Samy Abbes

Maître de conférences in Mathematics at *Université Paris Cité* and IRIF

E-mail: abbes@irif.fr
Web page: https://www.irif.fr/~abbes/en/
OrcID: 0000-0003-3382-3647

Résumé

Research and Teaching Positions (France, UK, USA)

14	Sabbatical leave for research of half a year funded by INRIA/IRISA
14	Habilitation: *Asynchronous probabilistic models*
13	Sabbatical leave for research of half a year funded by University Paris Diderot (today Université Paris Cité)
08–today	Maître de conférences (assistant professor) in Mathematics at laboratory IRIF (UMR CNRS 8243), Université Paris Cité
07	EPSRC Postdoctoral Fellow at Computer Laboratory, University of Cambridge (UK)
06	Postdoc at LIAFA/University Paris 7 (today IRIF/Université Paris Cité). Funding from the Conseil régional d'Ile-de-France in *Mathematics and theoretical computer science*
05	Research Associate at ISR, University of Maryland at College Park (USA)
00–01 and 03–04	(interruption for military service) PhD in Computer Science at INRIA/IRISA/University of Rennes 1: *Probabilistic model of concurrent and distributed systems with discret events*, advisor A. Benveniste

Education (France)

1998–1999	Student of ENS Cachan (former Rennes branch, today ENS Rennes), section Mathematics. Master of Pure and Applied Mathematics of University of Rennes 1 at IRMAR, speciality in Probability and Dynamical Systems. Master Thesis: *Ergodicity of the geodesic flow on graphs*, advisor V. Kaimanovich
1998	Agrégation of Mathematics
1996–1997	Licence and Maîtrise from the *Magistère de Mathématiques* in Université Paris XI Orsay (today Université Paris-Saclay)

Papers in peer-reviewed journals of Mathematics and peer-reviewed journals of Computer Science

[1] S. Abbes, J. Mairesse, and Y.-T. Chen. "A spectral property for concurrent systems and some probabilistic applications". In: *Discrete Mathematics* 344.8 (2021). DOI: 10.1016/j.disc.2021.112455.

[2] S. Abbes. "Markovian dynamics of concurrent systems". In: *Discrete Event Dynamic Systems* 29.4 (2019), pp. 527–566. DOI: 10.1007/s10626-019-00291-z.

[3] S. Abbes, S. Gouëzel, V. Jugé, and J. Mairesse. "Asymptotic combinatorics of Artin-Tits monoids and of some other monoids". In: *Journal of Algebra* 1.525 (2019), pp. 497–561. DOI: 10.1016/j.jalgebra.2019.01.019.

[4] S. Abbes. "Synchronization of Bernoulli sequences on shared letters". In: *Information and Computation* 1.255 (2017), pp. 1–26. DOI: 10.1016/j.ic.2017.04.002.

[5] S. Abbes, S. Gouëzel, V. Jugé, and J. Mairesse. "Uniform measures on braid monoids and dual braid monoids". In: *Journal of Algebra* 1.473 (2017), pp. 627–666. DOI: 10.1016/j.jalgebra.2016.11.015.

[6] S. Abbes. "A cut-invariant law of large numbers for random heaps". In: *Journal of Theoretical Probability* 4.30 (2017), pp. 1692–1725. DOI: 10.1007/s10959-016-0692-6.

[7] S. Abbes and J. Mairesse. "Uniform and Bernoulli measures on the boundary of trace monoids". In: *Journal of Combinatorial Theory Series A* 135 (2015), pp. 201–236. DOI: 10.1016/j.jcta.2015.05.003.

[8] S. Abbes. "Markov two-components processes". In: *Logical Methods in Computer Science* 9(2:14) (2013), pp. 1–34. DOI: 10.2168/LMCS-9(2:14)2013.

[9] S. Abbes. "On countable completions of quotient ordered semigroups". In: *Semigroup Forum* 3.77 (2008), pp. 482–499. DOI: 10.1007/s00233-008-9111-3.

[10] S. Abbes and A. Benveniste. "True-concurrency probabilistic models: Markov nets and a law of large numbers". In: *Theoretical Computer Science* 390.2-3 (2008), pp. 129–170. DOI: 10.1016/j.tcs.2007.09.018.

[11] S. Abbes. "A projective formalism applied to topological and probabilistic event structures". In: *Mathematical Structures in Computer Science* 17.4 (2007), pp. 819–837. DOI: 10.1017/S096012950700607X.

[12] S. Abbes. "A Cartesian closed category of event structures with quotients". In: *Discrete Mathematics and Theoretical Computer Science* 8.1 (2006), pp. 249–272. URL: http://dmtcs.episciences.org/374.

[13] S. Abbes. “Branching cells for asymmetric event structures”. In: *Theoretical Computer Science* 546 (2014): *Models of Interaction: Essays in Honour of Glynn Winskel*, pp. 32–51. DOI: 10.1016/j.tcs.2014.02.044.

[14] A. Benveniste, C. Jard, and S. Abbes. “Application of branching cells to QoS aware service orchestration”. In: *Theoretical Computer Science* 546 (2014): *Models of Interaction: Essays in Honour of Glynn Winskel*, pp. 52–62. DOI: 10.1016/j.tcs.2014.02.049.

[15] S. Abbes and A. Benveniste. “True-concurrency probabilistic models: branching cells and distributed probabilities for event structures”. In: *Information and Computation* 204.2 (2006), pp. 231–274. DOI: 10.1016/j.ic.2005.10.001.

Papers in peer-reviewed proceedings of international conferences in Theoretical Computer Science

[16] S. Abbes. “Deterministic concurrent systems”. In: *Application and Theory of Petri Nets and Concurrency. Petri Nets 2021*. Ed. by D. Buchs and J. Carmona. Vol. 12734. Lecture Notes in Comp. Sc. Springer, 2021, pp. 423–442. DOI: 10.1007/978-3-030-76983-3_21.

[17] S. Abbes. “Toward uniform random generation in 1-safe Petri nets”. In: *Random Generation of Combinatorial Structures – GASCom 2016*. Ed. by J.-M. Fédou and L. Ferrari. Vol. 59. Electronic Notes in Discrete Mathematics. Elsevier, 2017, pp. 3–17. DOI: 10.1016/j.endm.2017.05.002.

[18] S. Abbes and J. Mairesse. “Uniform generation in trace monoids”. In: *Mathematical Foundations of Computer Science 2015 (MFCS 2015), volume 1*. Ed. by G. Italiano, G. Pighizzini, and D. Sannella. Vol. 9234. Lecture Notes in Computer Science. Springer, 2015, pp. 63–75. DOI: 10.1007/978-3-662-48057-1_5.

[19] S. Abbes and A. Benveniste. “Concurrency, σ-algebras and probabilistic fairness”. In: *12th Conference on Foundation of Software Science and Computation Structures (FOSSACS 2009)*. Ed. by L. de Alfaro. Vol. 5504. Lecture Notes in Computer Science. Springer, 2009, pp. 380–394. DOI: 10.1007/978-3-642-00596-1_27.

[20] S. Abbes and A. Benveniste. “Branching cells as local states for event structures and nets: probabilistic applications”. In: *Conference on Foundations of Software Science and Computation Structures (FOSSACS 2005)*. Ed. by V. Sassone. Vol. 3441. Lecture Notes in Computer Science. Springer, 2005, pp. 95–109. DOI: 10.1007/978-3-540-31982-5_6.

[21] S. Abbes. “The (true) concurrent Markov property and some applications to Markov nets”. In: *International Conference on Theory and Applications of Petri Nets (ICATPN 2005)*. Ed. by G. Ciardo and P. Darondeau. Vol. 3536. Lecture Notes in Computer Science. Springer, 2005, pp. 70–89. DOI: 10.1007/11494744_6.

September 2021