

CURRICULUM VITAE

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1 Education

- Janvier 1997 : Habilitation à Diriger des Recherches (HDR) at Université Paris-Sud Orsay in **Computer Science**
- June 1980 : Thèse de 3ème cycle (not quite a PhD at that time) at Université Pierre et Marie Curie (Paris 6) in **Applied Maths**
- 1977 : "Agrégation de Mathématiques"
- 1976 : Master of Mathematics, University Pierre et Marie Curie (Paris 6)
- 1975 : Admitted at "Ecole Normale Supérieure, rue d'Ulm"

2 Career

- 2008–present : Principal Senior Researcher (DR1) with INRIA Saclay, co-head of the TAO/TAU team
- 2003–2008 : Senior Researcher (DR2) with INRIA Saclay, co-head of the TAO team
- 2001–2003 : Senior Researcher (DR2) with INRIA Rocquencourt, member of the Fractales team
- 1985–2001 : Principal Junior Researcher (CR1) with CNRS, member of CMAP at Ecole Polytechnique
- 1980–1985 : Junior Researcher (CR2) with CNRS, member of CMAP at Ecole Polytechnique
- 1979–1980 : PhD student at CMAP at Ecole Polytechnique (thèse de 3ème cycle, 1 year)
- 1975–1979 : Student at Ecole Normale Supérieure, rue d'Ulm

3 Research Activities

I graduated in Applied Mathematics in 1980, and started my research career with CNRS at CMAP Polytechnique in Numerical Analysis and Simulation. I gradually turned to Optimization, and to Computer Science when I encountered Evolutionary Computation in the early 90s. I then worked on its application to Applied Maths problems, in particular Optimum Design, where Stochastic Optimization allowed to go beyond the limits of "classical" Optimization approaches. The creation of the TAO team was based on the claim that Optimization and Machine Learning are the two faces of the same coin – something obvious now, but original at that time (early 2000s). Since then, I have been working at the boundary between both fields. In particular, among the different scientific pillars of the TAU team, I work more particularly in the area of *Algorithm selection and configuration* (aka *AutoML* in the ML area), and in the hybridization of Machine Learning and Optimization with Numerical simulation in the Big Data era.

4 Awards

- 2018. **ACM-SIGEVO 10 years Impact Award**, among all papers published in GECCO 2008.
- **Best paper awards** at GECCO 2015 (GP track), PPSN 2014, EvoBIO 2009, LION'3 2009.
- 2017. **Winner OASC** (Open Algorithm Selection Challenge).
- 2017. **Winner ACM-GECCO 2017 BBComp** (single-objective track).
- 2011. **Winner** of the 7th Intl Planning Competition (Deterministic Temporal Satisficing track).
- 2010. **Silver Medal, Humies Awards** (Human Competitive Results by Evolutionary Computation).
- 2008. **EvoStar Award for Outstanding Contribution to Evolutionary Computation**.
- 2004. **Senior Fellow, ISGEC** (International Society for Genetic and Evolutionary Computation).

5 Publications

- 30 journal papers
- 17 book chapters
- 190+ conference papers (main venues : ICGA, GECCO, PPSN, EvoStar, CEC in Evolutionary Computation ; ICLR, IJCAI, ICML, EMCL, ICAPS, CP in Machine Learning.

The complete lists can be found on my Web site <http://www.lri.fr/~marc>.

6 Technological Transfers

TAO/TAU has contracted research projects with several industrial partners, either through B2B contracts, or within collaborative projects, : IFP-EN, Renault, PSA, EADS, Thalès, SNCF, EZCT, RTE, Artelys, Orange, Atos-Bull, EXQIM, AIRBUS, Dassault Systems, Qapa, Digital Mental Health, TNO.

7 PhD supervision

I supervised or co-supervised 40 PhD students. Most recent students are (have been) in fact co-supervised, either by a junior TAO member (A. Auger, N. Bredèche, O. Teytaud, G. Charpiat) before they passed their Habilitation à Diriger des Recherches), or by an industrial partner through a “CIFRE” convention, or by Youssef Hamadi, the co-head of the MSR-INRIA joint project., . . .or by Michèle Sebag, the co-head of TAO. Whereas several of my PhD students before 2010 belong to different doctoral schools, the consequence of the strict rules that are now imposed is that all my PhD students since then are at the Informatique doctoral school of Université Paris-Sud (that became Paris-Saclay in 2021).

8 Teaching

Until 2009, I have regularly taught topics related to Optimization in different institutions. I have also been part-time teaching staff at Ecole Polytechnique in the Applied Maths Department, until 2004, co-responsible for setting up the practical part of the Modelisation and Simulation track in the mid-90s. I have not taught since then, due to numerous research management activities.

9 Journal Editing and Conference Organization

I am **Area Editor** of JMLR (*Journal of Machine Learning Research*), since 2013 ; I have been **Editor in Chief** of *Evolutionary Computation* (MIT Press) (2002-2009), now on the Advisory Board ; I have been member of the **Editorial Board** of GPEM (*Journal of Genetic Programming and Evolvable Machines* (Kluwer – now Springer) (200-2016, now on the Advisory Board) ; the *IEEE Transactions on Evolutionary Computation* (IEEE Press) (1996-2003) ; *Applied Soft Computing* (Elsevier) (2000-2012) ; *Journal of Heuristics* (Elsevier) (1999-2005). TCS-C (*Theoretical Computer Science, Natural Computing* (Elsevier) (2003-2007).

I have served in the organization committee of numerous conferences : Tutorial chair for ICGA’97, local chair for EuroGP’98 (first event of the EvoStar series), co-program chair for PPSN’98 (Parallel Problem Solving from Nature), technical chair for IEEE CEC’99, and general chair for PPSN’2000. I have contributed to create the French series of conferences *Evolution Artificielle* in 1994, biennial since 1995. And of course, I have been in the Program Committees of all main conferences in the field of Evolutionary Computation and Machine Learning .

10 Scientific Committees

International : I have been **Chair of ACM-SIGEVO**, the Special Interest Group on Genetic and Evolutionary Computation, 2015-2019 ; Secretary of its Executive Board (2013-2015) ; member of this Board since the creation of SIGEVO in 2007 ; now member of the Advisory Board. Before that, I was a member of the Executive Board of ISGEC (International Conference on Genetic and Evolutionary Computation) since 2001,

until it became ACM SIGEVO in 2005. I served on the **IEEE Technical Committee on Evolutionary Computation** from its creation in 1995 to 1999.

European : I was the founding president of SPECIES (Society for the Promotion of Evolutionary Computation In Europe and Surroundings), the non-profit society that organizes the series of conferences EvoStar (2014-2022). I am a member of the Steering Committee of PPSN (since 1998) and of LION (since its creation in 2006).

I am member of the board of directors of BDVA – Big Data Value Association, that manages the Big Data European PPP since October 2018. I am member of the core team of CLAIRE – *Confederation of Laboratories for Artificial Intelligence Research in Europe, Excellence across all of AI. For all of Europe. With a Human-Centred Focus.* since May 2019.

National : I was the founding President (1995-2003) of the French Society for Artificial Evolution. I was president of AFIA (Association Française pour l’Intelligence Artificielle) (2002-2005, member of its executive committee, 1998-2011).

At INRIA : I was member of the COST (Comité d’Orientation Scientifique et Technologique) (2005-2007), chair of the “Animation and Prospective” Working Group. I was co-coordinator of the redaction of the INRIA 2008-2012 Strategic Plan. I was the first chair of the Local Scientific Committee at INRIA Saclay – Île-de-France (2008-2010), before I became “Délégué scientifique” of INRIA Saclay – Île-de-France (2010-2016). I was also *es qualité* member of the INRIA national “Commission d’Evaluation”. I am ADS (Adjoint au Directeur Scientifique, deputy-director of research) in charge of AI since January 2019.

11 Jurys and Review panels

I was Chair of the Evaluation Committee of the ANR program SYSCOMM (*Systèmes Complexes et Modélisation Mathématique*) during the 2 years of its short existence (2008-2009). I was a member of many recruitment committees for Inria CR2s since 2007.

I was expert for the European Commission regarding the *Global Computing* call of the *Information Society Technologies* program, Brussels, 28 May – 1st June 2001; Reviewer for European project EEII (*IST-FET*), 2000-2003; Reviewer of European projects HYDRA, SIGNAL and POETIC *Neur-IT* program, 2003-2005. Reviewer for the European project PERPLEXUS, in the *Complex Systems* program, 2007-2010. Expert for the Science Foundation Ireland (SFI) for on-site reviews in 2009 and 2013. Member of the Advisory Board for the EPSRC DAASE project (Dynamic Adaptive Automated Software Engineering) coordinated by Mark Harman (CREST-UCL) (2014-2018).

Since 2001, I have been external reviewer for 42 PhDs, 35 in Computer Science, 6 in Applied Maths and 2 in GeoSciences, also including 12 from abroad (3 in Switzerland, 2 in Australia, Canada, and The Netherlands, and 1 in Belgium, USA and Tunisia). I was reviewer for 6 “Habilitation à Diriger des Recherches”, 1 in Applied Maths, 1 in Mechanics, and 4 in Computer Science. I also was on too many PhD and HDR committees to list them here.

12 Expertise

I seconded Cédric Villani in the writing of the “Villani Report” *Donner un sens à l’intelligence artificielle. Pour une stratégie nationale et européenne.* from October 2017 to March 2018 (see <https://www.aiforhumanity.fr/>). The report was delivered to the French President on March 29., 2018, and several of its recommendations have actually being implemented.

I seconded Guillaume Klossa, special adviser of European Vice-President Andrus Ansip, in the writing his report *Towards European Media Sovereignty* delivered on March 2019. See https://ec.europa.eu/commission/publications/towards-european-media-sovereignty_en.