

Alain JEAN-MARIE _____ Curriculum Vitæ, May 2010

Born: 24 October 1963, in Boulogne Billancourt (France),

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Current Position

- Senior researcher (Directeur de Recherche) at INRIA (National Institute of Research in Informatics and Automatics), France. Member of the MAESTRO group.

Anterior Situations

- Full Professor of Computer Science, University of Montpellier 2 (10/98–09/03).
- Researcher in the MISTRAL group of INRIA-Sophia Antipolis (07/87–08/88 and 01/90–09/98); Senior researcher since 1996.
- Consultant in Modeling and Simulation of computer networks at the IBM Systems Integration Division, Gaithersburg, Maryland (09/88–08/89).
- Research Associate at the Systems Research Center, University of Maryland in College Park (09/88–12/89). Host: A.M. Makowski.

Education and Diplomas

1985–87 PhD Thesis in Computer Science from Paris XI University at Orsay. Thesis advisor: F. Baccelli (INRIA).

1980–85 M.S. degree in Mathematics and Computer Science (DEA), Paris XI University, Orsay.

Research Interests: main themes and sample topics

- Analysis of Stochastic Discrete Event Systems, Queuing Theory, Applied Probabilities
- Dynamical systems and optimization: Optimal Control and Game Theory
- Network Engineering, protocol design, measurements, simulation
- Applications to:
 - Performance and Optimization of Networks and Computer Systems (active queue management methods for the Internet, service differentiation, contents distribution networks, forward error correction codes, parallel and distributed systems...)

- Design and optimization of network applications, contents delivery networks, distributed storage, power-line communication networks
- Real-Time Scheduling, worst-case analysis of scheduling schemes, Network calculus, optimal online scheduling
- Probabilistic Analysis of Algorithms and Data Structures in Computer Science and BioInformatics (*e.g.* election algorithms, packing algorithms, phyogenetic trees, probabilistic counting algorithms)
- Economics (equilibria with conjectures, dynamic games, learning processes)
- Economic Modeling, Natural Resource Management

Principal Recent Editorial and Administrative Activities

- Editor, *RAIRO Operations Research*. Former Editor, *Performance Evaluation*.
- Program Committee: SIGMETRICS 2009 & 2010, INFOCOM 2007, ISCIS 2006 & 2010, AINTEC 2006, EPEW 2006, QEST 2006, 2008 & 2010, MAMA 2006–2010.
- Co-head, Department of Informatics of the LIRMM Laboratory (80 staff, 80 PhD students, 2005-2007)
- Co-head of the research team APR “Algorithmics and Performance of Networks” (8 staff, 5 PhD students).
- Member of recruiting committees: University of Avignon (2009), École Normale Supérieure (2010).

Books and chapter of books

C. Figuières, A. Jean-Marie, N. Querou and M. Tidball, *Theory of Conjectural Variations*, World Scientific Publishing, 2004.

N. Galtier, O. Gascuel and A. Jean-Marie, “Introduction to Markov Models in Molecular Evolution”, *in: Statistical Methods in Molecular Evolution*, R. Nielsen (Ed.), Chapter 1, pp. 3–24, Springer Verlag, 2005.

A. Jean-Marie and M. Tidball, “Consistent conjectures, equilibria and dynamic games”, *in: Dynamic Games: Theory and Applications, Mathematics of Decision Making*, A. Haurie and G. Zaccour, Chapter 5, pp. 93–109, Springer Verlag, 2005.

Journals (since 2000)

A.-E. Baert, V. Boudet and A. Jean-Marie, “Data Replication Optimisation in Grid Delivery Network”. *International Journal of Grid and Utility Computing*, Vol. 1, No.4, pp. 287–295, october 2009. DOI: 10.1504/IJGUC.2009.027918

A.-E. Baert, V. Boudet, X. Roche and A. Jean-Marie, “Minimization of Variance Download Times in a Distributed VOD System”. *Scalable Computing: Practice and Experience (SCPE)*, Vol. 10, No. 1, pp. 75–86, 2009.

A. Jean-Marie, N. Marchetti and M. Tidball, “Low-bid Auction Versus High-bid Auction For Siting Noxious Facilities in a Two-city Region: an Exact Approach”, *Annales de estudios económicos y empresariales*, ISSN 0213-7569, N^o 17, 2007, pp. 43–57.

A. Jean-Marie and M. Tidball, “Adapting Behaviors through a Learning Process”. *Journal of Economic Behavior and Organization*, Vol. 60, No. 3, pp. 399–422, july 2006.

B. Gaujal, E. Hyon and A. Jean-Marie, “Optimal routing in two parallel queues with exponential service times”, *Journal of Discrete Event Dynamic Systems*, Vol. 16, No. 1, pp. 71–107, January 2006.

J. Dutheil, T. Pupko, A. Jean-Marie and N. Galtier, “A Model-Based Approach for Detecting Co-Evolving Positions in a Molecule”, *Molecular Biology and Evolution*, 22, 9, pp. 1919–1928, September 2005.

T. Alemu and A. Jean-Marie, “Étude de la configuration dynamique des paramètres de Red”. *TSI: Technique et Science Informatique*, 24, 2/3, pp. 153–178, July 2005.

Y. Calas and T. Alemu, “Qualité audio pour un schéma FEC simple”. *TSI: Technique et Science Informatique*, 24, 2/3, pp. 203–228, July 2005.

Didier Crestani, Alain Jean-Marie and Christine Coves, “Petri Net Analysis: Complexity and Finite Coverability Graph in Modular Design”, *Studies in Informatics and Control*, vol. 14, no. 1, pp. 55–64, March 2005.

N. Galtier and A. Jean-Marie, “Markov-modulated Markov chains and the covarion process of molecular evolution”, *Journal of Computational Biology*, vol. 11, no. 4, pp. 727–733, august 2004.

C. Figuières, A. Jean-Marie and M. Tidball, “On the effects of conjectures in a strategic setting”, *Research in Economics*, vol. 58 (1), pp. 75–102, january 2004.

J.M. Migge, N. Navet and A. Jean-Marie, “Timing analysis of compound scheduling policies: Application to POSIX 1003.1b”, *Journal of Scheduling*, Sept. 2003.

O. Gascuel, M. Hendy, A. Jean-Marie and R. McLachlan, “The Combinatorics of Tandem Duplication Trees”, *Systematic Biology*, 52: 110-118, Feb. 2003.

B. Gaujal, J. Mairesse and A. Jean-Marie, “Minimal Representation of Uniform Recurrence Equations”, *SIAM J. Computing*, 20(5), pp. 1701–1738, 2000. Research report INRIA RR 2568, June 1995.

Conferences with refereeing process (since 2004)

E. Hyon and A. Jean-Marie, “Scheduling services in a queueing system with impatience and setup costs”, *ISCIS 2010, 25th International Symposium on Computer and Information Sciences*, London, UK, September 2010.

A. Dandoush and A. Jean-Marie, “Flow-Level Modeling of Parallel Download in Distributed Systems”, *The Third International Conference on Communication Theory, Reliability, and Quality of Service (CTRQ 2010)*, June 2010 - Athens/Glyfada, Greece.

A. Ben Tahar and A. Jean-Marie, “Population Effects in Multiclass Processor Sharing Queues”, *Valuetools 2009, Fourth International Conference on Performance Evaluation Methodologies and Tools*, Pisa, Italy, October 2009.

A.-E. Baert, V. Boudet and A. Jean-Marie, “Guaranteed Download Time in a Distributed Video on Demand System”, *CISIS’09: 3rd International Conference on Complex, Intelligent and Software Intensive Systems*, pp. 421–426, Fukuoka, Japan, march 2009. [doi: 10.1109/CISIS.2009.96]

A.-E. Baert, V. Boudet, A. Jean-Marie et X. Roche, “Optimization of Download Times in a Distributed VOD System”, *Workshop on Simulation and Modelling in Emergent Computational Systems (SMECS-2008)*, Portland, Oregon, USA, September 2008.

A.-E. Baert, V. Boudet et A. Jean-Marie, “Performance Analysis of Data Replication in Grid Delivery Networks”, *International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2008)*, IEE Computer Society, Barcelona, March 2008, 6 pages.

O. Gandouet and A. Jean-Marie, “LogLog counting for the estimation of IP traffic”, *Fourth Colloquium on Mathematics and Computer Science Algorithms, Trees, Combinatorics and Probabilities*, Nancy, France, September 2006.

N. Le Minh and A. Jean-Marie, “The impact of the implosion problem on the backoff time for a reliable multicast protocol”, *RIVF’06: International Conference on Computer Sciences dedicated to Research, Innovation and Vision for the Future*, Hanoi, February 2006.

A. Jean-Marie, Y. Calas and T. Alemu, “On the compromise between burstiness and frequency of events”, *Performance 2005*, Juan-les-Pins, France, *Performance Evaluation*, vol. 62, no. 1-4, pp. 382–399, October 2005.

T. Alemu, Y. Calas and A. Jean-Marie, “The Interaction of Forward Error Correction and Active Queue Management”, *Networking 2005*, Waterloo, Canada, mai 2005.

T. Alemu, Y. Calas and A. Jean-Marie, “Interaction de FEC et des mécanismes de gestion active des files d’attente”, *CFIP’05: Colloque Francophone sur l’Ingénierie des Protocoles*, Bordeaux, mars-avril 2005.

T. Alemu and A. Jean-Marie, “Dynamic Configuration of Red Parameters”, *Globecom 2004*, Dallas, USA, december 2004.

B. Gaujal, E. Hyon and A. Jean-Marie, “Optimal routing in two parallel queues with exponential service times”, *Proc. WODES’04, IFAC 7th Workshop on Discrete Event Systems*, Reims, France, pp. 193–198, september 2004.

Y. Calas and A. Jean-Marie, “Audio Quality for a Simple Forward Error Correction Code”, *CIC 04: The 2004 International MultiConference in Computer Science & Computer Engineering*, Las Vegas, Nevada, USA, pp. 231–237, june 2004.

Ongoing Work and Recent Technical Reports

A. Dandoush and A. Jean-Marie, “Download Process in Distributed Systems, Flow-level Algorithm vs. Packet-level Simulation Model”, INRIA Research Report RR 7159, December 2009,

<http://hal.inria.fr/docs/00/44/26/08/PDF/RR-7159.pdf>

A.-E. Baert, V. Boudet, X. Roche and A. Jean-Marie, “Combinatorial Designs and Availability”, INRIA Research Report RR 7119, December 2009,

<http://hal.inria.fr/docs/00/44/16/24/PDF/RR-7119.pdf>

A. Ben Tahar and A. Jean-Marie, “The Fluid Limit of the Multiclass Processor Sharing Queue”, INRIA Research Report RR 6867, April 2009,

http://hal.inria.fr/docs/00/37/71/81/PDF/RR-6867_v2.pdf

E. Hyon and A. Jean-Marie, “Scheduling in a queuing system with impatience and setup costs”, INRIA Research Report RR 6881, March 2009,

http://hal.inria.fr/docs/00/45/45/58/PDF/RR-6881_v2.pdf