

Raphaëlle Crubillé

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born on September 18, 1990 in Bordeaux, France.



Research Interests

Keywords **Lambda-calculus, higher-order probabilistic computation, denotational semantics, metric reasonning for programs..**

Employment

- 2020... **Postdoctoral research assistant, INRIA (LORIA), Nancy.**
2019-2020 **Postdoctoral research assistant, IMDEA Software Institute, Madrid.**

Awards

- 2019 **Prix de Thèse Gilles Kahn**, Awarded by Société Informatique de France (SIF).

Participation in Research Project

- Repas **REliable and Privacy-Aware Software systems.**

Invited Talk

- June 2019 **Stable Semantics of Probabilistic Higher-Order Programs**, 3rd International Workshop on Trends in Linear Logic and Applications (TLLA), Affiliated with FCSD 2019, Dortmund.

Teaching

- 2016-2018 **Teaching Assistant, University Paris 7, France.**

Education

- 2016-2019 **Computer Science PhD Studentship**, Université Paris 7, under the supervision of Thomas Ehrhard and Ugo Dal Lago, Research Topic : Behavioral Distances for Probabilistic Higher-Order Programs.
2013-2014 **Master 2 of Computer Science**, Master Parisien de Recherche en Informatique, (MPRI), with honours.
2012-2013 **Master 1 of Computer Science**, ENS Lyon.
2011-2012 **Bachelor of Computer Science**, ENS Lyon.
2008-2011 **Classes préparatoires scientifiques**, Lycee Saint-Louis (Paris), MP.
2008 **Baccalauréat**, Lycee Pierre d'Ailly (60), Série scientifique, spécialité mathématiques.

Publications

Thesis

Raphaëlle Crubillé. Behavioral distances for probabilistic higher-order programs, université paris diderot. Supervised by Thomas Ehrhard and Ugo Dal Lago, available at <http://research.crubille.lautre.net/main.pdf>, 2019.

Conference Papers

G. Barthe, R. Crubillé, U. D. Lago, and F. Gavazzo. On the versatility of open logical relations - continuity, automatic differentiation, and a containment theorem. In *European Symposium on Programming*, pages 56–83. Springer, 2020.

B. Barak, R. Crubillé, and U. D. Lago. On higher-order cryptography. Accepted at ICALP, 2020.

R. Crubillé. Probabilistic stable functions on discrete cones are power series. In *Proceedings of the 33rd Annual ACM/IEEE Symposium on Logic in Computer Science, LICS 2018, Oxford, UK, July 09-12, 2018*, pages 275–284, 2018.

R. Crubillé, T. Ehrhard, M. Pagani, and C. Tasson. The free exponential modality of probabilistic coherence spaces. In *International Conference on Foundations of Software Science and Computation Structures*, pages 20–35. Springer, 2017.

R. Crubillé and U. Dal Lago. Metric reasoning about λ -terms : The general case. In *European Symposium on Programming*, pages 341–367. Springer, 2017.

R. Crubillé and U. Dal Lago. Metric reasoning about λ -terms : The affine case. In *30th Annual ACM/IEEE Symposium on Logic in Computer Science, LICS 2015, Kyoto, Japan, July 6-10, 2015*, pages 633–644, 2015.

R. Crubillé and U. Dal Lago. On probabilistic applicative bisimulation and call-by-value λ -calculi. In *ESOP*, pages 209–228, 2014.

Workshop Papers

R. Crubillé, U. Dal Lago, D. Sangiorgi, and V. Vignudelli. On applicative similarity, sequentiality, and full abstraction. In *Correct System Design - Symposium in Honor of Ernst-Rüdiger Olderog on the Occasion of His 60th Birthday, Oldenburg, Germany, September 8-9, 2015. Proceedings*, pages 65–82, 2015.