CURRICULUM VITAE

Olivier-Gilles MARIN

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Citizenship: French
Residency: Permanent Residence Permit (China)

Academic appointments

- **Maître de Conférences (*tenured)*, Sorbonne Université, France** – 2004 - present
  Permanent faculty position in Computer Science
  Currently on leave while serving in China
- **Professor of Practice in Computer Science, NYU Shanghai, China** – 2018 - present
  Built the undergraduate Computer Science curriculum from the ground up.
  Courses: Operating Systems, Distributed Systems, Computer Architecture, Introduction to Programming, Senior Projects
- **Associate Dean of Arts and Sciences, NYU Shanghai** – 2022 - 2024
- **Interim Dean of Arts and Sciences, NYU Shanghai** – 2021 - 2022
- **Associate Professor of Practice in Computer Science, NYU Shanghai** – 2015 - 2018
- **Postdoctoral Researcher, Vrije Universiteit, Amsterdam** – 2003 - 2004

University degrees

- **Doctor Europaeus PhD in Computer Science**, Université du Havre, France – 2003
- **MSc in Distributed Systems**, Université Paris 6 - Pierre & Marie Curie, France – 2000
- **Joint Honours BSc in Mathematics and Computer Science**, University of Swansea, Wales, UK & Université de Besançon, France (Erasmus Exchange Scholarship) – 1998

Research Interests

Distributed systems, fault tolerance, scalability

My research focuses on the design of resilient, scalable, and efficient distributed systems. My work lies at the intersection of distributed algorithms and systems implementation, bridging theory and practice. I combine formal models with hands-on deployment of distributed services and middleware to explore fault tolerance, coordination, and scalability at real-world scale. This dual emphasis enables me to design theoretically sound distributed systems that are deployable and performant in practice, with applications across collective AI, quantum/distributed computing, cloud infrastructure, and edge-to-cloud coordination.

Current Funded Projects

ANR PRC – FrugalDiNet (2024–2027)

Co-PI, collaboration with three French institutions

This project develops frugal distributed algorithms at the network layer using intelligent hardware such as programmable switches and Data Processing Units (DPUs). My contribution focuses on leveraging low-level telemetry (bandwidth, latency, buffer usage) to design cooperative algorithms for fault detection and load monitoring across datacenters, enhancing resilience and scalability with minimal overhead.

NSFC – Scalable Collective AI (2025–2028)

Collaboration with Dr. Mathieu Lauriere, NYU Shanghai

This project studies learning and coordination in large populations of agents via mean-field games and reinforcement learning. I lead the distributed simulation and algorithmic implementation side, building architectures that enable large-scale experiments to validate and extend theoretical results, with applications in economics, finance, and network optimization.

Selected Publications

1. P. Sens, L. Arantes, A. G. De Moraes Rossetto, O. Marin (2024) *Stab-FD: A cooperative and adaptive failure detector for wide area networks*, **Journal of Parallel and Distributed Computing (JPDC)** 186.
2. Xiaonan Li, Olivier Marin (2022) *Towards Implementing ML-Based Failure Detectors* In: 18th **European Dependable Computing Conference (EDCC)**
3. Leyi Sun, Yifan Zhuo, Olivier Marin (2021) *Simple yet Efficient Deployment of Scientific Applications in the Cloud* In: 27th **IEEE International Conference on Parallel and Distributed Systems (ICPADS)** Beijing, China.
4. X Bonnaire, R Cortes, F Kordon, O Marin (2017) *ASCENT: a Provably-Terminating Decentralized Logging Service*, **The Computer Journal** 60: 12. 1889–1911

5. Florent Coriat, Anne Fladenmuller, Luciana Arantes, Olivier Marin (2016) *Crowdsourcing-based architecture for post-disaster Geolocation: a comparative performance evaluation* In: 15th **IEEE International Symposium on Network Computing and Applications (NCA)**.
6. Luciana Arantes, Roy Friedman, Olivier Marin, Pierre Sens (2015) *Probabilistic Byzantine Tolerance for Cloud Computing* In: 34th **International Symposium on Reliable Distributed Systems (SRDS)**.
7. Samir Aknine, Olivier Marin (2005) *Role of Replication Planning for Fault Tolerant Multiagent Systems* In: **Symposium on Adaptive Agents and Multi-Agent Systems (AAMAS)**.
8. Marin Bertier, Olivier Marin, Pierre Sens (2003) *Performance Analysis of a Hierarchical Failure Detector* In: **International Conference on Dependable Systems and Networks (DSN)**.
9. Olivier Marin, Marin Bertier, Pierre Sens (2003) *DARX - A Framework for the Fault-Tolerant Support of Agent Software*. In: 14th. **IEEE International Symposium on Software Reliability Engineering, (ISSRE)**.
10. Marin Bertier, Olivier Marin, Pierre Sens (2002) *Implementation and performance evaluation of an adaptable failure detector* In: **International Conference on Dependable Systems and Networks (DSN).**

(*Full publication list available upon request*)

Graduate Supervision

PhD students defended (3):

Rudyar Cortès (2017): **Scalable location-temporal range query processing**
Maxime Véron (2015): **Scalable services for massively multiplayer online games**
Erika Rosas (2012): **Building trustworthy services in peer-to-peer networks**

MSc theses supervised: 7+ in distributed systems and fault tolerance

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Teaching service

- **NYU Shanghai (2015–present)**: Operating Systems, Distributed Systems, Data Structures, Capstone Projects, Programming
- **Sorbonne Université (2003–2015)**: Operating Systems (UG/Grad), Distributed Algorithms, Dependability, Software Engineering, Programming
- **Course design**: Led design and implementation of NYU Shanghai's CS undergraduate curriculum

Administrative & Leadership Roles

- De facto Head of Computer Science, NYU Shanghai
  Built CS undergraduate program from inception
- Interim Dean & Associate Dean, Arts & Sciences, NYU Shanghai
- Area Head & Undergraduate Coordinator, Mathematics, NYU Shanghai
- Vice-President, Faculty Recruitment Committee, Sorbonne Université
- Co-chair, CS Undergraduate Curriculum, Sorbonne Université

Grants & International Collaborations (selected)

- Inria/CONICYT Associate Team ARMADA (Chile), PI (2014–2017)
- PHC MAIMONIDE (France/Israel), French PI (2014–2016)
- Multiple doctoral grants (France/Chile/CONICYT, Inria, French Ministry of Higher Ed.)
- Eurocontrol FTATC (Fault-Tolerant Air Traffic Management), Vice-Coordinator (2006–2007)

Service & Recognition

- University awards: Excellence in Teaching (2010), Excellence in Research (2009, 2013)
- Over 60 PC memberships since 2003 (ICDCS, ICPADS, NCA, etc.)
- Invited talks at Microsoft Research Asia, Tsinghua, Fudan, Yahoo Labs Chile, among others
- Tutorial Chair, SOSP 2017
- Editorial Board, IEEE Distributed Systems Online (2003–2008)