASO'12, WI-IAT'11, EASSS'10, MALLOW'10, WI'09 Web Intelligence Summer School, ESAW'09, ESAW'08, JFSMA'07, ESAW'04

Supervision

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| Master | 14 completed | |
| PhD | 6 ongoing, 7 completed | PhD Jurys 36 |
| Post-docs | 1 ongoing, 3 completed | PhD Reviews 17 |

Selected Publications

- [1] GUILLET, Victor, LESIRE, Charles, PICARD, Gauthier, and GRAND, Christophe (2025). "Extending Consensus-based Task Allocation Algorithms with Bid Intercession to Foster Mixed-Initiative". In: *International Conference on Autonomous Agents and Multiagent Systems (AAMAS-25)*. IFAAMAS, 2025, pp. 932–940. URL: <https://www.ifaamas.org/Proceedings/aamas2025/pdfs/p932.pdf>. [Core A* – Pre-proceedings – 1 review phase]
- [2] PICARD, Gauthier (2023). "Multi-Agent Consensus-based Bundle Allocation for Multi-Mode Composite Tasks". In: *International Conference on Autonomous Agents and Multiagent Systems (AAMAS-23)*. IFAAMAS, 2023, pp. 504–512. DOI: 10.5555/3545946.3598677. URL: <https://dl.acm.org/doi/10.5555/3545946.3598677>. [AR=23%] [Core A* – Pre-proceedings – 1 review phase]
- [3] — (2022a). "Auction-based and Distributed Optimization Approaches for Scheduling Observations in Satellite Constellations with Exclusive Orbit Portions". In: *International Conference on Autonomous Agents and Multiagent Systems (AAMAS-22)*. IFAAMAS, 2022, pp. 1056–1064. DOI: <https://dl.acm.org/doi/10.5555/3535850.3535968>. [AR=26%] [Core A* – Pre-proceedings – 1 review phase]
- [4] — (2022b). "Trajectory Coordination based on Distributed Constraint Optimization Techniques in Unmanned Air Traffic Management". In: *International Conference on Autonomous Agents and Multiagent Systems (AAMAS-22)*. IFAAMAS, 2022, pp. 1065–1073. DOI: <https://dl.acm.org/doi/10.5555/3535850.3535969>. [AR=26%] [Core A* – Pre-proceedings – 1 review phase]
- [5] RUST, Pierre, PICARD, Gauthier, and RAMPARANY, Fano (2022). "Resilient Distributed Constraint Reasoning to Autonomously Configure and Adapt IoT Environments". In: *ACM Transactions on Internet Technology* 22.4 (2022), pp. 1–31. DOI: <http://dx.doi.org/10.1145/3507907>. [Q1, IF=4.67]