Simon Henry
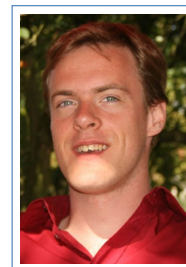
Post-doc

Masaryk University
Kotlářská 2,Building 8
611 37 Brno, Czech republic
+33647599644
henry@phare.normalesup.org

Carrer

2017-2020	**Post doctoral position**, *in Masaryk univeristy, Brno, Cech republic.*
2015-2017	**ATER at the Collège de France**, *Researsh position in Paris.*
2014-2015	**Post doctoral position**, *in the group of Ieke Moerdijk*, in Nijmegen, Netherlands.

Studies

2010 – 2014	**PhD Thesis**, *On relation between topos theory and non-comutative geometry*, Under the supervision of Alain Connes, Paris 7, with honors (Mention très honorable).
2010	**Master 2**, *Pure Mathematics*, Paris 7, with honors (Mention très bien).
	Main courses: Algebraic geometry (D.Harari), Number theory (JM.Fontaine), Non-commutative geometry (A.Zuk).
2010	**Master thesis "Introduction to local Langlands program"**, *Under the supervision of Teruyoshi Yoshida*, In Cambridge university.
2009	**"Agrégation de mathematiques"**, *ranked 2nd.*
2007 – 2008	**L3 and M1**, Paris 7, with honors (Mention très bien).
2007 – 2011	**École Normale Supérieure de la rue d'Ulm (ENS Ulm)**, *Graduated in 2011.*

Research interests

- Higher category theory and homotopy theory
- Category theory, categorical logic
- Topos theory, and its relation to non-commutative geometry
- Point-free topology
- Constructive mathematics

Teaching experience

2013 – 2014	**Tutorial class for the course of general mathematics**, *L1 of Physics*, Paris 7.
2011 – 2013	**Tutorial class for the course "Algorithms and programming"**, *L2 of mathematics*, Paris 7.
2008 – 2011	**"Khôlles" of mathematics in MP***, *Lycée Condorcet*, (Oral exercises session with groups of two to four second year students).

Rewards

2016	**Hugot prize**, *From the Hugot foundation of the Collège de France.*

The * indicate the publications which I consider the most significant.

Publications in peer reviewed journals

The localic istropy group of a topos, *Theory and Applications of Categories*, Vol. 33, No. 41, 2018, pp. 1318–1345.
(preprint arXiv:1706.04835)

On toposes generated by cardinal finite objects, *Mathematical Proceedings of the Cambridge Philosophical Society*, Vol. 165, No. 2, pp. 209-223, 2018, (preprint arXiv:1505.04987).

Measure theory over boolean toposes, *Mathematical Proceedings of the Cambridge Philosophical Society*, vol. 163, no. 1, pp. 1-21, 2017, (preprint arXiv:1411.1605).

*Localic metric spaces and the localic Gelfand duality, *Advances in Mathematics, 294: p634 – 688, 2016.*, (preprint arXiv:1411.0898).

Other ArXiv preprint

An abstract elementary class non-axiomatizable in $\mathbf{L}_{\infty,\kappa}$, *arXiv:1812.00652*.

*Regular polygraphs and the Simpson conjecture, *arXiv:1807.02627*.

Weak model categories in classical and constructive mathematics, *arXiv:1807.02650*.

*Non-unital polygraphs form a presheaf category, *arXiv:1711.00744*.

*The convolution algebra of an absolutely locally compact topos, *arXiv:1701.00113*.

*Algebraic models of homotopy types and the homotopy hypothesis, *arXiv:1609.04622*.

Complete C^*-categories and a topos theoretic Green-Julg theorem, *arXiv:1512.03290*.

A Geometric Bohr topos, *arXiv:1502.01896*.

Toward a non-commutative Gelfand duality: Boolean locally separated toposes and monoidal monotone complete C^*-categories, *arXiv:1501.07045*.

Constructive Gelfand duality for non-unital commutative C^*-algebras, *arXiv:1412.2009*.

Recent talks in international conferences

Octobre 2018	**Journée Logique, Homotopie et catégorie**, *Marseille*, Titre: La conjecture de Simpson (invited talk).
Octobre 2018	**104th PSSL**, *Amsterdam*, "The localic isotropy group of a topos".
Juillet 2018	**Category theory 2018**, *Ponta Delgada*, "A proof of the Simpson conjecture for regular compositions".
Avril 2018	**103rd PSSL**, *Brno*, "On C.Simpson semi-strictification conjecture".
Sept. 2017	**Category theory for homotopy theory and rewriting**, *CIRM-Luminy*, "On Grothendieck's homotopy hypothesis".
Avril 2017	**Non-commutative geometry : Number theory (A.Connes 70th birthday)** , *Shanghai*, "The convolution algebra of a locally absolutely compact topos".
Juin 2016	**Workshop on New directions in Inverse Semigroups**, *Ottawa*, "On the C^*-algebra of a topos".
Janvier 2016	**98th PSSL**, *Doorn*, "Operator algebras from toposes".
Nov. 2015	**Topos à l'IHES**, *Bures-sur-Yvette*, "Operator algebras from toposes".