

# Marie Kerjean

✉ [kerjean@irif.fr](mailto:kerjean@irif.fr)

📄 <http://www.irif.fr/~kerjean/>

Born on 15/05/1990

French, married, 2 children (09/2014 and 05/2016)

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## Positions

- 11/2018 - 2020 **Post-doctoral Researcher**, *INRIA Bretagne Atlantique, Equipe Gallinette*.  
Under the direction of Assia Mahboubi
- 03-10/2018 **Research Engineer**, *IRIF Laboratory, Paris 7 University*.  
Financed by the Anr Rapido, under the direction of Alexis Saurin
- 2014 - 2018 **PhD candidate**, *IRIF Laboratory, Paris 7 University*.  
Under the direction of T. Ehrhard
- 2015-2016 **Invited researcher**, *PLS Group, IT University of Copenhagen*.  
Invited by R. Mogelberg
- 2013-2014 **Pre-doctoral Internship**, *IRIF Laboratory, Paris 7 University, France*.  
Under the direction of C. Tasson
- 2010-2014 **Civil Servant at an Ecole Normale Supérieure**, *ENS Lyon, France*.

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## Education

- 2012 - 2013 **Parisian Master of Research in Computer Science (MPRI)**, *Paris Diderot University, Rank 6/41*.
- 2011 - 2012 **Master in Advanced Mathematics**, *ENS Lyon*.
- 2010 - 2011 **B. Sc. in Mathematics, Minor in Computer Science**, *ENS Lyon, France*.
- 2007 - 2010 **Preparatory class MPSI and MP\***, *Lycée Louis-Le-Grand, Paris*.

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## Grants

- 2018-2020 **Inria post-doctoral fellowship**, *Inria Bretagne and Région Pays de la Loire*.
- 2014-2017 **PhD fellowship**, *from the French ministry for Higher Education and Research*.
- 2016 **Scholarship of the Logic Mentoring Workshop**, *LICS2016, New-York*.
- 2013 **Scholarship for ASL conference**, *Waterloo Canada, Financed by the Field Institute..*

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## Various Research activities

### Reviewing

- Conference **Sub-reviewer for CSL2017, ETAPS2018, ETAPS2019**.
- Journal **Reviewer for Mathematical Structures in Computer Science**.
- Other **Reviewer for Mathscinet**.

### Organsiation

- Reading group **Co-organiser, group on Differentiable Programming**, *LS2N, Nantes, 2019*.
- PhD seminar **Co-organiser of the PhD's student seminar**, *IRIF, Paris Diderot, 2015*.
- PhD class **On research and publishing for PhD's students**, *IRIF, Paris Diderot, 2015*.

### Outreach

- Supervision **Supervision of Tu Jie**, *first year student in Mathematics and Computer Science, June 2018, Lambda calculus and abstract machines*.
- Popularisation **Participation to the "Fête de la science" in Paris, 2015**.

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## Selected Communications

### Invited International communications

- International Conference **A logical account for linear partial differential equations**, Invited talk to a plenary session on differential programming at MFPS 2108, Halifax, June 2018.
- Doctoral course **Differential Linear Logic**, *Doctoral course (6h) on the semantics of linear logic*, ITU Copenhagen, February 2016.
- International Workshop **Mackey-complete spaces and power series: a topological model of Differential Linear Logic**, Workshop QSLC, affiliated with CSL2016, Marseille, September 2016.

### International conferences and international workshops communications

- Conference **A logical account for LPDEs**, LICS2018, Oxford, June 2018.
- Workshop **Smooth models of LL based on Schwartz epsilon product**, *Trends in Linear Logic and Applications TLLA18*, Oxford, June 2018.
- Workshop **Smooth models of Linear Logic and Linear Partial Differential equations**, *Trends in Linear Logic and Applications, TLLA17*, Oxford, September 2017.
- Workshop **Tensor products and \*-autonomous categories**, *Topology, Algebra, and Categories in Logic 2015 TACL15*, Ischia.
- Workshop **Weak topologies for LL**, *Structure and Deduction Workshop SD14*, Vienna, July 2014.

### Seminars

- Palaiseau **A type theory for linear partial differential equations**, November 2018, Séminaire de l'équipe Cosynus, LIX, Ecole Polytechnique.
- Paris **Models of LL based on Schwartz  $\varepsilon$ -product**, May 2018, Séminaire de Physique Mathématiques, Université Paris Diderot.
- Paris **A type theory for Linear Partial Differential Equations**, March 2018, Seminar of the ANTIQUE team, Computer Science Department of ENS Ulm.
- Chambéry **Smooth models of Linear Logic**, December 2017, LAMA, Université Savoie Mont-Blanc.
- Villetaneuse **Smooth models of Linear Logic and Linear Partial Differential Equations**, LIPN, université Paris 13, October 2017.
- Lyon **Smooth semantics of Linear Logic**, CHOCOLA, ENS Lyon, June 2017.
- Copenhagen **The computational meaning of differentiation**, PLS group Seminar, IT University of Copenhagen, October 2015.
- Marseille **Topological tensor products and Linear Logic**, *Logic and Interactions Seminar, Laboratory IML*, January 2015 .
- Paris **Complete spaces and differential linear logic**, *Semantic Working Group, Laboratory PPS*, Université Paris 7, May 2013.

# Publication List

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## Peer Reviewed Publications

### International Conferences

- 2018 **A Logical Account for Linear Partial Differential Equations**, *33rd Annual ACM/IEEE Symposium on Logic in Computer Science, LICS 2018*, DOI: [10.1145/3209108.3209192](https://doi.org/10.1145/3209108.3209192) .

### International Journals

- 2016 **Mackey-complete spaces and power series : A topological model of Differential Linear Logic**, *Mathematical structure in computer science*, with C. Tasson. DOI: [10.1017/S0960129516000281](https://doi.org/10.1017/S0960129516000281)
- 2016 **Weak topologies for Linear Logic**, *Logical Methods for Computer Science*. DOI: [10.2168/LMCS-12\(1:3\)2016](https://doi.org/10.2168/LMCS-12(1:3)2016)

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## Preprints

### Submitted to an international conference

- 2018 **Higher-order Distributions for Linear Logic**, with J.-S. Lemay, [preprint available online](#) .

### Submitted to an international journal

- 2017 **Models of Linear Logic based on Schwartz' epsilon product**, with Y. Dabrowski, [arXiv:1712.07344](https://arxiv.org/abs/1712.07344).  
Extensive 82 pages research article.

### Manuscripts

These manuscripts are available online.

- 2018 **Reflexive spaces of smooth functions - towards a logical account of linear partial differential equations**, *PhD thesis*, Under the direction of Thomas Ehrhard.
- 2013 **Les espaces vectoriels topologiques comme modèles quantitatif de DiLL**, *Internship Report*, Under the direction of C. Tasson, IRIF, University Paris 7.
- 2012 **Convenient Spaces and Real Analytic Maps Between Them**, *Internship Report*, Under the direction of R. Blute, University of Ottawa.
- 2011 **Etude de "Ample Dividing" de D. Evans**, *Internship Report*, Under the direction of F. Wagner, University of Lyon 1.

### Abstracts for peer reviewed international workshops, without proceedings

- 2017 **Smooth models of Linear Logic based on Schwartz' epsilon product**, *General meeting of the GDRILL*, Roma.
- 2017 **Smooth models of Linear Logic and Linear Partial Differential equations**, *Trends in Linear Logic and Applications*, affiliated with *FSCD2017*, Oxford.
- 2015 **Tensor products and \*-autonomous categories**, *Topology, Algebra, and Categories in Logic 2015*, Ischia.
- 2014 **Weak topologies for Linear Logic**, *Structure and Deduction Workshop*, affiliated with *LICS2014*, Vienna.