

# Gauthier Picard

*Professor, PhD., Hab.*

*Senior Research Scientist in Artificial Intelligence*

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## 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

### Temporary

- 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

### 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**

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## 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* 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'17, MAS&'16, IBERAMIA'16, OPTMAS'16, AAMAS'15, ISMIS'15, JFSMA'15, MAS&'15, SASO'15, AHPC'14, AMSTA'14, AAMAS'14, MAS&'14, ICRA'13, IJCAI'13, JFSMA'13, JFSMA'12, SASO'12, AOSE'12, MAS&'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

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## Supervision

*Master* 2 ongoing, 12 completed

*PhD* 6 ongoing, 7 completed

*PhD Jurys* 30

*Post-docs* 2 ongoing, 3 completed

*PhD Reviews* 17

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## Selected Publications

- [1] 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, 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]
- [2] — (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, pp. 1056–1064. DOI: <https://dl.acm.org/doi/10.5555/3535850.3535968>. [AR=26%] [Core A\* – Pre-proceedings – 1 review phase]
- [3] — (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, pp. 1065–1073. DOI: <https://dl.acm.org/doi/10.5555/3535850.3535969>. [AR=26%] [Core A\* – Pre-proceedings – 1 review phase]
- [4] 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, pp. 1–31. DOI: <http://dx.doi.org/10.1145/3507907>. [Q1, IF=4.67]
- [5] PHAM TRAN ANH, Quang, SINGH, Kamal, BRADAI, Abbas, PICARD, Gauthier, and RIGGIO, Roberto (2019). "Adaptive Allocation Algorithms for Service Function Chains: Single and Multi-domain orchestration". In: *IEEE Transactions on Network and Service Management* 16.1, pp. 98–112. DOI: 10.1109/TNSM.2018.2876623. URL: <https://ieeexplore.ieee.org/document/8494813>. [Q1, IF=3.286]