

# Paolo Perrone

*PhD in Mathematics*

York University, Math Dept.  
4700 Keele Street  
Toronto, ON M3J 1P3  
Canada

☎ +1 (416) 736 5250

FAX +1 (416) 736 5757

✉ pperrone [at] yorku.ca

🌐 www.paoloperrone.org



## Curriculum Vitae

### Personal data

Name Paolo Perrone  
Date of birth 10th November 1989  
Place of birth Bergamo (Italy)  
Nationality Italian  
Marital status single

### Current position

Research institute York University, Toronto, ON (Canada)  
Group leader Prof. Walter Tholen

### Past positions

2019 **Postdoc researcher in Mathematics**, *Max Planck Institute for Mathematics in the Sciences*, Leipzig (Germany).  
Group leader: Prof. Jürgen Jost.

### Education

2018 **PhD in Mathematics**, *Max Planck Institute for Mathematics in the Sciences and University of Leipzig*, Leipzig (Germany), *Magna cum laude*.  
Official German name: Doktor der Naturwissenschaften (Dr. Rer. Nat.) im Fachbereich Mathematik.

2014–2018 **PhD studies**, *Max Planck Institute for Mathematics in the Sciences*, Leipzig (Germany).

2013 **Master of Science in Physics**, *Università degli Studi di Milano*, Milan (Italy), *110/110 cum laude*.  
Official Italian name: Laurea Magistrale in Fisica.

2012–2013 **Exchange year in Physics**, *KU Leuven*, Leuven (Belgium).

2011–2013 **Master studies in Physics**, *Università degli Studi di Milano*, Milan (Italy).

2011 **Bachelor of Science in Physics**, *Università degli Studi di Milano-Bicocca*, Milan (Italy), *110/110 cum laude*.  
Official Italian name: Laurea Triennale in Fisica.

- 2008–2011 **Bachelor studies in Physics**, *Università degli Studi di Milano-Bicocca*, Milan (Italy).
- 2008 **Diploma di Liceo Scientifico**, *Liceo Scientifico Mascheroni*, Bergamo (Italy), 100/100.  
Italian scientific high school diploma.

---

## Articles

### Published

- 2019 **T. Fritz and P. Perrone**, *A Probability Monad as the Colimit of Spaces of Finite Samples*, *Theory and Application of Categories*, vol. 34, n. 7, pages 170–220, arXiv:1712.05363.
- 2018 **T. Fritz and P. Perrone**, *Bimonoidal Structure of Probability Monads*, *Proceedings of MFPS 34, ENTCS*.
- 2016 **P. Perrone and N. Ay**, *Hierarchical Quantification of Synergy in Channels*, *Frontiers in Robotics and AI*.

### Submitted

- 2019 **T. Fritz, P. Perrone and S. Rezagholi**, *Probability, valuations, hyperspaces: Three monads on Top and the support as a morphism*, <https://www.mis.mpg.de/publications/preprints/2019/prepr2019-33.html>.
- 2018 **T. Fritz and P. Perrone**, *Stochastic order on metric spaces and the ordered Kantorovich monad*, arXiv:1808.09898.

### PhD Thesis

- 2018 **P. Perrone**, *Categorical Probability and Stochastic Dominance in Metric Spaces*, University of Leipzig, Germany, Available online at [www.paoloperrone.org/phdthesis.pdf](http://www.paoloperrone.org/phdthesis.pdf).

### Other articles and conference papers

- 2018 **T. Fritz and P. Perrone**, *Monads, partial evaluations, and rewriting*, Notes for the Applied Category Theory 2019 School.
- 2018 **T. Fritz and P. Perrone**, *A Criterion for Kan Extensions of Lax Monoidal Functors*.
- 2016 **P. Perrone and N. Ay**, *Iterative Scaling Algorithm for Channels*.
- 2016 **P. Perrone and N. Ay**, *Decomposition of Markov Kernels*, *Proceedings of WUPES 10*.
- 2015 **P. Perrone**, *Dual Connections and Holonomy*.

---

## Conference and invited talks

- 2019 **Applied Category Theory 2019**, *The support is a morphism of monads*, University of Oxford (United Kingdom).
- 2018 **Invited talk**, *Monads, Partial Evaluations, and Martingales*, Massachusetts Institute of Technology, Cambridge, MA (U.S.A.).

- 2018 **SYCO 1**, *Monads, Partial Evaluations, and Rewriting*, University of Birmingham (United Kingdom).
- 2018 **Category Theory 2018**, *On the Operational Meaning of the Bar Construction*, University of Azores, Ponta Delgada, Azores (Portugal).
- 2018 **MFPS 34**, *Bimonoidal Structure of Probability Monads*, Dalhousie University, Halifax, NS (Canada).
- 2018 **FMCS 26**, *A Kantorovich Monad for Ordered Spaces*, Mount Allison University, Sackville, NB (Canada).
- 2017 **Category Theory 2017**, *The Wasserstein Monad in Categorical Probability*, University of British Columbia, Vancouver, BC (Canada).
- 2016 **Invited talk**, *A Conceptual Viewpoint on Information Decomposition*, Perimeter Institute for Theoretical Physics, Waterloo, ON (Canada).
- 2015 **WUPES 10**, *Decomposition of Markov Kernels*, Moníec (Czech Republic).
- 2014 **GSO 2014**, *Synergy as a Linear Operator*, Albert-Ludwig-Universität, Freiburg (Germany).

Last update: 2019-08-31.