**Jean MAIRESSE**

Birth : 18 August 1968
Citizenship : French
Family status : Married, two children

LIP6, Boîte 169
4 place Jussieu
75252 Paris Cx 05

## PROFESSIONNAL EXPERIENCE

- 14-16 : Directeur de recherche CNRS at LIP6, UMR 7606, UPMC - CNRS. Promoted DR1 en 2015.

- 07-14 : Directeur de Recherche CNRS at LIAFA, UMR 7089, Univ. Paris 7 - CNRS.

- 96-07 : Chargé de Recherche CNRS at LIAFA, UMR 7089, Univ. Paris 7 - CNRS.

- 95-96 : Post-doctoral position at Hewlett-Packard Labs, Bristol, and the Statistical Laboratory, University of Cambridge, UK.

## CNRS RESPONSABILITIES

- 16-   : Deputy director of INS2I-CNRS.

- 14-16 : Scientific deputy director of INS2I-CNRS.

- 14 : Training "Cadres de la recherche" (Research executive) of CNRS.

- 12-14: Governing board of the CNRS "Mission pour l'Interdisciplinarité".

- 11-14: Scientific Coordinator for Mathematics and Computer Science, INSMI-CNRS (CNRS Institute for Mathematics) and INS2I-CNRS (CNRS Institute for Computer Sciences).

## EDUCATION

- 92-95 : PhD thesis in Applied Mathematics (Queueing Network Theory), Supervisor : Dr. François Baccelli, INRIA Sophia-Antipolis.

- 91-92 : DEA (equiv. **M.Sc.**) in "Stochastic and Statistical Modelling", Paris XI, Magna Cum Laude.

- 91-93 : ENSAE (Ecole Nationale de la Statistique et de l'Administration Econonomique), Majors in Statistics and Game Theory.

- 88-91 : Ecole Polytechnique, Majors in Math. and Probability-Statistics.

- 86-88 : Math. Sup. and Math. Spé. (equiv. **B.Sc.**).

## DISTINCTION

- 09 : Prize of the Foundation Simone and Cino del Duca, awarded by the French Academy of Sciences. Funding: 164.000 euros.

## EDITORIAL BOARD

- 09- : Member of the Editorial board of the journal *Queueing Systems: Theory and Applications*.

- 10-16 : Member of the Editorial board of the journal *Annals of Applied Probability*.

## SUPERVISION OF PHD THESIS

- Vincent Jugé, École Polytechnique, "Combinatorics of braids", september 2012 - february 2016. V.J. is holding a postdoctoral position in LSV, ENS Cachan.

- Irène Marcovici, ENS Lyon, "Probabilistic cellular automata", september 2010 - november 2013. I.M. is Associate Professor in applied math at Université de Lorraine.

- Hoang-Thach Nguyen, École Polytechnique, "Product form queueing networks", September 2008 - April 2012. H.N. is Investment Software Researcher, WorldQuant, Hanoï, Vietnam.

- Marie Albenque, ENS, "Combinatorial approach to random walks on certain groups", January 06 - December 08. Joint direction with J.-F. Marckert, Bordeaux. M.A. is Chargée de Recherche CNRS in Ecole Polytechnique.

- Thu-Ha Dao-Thi, École Polytechnique, "Queueing networks and random walks", October 04 - December 07. T.D. is Chargée de Recherche CNRS in Univ. Versailles.

- Anne Bouillard, ENS, "Optimization and probabilistic analysis of discrete event systems", October 02 - December 05. Joint direction with B. Gaujal, ENS Lyon. A.B. is Associate Professor in computer science in ENS Paris.

- Moez Draief, École Polytechnique, "Asymptotic behavior of large random networks". October 01 - January 05. M.D. is Associate Professor in Imperial College London and Principal Researcher at Huawei.

- Gwénael Regnié, Univ. Paris 6, "Mathematical models for networks offering various quality of services". October 99 - December 02. Joint direction with J. Roberts, France Telecom. G.R. is ssociate Professor in IUT Castres.

## OTHER SUPERVISIONS

Post-doctoral

- Supervision (with M. Soria) of Nicolas Basset (Univ. Marne), post-doctoral position, jan 2016 - june 2016.

- Supervision of Pierre Gillibert (Univ. Caen) Gérin (Univ. Nancy), post-doctoral position, Fondation Simone et Cino del Duca funding, sept 2012 - aug 2013.

- Supervision (with D. Rossin) of Lucas Gérin (Univ. Nancy), post-doctoral position, ANR funding, jan 2009 - aug 2009.

- Supervision of Ana Busic (Univ. Versailles), post-doctoral position, ANR funding, oct 2008 - aug 2009.

- Supervision of Zur Izhakian (Univ. Bar-Ilan, Israel), post-doctoral position, Chateaubriand funding, Ministère des Affaires Etrangères, oct 2007 - dec 2008.

- Supervision of Glenn Merlet (U. Rennes), post-doctoral position, ANR funding, september 2007-august 2008.

- Supervision of Samy Abbes (IRISA), post-doctoral position, funding from the "Région Île de France", december 2005-december 2006.

- Supervision of Ioannis Michos (Univ. Manchester), post-doctoral position, funding from a european TMR project, June 1999-June 2001.

- Supervision of Sabrina Mantaci (Univ. Palermo), post-doctoral position, funding from a european TMR project, Jan. 1999-Dec. 1999.


Masters

- Supervision (with I. Klimann and M. Picantin, LIAFA) of Antoine Delignat-Lavaud, trainee from the Masters M2 MPRI, "Groupes d'automates", march - august 2011. Not validated.

- Supervision of Irène Marcovici, trainee from the M2, Probabilités ENS Lyon, "Probabilistic cellular automata", january - may 2009.

- Supervision of H.T. Nguyen, X, trainee from the Masters M2 MPRI, "Product form Petri nets", june - september 2008.

- Supervision of T.-H. Dao-Thi, X, trainee from the DEA *probabilités* of Paris 6, "Queueing networks and random walks", June-September 2004.

- Supervision of M. Draief, trainee from the DEA *Probabilités* of Paris 6, "Existence de points fixes pour des opérateurs monotones-séparables sur les mesures de comptage", June-September 2001.

- Supervision of A. Bouillard, ENS, trainee from the DEA (M.Sc.) *Algorithmique*, April-July 2002.

- Supervision of E. Hyon, trainee from the DEA (M.Sc.) *Probabilités et Applications*, Univ. Paris VI, "Asymptotic limits in heaps of pieces", June-September 1999.

- Supervision (with S. Gaubert, INRIA) of E. Hautecloque, trainee from the DEA (M.Sc.) *Modélisation et Méthodes Mathématiques en Économie*, ENSTA and Univ. Paris I. "Heaps of pieces, (max,+) semiring and scheduling", March-June 1997.


Others

- Supervision of Raphaël Rieu, trainee from ENS Ulm, march-may 2014.

- Director of Research of: James Martin, CR2 CNRS, 2002-2005; Laurent Bienvenu , CR2 CNRS, 2009-.

- Supervision of M. Draief, trainee from Ecole Polytechnique, "Algorithmes de simulation parfaite : Read-once CFTP", May-July 2000.

- Supervision (with I. Klimann and S. Lombardy) of B. Brotosumpeno, trainee from Ecole Polytechnique, "Extension of Ramadge-Wonham algorithm to automata with multiplicities", April-June 2004.

- Supervision of the 'Projet Scientifique Collectif' from École Polytechnique of Bruneau, Cortot, Pincon, Porcher, and Montagu, "Shortest path problems, from theory to applications", 2004-05.

- Supervision (with M. Latapy, LIAFA) of the Applied Statistics Memoir : "Le graphe des échanges sur Internet" (R. Ben-dhaou, G. Lacote, V. Loonis, M. Puyfaucher), 2003-2004.

- Supervision of the Applied Statistics Memoir : "Etude de chocs sur une courbe de taux zéro-coupon" (O. Renard, B. Bourgeois, L. Lassalvy, A. Kalife), 1999-2000.

- Supervision of A.F. Canton, trainee from Ecole Polytechnique, April-June 1998.

- Supervision of F. Tronel, trainee from ENS Lyon, "Attraction domains of (max,+) linear operators", June-July 1995.

## TEACHING EXPERIENCE

- 04-16: Coordination (with F. Baccelli until 2013) of the course 'Dynamic and algorithmic of networks", Master Parisien de Recherche en Informatique, M2.

- 05-07: M.Sc. course in Probability. 04-05 : M.Sc. course "Max-plus networks", Master Parisien de Recherche en Informatique, M2.

- 99-04 : M.Sc. course "Dynamic and control of max-plus networks", Univ. Paris 6-7-11 (with B. Gaujal in 02-04).

- 97-04 : M.Sc. course, *Point processes and discrete event systems*, Univ. Paris 6 (with F. Baccelli and L. Massoulié).

- 00-01 : Assistant Professor at École Polytechnique, Applied Mathematics department.

- 99-00 : Teaching assistant at École Polytechnique, Applied Mathematics department.

- 01 : Advanced course for doctorates in Theor. Comp. Sc, level M. Sc., Math. department, University of Palermo.

- 98-99 : Advanced course in Theor. Comp. Sc, level M. Sc., ENS Cachan.

- 97-98 : Teaching assistant in Probability, level B.Sc., ENSAE.

- 95-96 : Teaching advisor in Applied Mathematics, Univ. of Cambridge.

- 93-95 : Teaching assistant in Mathematics, level B.Sc., CIV Valbonne.

- 90 : Voluntary courses of Mathematics in prison (Fleury-Mérogis).

## ADMINISTRATION AND ORGANISATION ─────────────

CNRS responsability

 See above.

Team responsability

- 06-10: Leader of the LIAFA team 'Automata and Applications'.
  Members (01/09/06): 13 permanent researchers, 9 PhD and postdoc.

- 02-09: Leader of the LIAFA group 'Discrete Event Systems'.

- 97-01: Leader of the LIAFA transversal team on 'Discrete Event Systems'.

Other responsabilities

- 10-14: Deputy director of the Fédération de Recherche en Mathématiques de Paris Centre (FR 2830).

Reasearch projects

- 11 : Leader with A. Zuk of the Paris 7 inter-disciplinary project "Automaton groups", funding: 16.000 euros.

- 10-13 : Member of the ANR project *MAGNUM*, funding: 560.000 euros. 12-15 : Member of the ANR project *MealyM*, funding: 350.000 euros.

- 06-09 : Leader of the project *MASED*, a 'young researcher project' from the ANR (Agence Nationale pour la Recherche), funding: 120.000 euros.

- 05: Leader of the group *Discrete Event Dynamical Systems*. Funded by the STIC department of CNRS and the GDR ALP.

- 04-06: Member of the project *Knots and braids* of the ACI Nouvelles Interfaces des Mathématiques (coordinator: A. Sossinsky, LIFR-MIIP, Moscow, and S. Nechaev, LPTMS, Orsay).

- 03-05: Scientific teamleader of LIAFA for the project *Graphs, Algorithms, and Probabilities* of the ACI Nouvelles Interfaces des Mathématiques (coordinator: S. Boucheron, LRI, Orsay).

- 01-03: Leader with T. Bousch (Orsay) of the CNRS MathStic project 'Optimisation and ergodic theorems for discrete event systems'. Organization of thematic days: 5/15/2002 and 2/26/2003.

- 02-03: Leader with C. Frougny and B. Vallée of the Action Spécifique from the CNRS STIC department "Dynamic systems and modelling of algorithms". Organization of thematic days: 11/28-29/2002 and 5/19/2003.

- 97-01: Scientific teamleader of LIAFA for the european project TMR (Training and Mobility of Researchers) ALAPEDES.

- 99-01: Scientific teamleader of LIAFA for the INTAS project 97-165.

## Animation

- 16- : Member of the advisory board of the International Laboratory Poncelet, Moscow, Russia.

- 12- : Member of the Administrative Board of the Labex CIMI (Toulouse, France).

- 09-15: Member of the steering committee of the *École de Printemps d'Informatique Théorique*.

- 06-10: Leader of the working group *SDA2 : Systèmes Dynamiques, Automates et Algorithmique* of the GDR 673 Informatique Mathématique.

- 07- : Member of the Administrative Board of SMAI (Société de Mathématiques Appliquées et Industrielles).

- 04- : Member of the steering committee of the MAS group ((Modèles Aléatoires et Statistiques) within the SMAI (Société de Mathématiques Appliquées et Industrielles).

- 02-04: Member of the steering committee of the *Réseau Thématique : Mathématique de l'Informatique* of the CNRS.

## Scientific mediation

- 15: Member of the program commitee of the Congress of the Société Informatique de France (SIF).

- 14: Member of the program commitee of the Congress of the Société Informatique de France (SIF).

- 12: Scientific advisor for the Turing exhibition, 5-th district city hall, Paris.

- 12: Scientific advisor for the movie "Le modèle Turing" by Catherine Bernstein, CNRS-Images. Public debating, Researcher's film festival, Nancy, France, june 2012

## International representation

- 12: Israël. Signature of an International Associated Laboratory between CNRS and Tel-Aviv University.

- 12: Austria. Renewal of the CNRS International Laboratory Pauli in Vienna.

Organization

- 15: Organization (with B. Blaszczyszyn, C. Bordenave, B. Gaujal and M. Lelarge) of the conference "From stochastic networks to stochastic geometry" dedicated to François Baccelli on his 60th birthday, IHP, Paris, january 2015. 80 participants.

- 13: Organization (with I. Marcovici) of the workshop Probabilistic Cellular Automata, Paris, january 2013. 30 participants.

- 09: Co-organization of the workshop FRAC-SDA2-NAFIT, Nice, December 2009. 50 participants.

- 09: Organization (with A. Micheli and D. Poulalhon) of the workshop ALEA'09, CIRM, Marseille, March 2009. 80 participants.

- 08: Co-organization of the workshop JORCAD'08, Rouen, September 2008. 65 participants.

- 08 : Organization (with F. Baccelli) of the *Stochastic Networks Conference*, 8-th edition (first to be held in Europe), Paris, June 2008. 150 participants.

- 08 : Organization of the *First SDA2 Days*, Chevaleret, Paris, 4-5 October 2007. 50 participants.

- 06: Organizer of an invited session, Journees MAS 2006, Lille, France, September 2006.

- 05: Organizer of an invited session, 13-th INFORMS Applied Probability Conference, Ottawa, Canada, July 2005.

- 98: Organization of the 26th Summer School of Theoretical Computer Science, *Max-Plus algebra and applications in computer science and automatic control*, Noirmoutier Island, France.

- 96-98: Organization of the algorithm seminar of LIAFA.

Program committee chair

- 09: Chair of the program committee of the *4th Int. Conf. on Performance Evaluation Methodologies and Tools*, IEEE, Pisa, Italie.

- 08 : Chair (with F. Baccelli) of the *8-th Stochastic Networks Conference*, Paris, June 2008.

Program committee member

- 16: Member of the program committee of the 24th IEEE Mascots International Conference, Imperial College London, september 2016.

- 16: Member of the program committee of the '11-ième Atelier d'Evaluation de Performances', Toulouse, march 2016.

- 15: Member of the program committee of the 'Journées Structures Discrètes', Rouen, September 2015.

- 14: Member of the program committee of the '10-ieme Atelier d'Evaluation de Performances', Sophia-Antipolis, June 2014.

- 13: Member of the reading committee of the special issue *Automates cellulaires et réseaux d'automates* of the journal *Techniques et Sciences Informatiques* (editors N. Fatès and S. Sené).

- 12: Member of the program committee of *Journées JMC'12* (Journées Machines à états finis et Combinatoire), Rouen, France, June 2012.

- 12: Member of the program committee of *CANT: Combinatorics, Automata and Number Theory*, CIRM, Marseille, France, May 2012.

- 10: Member of the program committee of *JAC 2010 (Journées Automates Cellulaires)*, Turku, Finland, December 2010.

- 10: Member of the program committee of the *13-ièmes Journées Montoises d'Informatique Théorique*, Amiens, France, September 2010.

- 10: Member of the program committee of the *9-th Stochastic Networks Conference*, Cambridge, United-Kingdom, May 2010.

- 07: Member of the program committee of the conference *The Algebra and Geometry around Knots and Braids*, Euler Institute, St.Petersburg, Russia, September 2007.

- 06-07: Member of the program committee of the *2nd Int. Conf. on Performance Evaluation Methodologies and Tools*, IEEE, Nantes, France, October 2007.

- 05-06: Member of the program committee of the *1st Int. Conf. on Performance Evaluation Methodologies and Tools*, IEEE, Pisa, Italy, October 2006.

- 01-05: Member of the scientific committee of the 'Journées Annuelles d'Automatique' of the GDR Automatique.

- 00: Member of the program committee of the workshop 'Modern problems in applied probability', Novossibirsk, Russia, august 2000.

Refereeing (PhD, HDR)

- 17 : Referee of the PhD thesis committee of Thibault Godin, Université Paris 7, july 2017.

- 14 : Referee of the HDR thesis committee of Pierre-Yves Louis, Université de Poitiers, november 2014.

- 14 : Referee of the PhD thesis committee of Benjamin Hellouin de Menibus, Université de Marseille, september 2014.

- 13 : Referee of the HDR thesis committee of Mathieu Sablik, Université de Marseille, décember 2013.

- 10 : Referee of the PhD thesis committee of Laurent Boyer, Université Chambéry, december 2010.

- 10 : Referee of the HDR thesis committee of Thomas Bonald, Université Paris 6, january 2010.

- 09 : Referee of the PhD thesis committee of Jean Fromentin, Université of Caen, June 30, 2009.

- 08 : Referee of the HDR thesis committee of Stefan Haar, Université of Rennes, September 2008.

- 08: Referee of the PhD thesis committee of Christelle Holtzmann, Université of Bourgogne, June 2008.

- 07 : Referee of the HDR thesis committee of Jean-Baptiste Yunes, december 2007.

- 07 : Referee of the PhD thesis committee of Minh-Anh Tran, École Polytechnique, october 2007.

- 05 : Referee of the PhD thesis committee of Glenn Merlet, University of Rennes, september 2005.

- 05 : Referee of the PhD thesis committee of Benoît Daireaux, University of Caen, June 22, 2005.

- 04 : Referee of the PhD thesis committee of Samy Abbes, IRISA, University Rennes 1.

- 04 : Referee of the PhD thesis committee of Violetta Lonati, University of Milan, Italy.

Member of the committee (PhD, HDR)

- 17 : Member of the HDR thesis committee of Matthieu Picantin (University Paris 7, july 2017).

- 16 : Member of the HDR thesis committee of Thi Ha Duong Phan (University Paris 7, december 2016).

- 15 : Member of the PhD thesis committee of Oussama Ajbal (University of Caen, december, 2015).

- 15 : Member of the PhD thesis committee of Jérôme Casse (University of Bordeaux, november, 2015).

- 14 : Member of the PhD thesis committee of Laure Daviaud (University Paris 7, september, 2014).

- 14 : Member of the HDR thesis committee of Samy Abbes (University Paris 7, july, 2014).

- 14 : Member of the HDR thesis committee of Pascal Moyal (Université Technologique de Compiègne, june, 2014).

- 14 : Head of the PhD thesis committee of Alice Jacquot, (University of Villetaneuse, april, 2014).

- 13 : Head of the PhD thesis committee of Nicolas Basset, (University Marne-la-Vallée, december, 2013).

- 13 : Member of the HDR thesis committee of Ines Klimann, (University Paris 7, december, 2013).

- 13 : Head of the PhD thesis committee of Olivier Bouré, (University of Lorraine, july, 2013).

- 12 : Member of the PhD thesis committee of Youssouf Oualhadj (University of Bordeaux, december, 2012).

- 12 : Member of the PhD thesis committee of Xavier Koegler (University Paris 7, september, 2012).

- 11 : Head of the HDR thesis committee of Emmanuel Jeandel (University of Marseille, december 2011).

- 10 : Member of the HDR thesis committee of Cyril Nicaud (University of Marne-la-Vallée, december 2010).

- 08 : Head of the PhD thesis committee of Lucas Gérin (University of Nancy, december 2008).

- 08 : Head of the PhD thesis committee of Damien Regnault (ENS Lyon, november 2008).

- 08 : Member of the HDR thesis committee of Philippe Duchon (University Bordeaux, november 20, 2008).

- 07 : Member of the PhD thesis committee of Julien Ah-Pine (University Paris 6, october 26, 2007).

- 07 : Member of the PhD thesis committee of Ana Busic (University of Versailles, july 16, 2007).

- 06 : Member of the PhD thesis committee of Hugo Gimbert (University Paris 7, december 15, 2006).

- 05 : Member of the HDR thesis committee of Sylvain Lombardy (U. Paris 7, Dec. 2005).

- 04 : Member of the PhD thesis committee of Thierry Gross (U. Paris 7, Dec. 2004).

- 04 : Member of the PhD thesis committee of Nazim Fatès (ENS Lyon, Dec. 2004).

- 00 : Member of the PhD thesis committee of Christophe Prieur (University Paris 7, June 30, 2000).

- 99 : Member of the PhD thesis committee of Ines Klimann (University Paris 7, June 28, 1999).

Other evaluations

- 13 : Member of the CNRS visiting committee of the UMI Poncelet, Moscow, Russia.

- 13 : Member of the Computer Science Selection Committee, Univ. Tours (lecturer), and Univ. Marne-la-Vallée (lecturer).

- 12 : Member of the evaluation comitee of *Interstices*, web magazine of scientific mediation.

- 12 : Member of the Computer Science Selection Committee, Univ. Montpellier (prof. and lecturer) and Bordeaux (prof. and lecturer). Member of the Mathematics Selection Committee, Univ. Versailles (lecturer with "chaire CNRS").

- 11 : Member of the CNRS evaluation committee of CMM (Center for Mathematical Modeling), Santiago, Chile.

- 11 : Member of the Computer Science Selection Committee, Univ. Montpellier (prof. and lecturer) and Bordeaux (lecturer with "chaire CNRS"). Member of the Mathematics Selection Committee, Univ. Grenoble (lecturer with "chaire CNRS").

- 10-11 : Assessor for the FNRS (Belgian National Science Foundation).

- 10 : Member of the Computer Science Selection Committee, Univ. Bordeaux (prof. and lecturer) et Marne-la-Vallée (lecturer).

- 09 : Assessor for the AERES of the LABRI, Univ. Bordeaux.

- 09 : Member of the Computer Science Selection Committee (prof.) for Univ. Paris 7, Univ. Bordeaux.

- 07-08 : Expert for the ANR (Agence Nationale de la Recherche).

- 07-08 : Member of the Computer Science Evaluation Commission (CSE) for Univ. Paris 7, Univ. Caen, and Univ. Bordeaux.

- 04-07: Member of the Computer Science Evaluation Commission (CSE) for Univ. Paris 7 and Univ. Versailles.

- 01-04: Member of the Computer Science Evaluation Commission (CSE) for Univ. Paris 7, Univ. Marne-la-Vallée, and ENS Lyon.

Examiner for the Écoles Normales Supérieures

- 05-07: Oral examiner (Computer science) for the entrance examination to ENS Ulm, Lyon, and Cachan.

- 02-04 : Oral examiner (Computer science, TIPE) for the entrance examination to ENS Ulm, Lyon, and Cachan.

- 03 : Author with J. Goubault-Larrecq of the Mathematics and Computer Science Exam, entrance examination to ENS Ulm, Lyon, and Cachan.

- 02 : Author with A. Darte of the Mathematics and Computer Science Exam, entrance examination to ENS Ulm and Lyon.

- 00 : Author with J. Cassaigne of the Computer Science Exam, entrance examination to ENS Ulm, Lyon and Cachan.

- 99 : Author with B. Durand of the Computer Science Exam, entrance examination to ENS Ulm and Lyon.

## DOMAINS OF INTEREST

- Discrete Event Systems: queueing models, Petri nets, timed automata.

- Max-plus semiring, topical functions, graphs and automata.

- Combinatorial (semi)group theory.

- Discrete stochastic models. Random walks on (semi)groups.

## PUBLICATIONS

Papers in refereed journals:

- "Reversibility and further properties of FCFS infinite bipartite matching" (avec I. Adan, A. Busic et G. Weiss). Under revision for *Mathematics of Operations Research*.

- "Uniform sampling of subshifts of finite type on grids and trees" (avec I. Marcovici). To appear in *International Journal of Foundations of Computer Science*, 2016.

- "Stability of the stochastic matching model" (with P. Moyal). To appear in *Journal of Applied Probability*, 2016.

- "Uniform and Bernoulli measures on the boundary of trace monoids" (with S. Abbes). *J. Comb. Theory, Ser. A*, Vol. 135, p. 201-236, 2015.

- "The ultimate rank of tropical matrices" (with P. Guillon, Z. Izhakian, and G. Merlet). *J. Algebra*, Vol. 437, p. 222-248, 2015.

- "Around probabilistic cellular automaton" (with I. Marcovici). *Theoretical Computer Science*. Vol. 559, p. 42-72, 2014.

- "Probabilistic cellular automata and random fields with i.i.d. directions" (with I. Marcovici). *Ann. Inst. Henri Poincaré Probab. Stat.*, accepted for publication, 2012.

- "Probabilistic cellular automata, invariant measures, and perfect sampling" (with A. Busic and I. Marcovici). *J. Appl. Probab.*, accepted for publication, 2012.

- "Synthesis and analysis of product form Petri nets" (with S. Haddad and T. Nguyen). *Fundamenta Informaticae*, accepted for publication, 2012.

- "Stability of the bipartite matching model" (with A. Busic and V. Gupta). *Adv. Appl. Probab.*, accepted for publication, 2011.

- "On the finiteness problem for automaton (semi)groups" (with A. Akhavi, I. Klimann, S. Lombardy and M. Picantin). *Internat. J. Algebra Comput.*, accepted for publication, 2011.

- "A non-ergodic probabilistic cellular automaton with a unique invariant measure" (with P. Chassaing). *Stochastic Processes and their Applications*, Vol. 121, n. 11, p. 2474-2487, 2011.

- "Towards an Erlang formula for multiclass networks" (with M. Jonckheere). *Queueing Systems*, Vol. 66, n. 1, p. 53-78, 2010.

- "Deficiency Zero Petri nets and product form" (with H.-T. Nguyen). *Fundamenta Informaticae*, Vol. 105, n. 3, p. 237-261, 2010.

- "Zero-automatic networks" (with T.-H. Dao-Thi). *Discrete Event Dynamic Systems*, Vol. 18, n. 4, p. 499-536, 2008.

- "Minimization of circuit registers: retiming revisited" (with B. Gaujal). *Discrete Appl. Math.*, Vol. 156, p. 3498-3505, 2008.

- "Zero-automatic queues and product form" (with T.-H. Dao-Thi). *Adv. Appl. Probab.*, Vol. 39, n. 2, p. 429-461, 2007.

- "Randomly growing braid on three strands and the manta ray" (with F. Mathéus). *Ann. Appl. Probab.*, Vol. 17, n. 2, p. 502-536, 2007.

- "Random walks on free products of cyclic groups" (with F. Mathéus). *J. London Math. Soc.*, Vol. 75, n. 1, p. 47-66, 2007.

- "Growth series for Artin groups of dihedral type" (with F. Mathéus). *Internat. J. Algebra Comput.*, Vol. 16, n. 6, p. 1087-1107, 2006.

- "Extremal throughputs in free-choice nets" (with A. Bouillard and B. Gaujal). *Discrete Event Dynamic Systems*, Vol. 16, n. 3, p. 327-352, 2006.

- "Finite-range topical functions and uniformly topical functions" (with T. Bousch). *Dynamical Systems*, Vol. 21, n.1, p. 73-114, 2006.

- "Series which are both max-plus and min-plus rational are unambiguous" (with S. Lombardy). *Theoret. Inform. Appl.*, Vol. 40, n. 1, p. 1-14, 2006.

- "Random walks on groups and monoids with a Markovian harmonic measure". *Electron. J. Probab.*, Vol. 10, p. 1417-1441, 2005.

- "Queues, Stores, and Tableaux" (with M. Draief and N. O'Connell). *J. Appl. Probab.*, Vol. 42, n. 4, p. 1145-1167, 2005.

- "Services within a Busy Period of an M/M/1 Queue and Dyck Paths" (with M. Draief). *Queueing Systems*, Vol. 49, n. 1, p. 73-84, 2005.

- "Möbius inversion formula for the trace group" (with A. Bouillard). *C. R. Acad. Sci. Paris, Ser. I*, Vol. 339, n. 12, p. 899-904, 2004.

- "Deciding Unambiguity and Sequentiality from a Finitely Ambiguous Max-Plus Automaton" (with I. Klimann, S. Lombardy and C. Prieur). *Theoretical Computer Science*, Vol. 327, n. 3, p. 349-373, 2004.

- "Blocking a transition in a Free Choice net and what it tells about its throughput" (with B. Gaujal and S. Haar). *J. Comput. Syst. Sci*, Vol. 66, n. 3, p. 515-548, 2003.

- "Computing the average height in trace monoids" (with D. Krob and I. Michos). *Discrete Mathematics*, Vol. 273, p. 131-162, 2003.

- "On the Existence of Fixed Points for the ./GI/1 Queue" (with B. Prabhakar). *Annals of Probability*, Vol. 31, n. 4, p. 2216-2236, 2003.

- "Asymptotic height optimization for topical IFS, Tetris heaps, and the finiteness conjecture" (with T. Bousch). *J. Amer. Math. Soc.*, Vol. 15, n. 1, p. 77-111, 2002.

- "Asymptotic behavior in a heap model with two pieces" (with L. Vuillon). *Theoretical Computer Science*, Vol. 270, p. 525-560, 2002.

- "Asymptotic results on infinite tandem queueing networks" (with F. Baccelli and A. Borovkov), *Probability Theory and Related Fields*, Vol. 118, n. 3, p. 365-405, 2000.

- "Computations of Uniform Recurrence Equations Using Minimal Memory Size" (with B. Gaujal and A. Jean-Marie), *SIAM J. on Computing*, Vol. 30, n. 5, p. 1701-1738, 2000.

- "Modelling and analysis of timed Petri nets using heaps of pieces" (with S. Gaubert), *IEEE Trans. Autom. Control*, Vol. 44, n. 4, p. 683-697, 1999.

- "Products of Irreducible Random Matrices in the (max,+) Algebra", *Advances in Appl. Prob.*, Vol. 29, n. 2, p. 444-477, 1997.

- "Graphical Approach of the Spectral Theory in the (max,+) Algebra", *IEEE Trans. Autom. Control*, Vol. 40, n. 10, p. 1783-1789, 1995.

Chapters in refereed books:

- "Max-plus automaton" (with S. Lombardy), *Handbook of Automata*, European Mathematical Society, 2015.

- "Ergodic Theory of Stochastic Discrete Event Systems" (with F. Baccelli), *Idempotency*, Publications of the Newton Institute, Cambridge University Press, p.171-209, 1998.

- "Task Resource Models and (max,+) Automata" (with S. Gaubert), *Idempotency*, Publications of the Newton Institute, Cambridge University Press, p.133-144, 1998.

- "Stationary Ergodic Jackson Networks: Results and Counter-Examples" (with F. Baccelli and S. Foss), *Stochastic networks*, Oxford Univ. Press, p.281-307, 1996.

- "Analysis of Parallel Processing Systems via the (max,+) Algebra" (with F. Baccelli, B. Gaujal and A. Jean-Marie). *Quantitative Methods in Parallel Systems*, ESPRIT Basic Research Series, Springer Verlag, p.69-98, 1995.

Conferences with refereed proceedings:

- "Uniform generation in trace monoids", (with S. Abbes). In *40th MFCS*, LNCS 9234, pp. 63-75, Springer-Verlag, 2015.

- "Implementing computations in automaton (semi)groups", (with I. Klimann and M. Picantin). In *CIAA 2012*, LNCS, Springer-Verlag, 2012.

- "Density classification on infinite lattices and trees" (with A. Busic, N. Fates, and I. Marcovici). In *LATIN 2012*, LNCS 7256, pp. 109-120, Springer-Verlag, 2012.

- "Synthesis and Analysis of Product-form Petri Nets" (with S. Haddad and H.-T. Nguyen). In *Petri Nets 2011*, LNCS 6709, Springer-Verlag, 2011. "Outstanding paper award".

- "Probabilistic cellular automata, invariant measures, and perfect sampling" (with A. Busic and I. Marcovici). In *STACS 2011*, vol.9, p. 296-307, LIPIcs, 2011.

- "Deficiency zero Petri nets and product form" (with H.-T. Nguyen). In *Petri Nets 2009*, LNCS 5606, p. 103–122, Springer-Verlag, 2009.

- "Zero-automatic networks" (with T.-H. Dao-Thi). In *Proceedings of the 1st Int. Conf. on Performance Evaluation Mathodologies and Tools, Valuetools'06*, Pisa, Italy, ACM, 2006. "Best student paper award".

- "Zero-automatic queues" (with T.-H. Dao-Thi). In *Formal Techniques for Computer Systems and Business Processes*, LNCS 3670, p. 64-78, Springer-Verlag, 2005.

- "Thoughput in stochastic free-choice nets" (with A. Bouillard and B. Gaujal). In *Proceedings of the 44th IEEE Conference on Decision and Control*, Sevilla, Spain, p. 2131-2136, 2005.

- "Extremal throughputs in free-choice nets" (with A. Bouillard and B. Gaujal). In *26-th International Conferences on Application and Theory of Petri Nets*, LNCS 3536, Springer-Verlag, 2005.

- "Random walks on groups with a tree-like Cayley graph" (with F. Mathéus). In *Mathematics and computer science. III. Algorithms, trees, combinatorics and probabilities*, p. 445-460, Trends in Mathematics, Birkhäuser Verlag, 2004.

- "Joint Burke's Theorem and RSK Representation for a Queue and a Store" (with M. Draief and N. O'Connell). In *Discrete Random Walks 2003*. DMTCS vol AC, p. 69-82, 2003.

- "Generating series of the trace group" (with A. Bouillard). In *DLT 2003*, LNCS, Springer-Verlag, 2003.

- "Deciding the sequentiality of a finitely ambiguous max-plus automaton" (with I. Klimann, S. Lombardy, and C. Prieur). In *DLT 2003*, LNCS, Springer-Verlag, 2003.

- "On the average parallelism in trace monoids" (with D. Krob and Y. Michos). In *STACS 2002, Antibes-Juan les Pins*, LNCS 2285, p. 477-488, Springer-Verlag, 2002.

- "On the average Cartier-Foata height of traces" (with D. Krob and Y. Michos). In *Electronic Notes in Discrete Mathematics*. Combinatorics, Graph Theory and Applications, Comb01, Barcelona, Spain, September 2001.

- "Bilinear functions and trees over the (max,+) semiring" (with S. Mantaci and V. Blondel). In *Proceedings Mathematical Foundations of Computer Science (MFCS'00)*, LNCS 1893, p. 549-558, Springer-Verlag, 2000.

- Invited. "Performance evaluation of timed Petri nets using heaps of pieces" (with S. Gaubert). In *Petri Nets and Performance Models (PNPM'99)*, P. Bucholz and M. Silva eds, p. 158-169, IEEE Computer Society, 1999.

- "Modelling and analysis of timed Petri nets using (max,+) automata" (with S. Gaubert). Europ. Conf. Control, Bruxelles, July 97.

- "Tetris models for multicast switches" (with B. Prabhakar and N. McKeown). Proceedings of the 30th Conference on Information Sciences and Systems, Princeton, New Jersey, 1:216-221, Mars 1996.

- "A graphical representation for matrices in the (max,+) algebra". In Boxma, O. J. (ed.) et al., Performance evaluation of parallel and distributed systems. Solution methods. Proceedings of the 3rd QMIPS workshop. Part 2. CWI Tracts. 106, p. 343-376, 1994.

- "Graphical Representation for Matrices in the (max,+) Algebra". In *Proc. 33-rd IEEE Conf. on Decision and Control, Orlando, Florida*, Vol. 3, p. 2615-2620, 1994.

- Invited. "Stochastic Linear Systems in the (max,+) Algebra". In *11th Int. Conf on Analysis and Optim. of Systems*, n. 199 in Lecture Notes in Control and Info. Sciences, p. 257-265, Springer-Verlag, 1994.

Conferences with proceedings:

- "Queues with Skill Based Parallel Servers and a FCFS Infinite Matching Model" (with I. Adan, M. Boon, A. Busic, and G. Weiss), 14th Workshop on MAthematical Performance Modeling and Analysis, ACM SIGMETRICS Proceedings, june 2013.

- "The asymptotic rank of semigroups of tropical matrices", (avec P. Guillon, Z. Izhakian et G. Merlet). In *Tropical and Idempotent Mathematics, Int. Workshop*, G. Litvinov, V. Maslov, A. Kushner et S. Sergeev (Eds), pp. 92-99, Moscow, 2012.

- "Stability of the bipartite matching model" (with A. Busic and V. Gupta), 11th Workshop on MAthematical Performance Modeling and Analysis, ACM SIGMETRICS Proceedings, june 2010.

- Invited, "Trace monoids, heap models and Discrete Event Systems", p. 37-42, Proceedings of the Workshop on Trace Theory and Code Parallelization, A. Bertoni, M. Goldwurm, and S. Reghizzi, Eds, Rapporto Interno n. 263-00, DSI, Università di Milano, December 2000.

Other publications:

- "Automates cellulaires et correction derreurs" (with I. Marcovici). *Images des Mathmatiques*, CNRS, 2015. (In french. Scientific mediation.)

- Guest editor of the special issue *Performance evaluation methodologies* in *Discrete Event Dynamic Systems*, vol. 21. n.1, 2011.

- Guest editor (with G. Stea) of the special issue *Valuetools* in *Performance Evaluation*, vol. 69, n. 3-4, 2012.

- Guest editor (with F. Baccelli) of the special issue *Stochastic Networks* in *Queueing Systems*, vol. 62, n. 4, 2009.

- Guest editor (with E. Altman and B. Gaujal) of the special issue *Valuetools* in *Discrete Event Dynamic Systems*, vol. 18, n. 4, 2008.

- Guest editor (with S. Gaubert, J.-J. Loiseau, M. Nivat, and J.-E. Pin) of the special issue *Max-Plus Algebras*. Volume 293, Number 1, *Theoretical Computer Science*, 2003.

- "Corrigé de l'épreuve d'Informatique des ENS, filière MPI" (with B. Durand and Y. Verhoeven). *RMS : Revue des mathématiques de l'enseignement supérieur*, n. 6, p.642-657, fvrier 2000.

- "Corrigé de l'épreuve d'Informatique des ENS, filière MPI" (with J. Cassaigne). *RMS : Revue des mathématiques de l'enseignement supérieur*, n. 8, p.858-876, avril 2001.

- "Corrigé de l'épreuve de Mathématique-Informatique des ENS, filière Info" (with A. Darte). *RMS : Revue des mathématiques de l'enseignement supérieur*, n. 2, p.47-83, 2003.

PhD Thesis and Habilitation:

- PhD: "Stabilité des systèmes à événements discrets stochastiques : une approche algébrique", École Polytechnique, Paris, 1995.

- HDR: "Tetris, traces et tresses. Modélisation, combinatoire et performances", University Paris 7, 2006.

Papers submitted or in preparation

- "Random walks in generalized braid groups converge" (with V. Jugé).

- "Uniform measure on braid monoids and dual braid monoids" (with S. Abbes, V. Jugé and S. Gouezel).

- "Minimizing braids on four strands" (with A. Micheli and D. Poulalhon).

## OTHER INTERNATIONAL CONFERENCES ────────────────────────

Keynote speaker

- ASMTA'12, 19th International Conference on Analytic and Stochastic Modelling Techniques and Applications, Grenoble, France, June 2012.

- AUTOMATA 2010, 16th intl. workshop on cellular automata & discrete complex systems, Nancy, France, June 2010.

- Valuetools'08, Athena, Greece, October 2008.

- Stochastik-Tage, section 'Stochastic networks and random graphs', Hamburg, March 2000. "Infinite tandem queueing networks".

Invited or regular speaker

- Invited, Gelenbe Symposium, University College London, September 2015.

- Invited, 18-th INFORMS Applied Probability Conference, Istanbul, Turkey, July 2015.

- Invited, 17-th INFORMS Applied Probability Conference, San-Jose, Costa-Rica, July 2013.

- Invited, 15-th INFORMS Applied Probability Conference, Cornell, USA, July 2009.

- Invited (keynote speaker), Valuetools'08, Athena, Greece, October 2008.

- International conference "The Algebra and Geometry around Knots and Braids", Euler Institute, St.Petersburg, Russia, September 2007.

- Invited, LMS Durham symposium, Recent developments in Random walk, July 2007.

- Invited, Conference on Stochastic Networks and Related Topics, Bedlewo, Poland, May 2007.

- Invited, New Directions in Applied Probability: Stochastic Networks and Beyond, Edinburgh, July 2006.

- Conference Structure formation and random processes on graphs and networks, Orsay, February 2006.

- 13-th INFORMS Applied Probability Conference, Ottawa, Canada, July 2005. "Random walks on 0-automatic pairs".

- Conference Combinatorial Methods in Physics and Knot Theory, Free University, Moscow, February 2005. "Randomly growing braid on three strands".

- Conference Geometric group theory, random walks, and harmonic analysis, Cortona, Italie, June 2004. "Random walks on free products of finite groups" (with F. Mathéus).

- Conference Geometry and Combinatorics in Physics, Free University, Moscow, March 2004. "Traces, braids, and random walks".

- 12-th INFORMS Applied Probability Conference, Beijing, october 2003, "Services within a busy period of an $M/M/1$ queue and Dyck paths" (with M. Draief).

- Invited, Oberwolfach meeting on Applied Probability, Oberwolfach, Germany, dec. 03. "Queues, stores, and tableaux".

- Invited, Conference on Stochastic Networks, Stanford University, June 24-29, 2002. "Stability of stochastic Petri nets".

- 11th INFORMS Applied Probability Conference, New York, July 01, "Blocking a transition in a Free Choice net and what it tells about its throughput" (with B. Gaujal and S. Haar).

- Invited, 10th INFORMS Applied Probability Conference, Univ. of Ulm, Germany, July 99. "Infinite tandem queueing networks".

- Invited, Oberwolfach meeting on Applied Probability, Oberwolfach, Germany, dec. 98. "Queues in tandem".

- Invited, 9th INFORMS Applied Probability Conference, Boston, Mass., July 97, "Weak Convergence to Stationarity for the Departures from an Infinite Tandem of $./GI/1/\infty$ Queues".

- Invited, Royal Statistical Society Conference on Stochastic Networks, Heriot-Watt University, Edinburgh, Scotland, August 95.

- Invited, 8th Applied Probability Group Conference, Atlanta, Georgia, June 95. "New conditions for stability in closed Jackson networks".

- 3-rd ORSA Telecommunications Conference, Boca Raton, Florida, March 95. "On large tandem queuing systems" (with F. Baccelli and A. Borovkov).

- Invited, Conf. on Applied Probability in Engineering, Computer and Communication Sciences, INRIA/ORSA/TIMS/SMAI, Paris, France, June 93. "Classification of stationary regimes in (max,+) linear systems".

## OTHER PRESENTATIONS

Mini-course

- Workshop Aléa 07, CIRM, Marseille, France, march 2007.

- Summer school on Tropical Geometry, Institut de Mathématiques de Jussieu, Paris, France, july 06 06.

- "École Jeunes Chercheurs en Algorithmique et Calcul Formel", LaBri, Bordeaux, France, march 1999.

National conferences, summer schools, and workshops:

- Workshop Aléa 15 (CIRM, Marseille, march 2015). Workshop "Probabilistic Cellular Automata: Theory, Applications and Future Perspectives" (Eurandom, Eindhoven, Netherlands, june 2013). "Mathematics and applications day", Orsay (2012). First Franco-Chilean Congre in Dynamics and Combinatorics (Baie de Somme, jan 2012). Journées

Combinatoire de Bordeaux (Bordeaux, jan 2010). Journées FRAC-SDA2-NAFIT (Nice, dec 2009). Workshop Distance Automata and Generalizations (Paris, november 2009). Workshop Aléa 06 (CIRM, Marseille, march 2006). Workshop on Braids and Low Dimensional Topology (Rennes, France, September 2005). First Cornell Summer School in Probability (Cornell, USA, july 2005). Workshop Alea 05 (CIRM, Marseille, March 2005). Workshop on True Concurrency Models (IRISA, Rennes, France, Oct. 2004). Special day 'Joint spectral radius' (Louvain, Belgique, March 2004). Workshop Alea 04 (CIRM, Marseille, Jan. 2004). Journées de l'AS Systèmes Dynamiques (Paris, December 2002). Journée Mesures Maximisantes (Orléans, France, Dec. 2001). Journée Probabilités pour l'informatique (Nancy, France, Nov. 2001). Meeting Alapedes (Prague, Czech Republic, August 2001). HP Labs-Microsoft Research Workshop on Random Matrices, Percolation and Queues (Bristol, UK, Sept. 2000). Workshop 'Inhomogeneous Random Systems' (Ec. Polytechnique, Palaiseau, France, Jan. 98). Workshop 'Words' (Rouen, France, Sept. 97). Workshop Stochastic Networks (Univ. of Cambridge, Sept. 98). Second meeting Alapedes (Cagliari, Italy, August 98). First meeting Alapedes (Waterford, Ireland, Sept. 97). 25th Spring School on Theoretical Computer Science (Longefoy, France, May 97). 26th Spring School on Theoretical Computer Science (Noirmoutier, France, May 98). Workshop Stochastic Networks (Univ. of Cambridge, Dec. 96). Sixth Workshop on Performance Evaluation (Versailles, France, Nov. 96). Journées MAS (Toulouse, France, Sept. 96). Workshop on Networks and Information Theory (BRIMS, Bristol, UK, June 96). Working seminar 'Esprit project' (DIAS, Dublin, Ireland, Feb. 96). Workshop Stochastic Networks (Univ. of Cambridge, Dec. 95). Fifth Workshop on Performance Evaluation (Grenoble, France, Feb. 95). Workshop on Idempotency (BRIMS, Bristol, UK, Oct. 94). Workshop on Stochastic Models (Ulm, Germany, Sept. 94). Colloquium Jeunes Probabilistes (Aussois, France, March 94). Second AQSI workshop (Paris, France, Feb. 94).

Sojourn-seminars:

- Seminar and sojourn at Institut National Polytechnique de Grenoble (LGI-IMAG laboratory, Grenoble, France, April 94). Seminar and sojourn at the University of Ulm (Abteilung Stochastik, Ulm, Germany, Sept. 94). Seminar and sojourn at the University of Bar-Ilan (Tel-Aviv, Israel, Dec. 97). Seminar and sojourn at the University of Palermo (Italy, May 01). Seminar and sojourn at the University of Warwick (United-Kingdom, May 03). Seminar and sojourn at the University of Breme (Germany, Dec. 05). Seminar and sojourn at the University of Oxford (UK, Feb. 07). Seminar and sojourn in Eurandom, Eindhoven, (Netherlands, May 08).