

# Thibaut BENJAMIN

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📄 [thibautbenjamin.github.io](https://github.com/thibautbenjamin)

*Doctor in Computer Science*

*Application for post doctoral position at Masaryk University*

## Education

- 2017 – 2020 **PhD degree in Computer Science**, *Ecole Polytechnique*, Palaiseau, France.  
A type theoretic approach to weak omega-catégories and related higher structures
- 2016 – 2017 **Master 2 mathematics**, *Université Pierre et Marie Curie*, Paris, France.
- 2016 – 2017 **Diplôme de l'Ecole Polytechnique**, *Ecole Polytechnique*, Palaiseau, France.
- 2013 – 2016 **Titre d'ingénieur Polytechnicien**, *Ecole Polytechnique*, Palaiseau, France.
- 2011 – 2013 **Classes Préparatoires MPSI/MP\***, *Lycée Condorcet*, Paris, France.
- 2011 **Baccalauréat**, *Lycée E. Galois*, Sartrouville, France.

## Research Experience

- 2021 – 2022 **Post doctoral researcher**, *CEA, LIST*, Saclay, France, Advanced assertion verification at runtime for C programs.  
Supervised by Julien Signoles
- 2017 – 2020 **PhD Thesis**, *LIX, Ecole Polytechnique*, Palaiseau, France, A type theoretic approach to weak omega-categories and related higher structures.  
Supervised by Samuel Mimram and Eric Finster
- 2017 **Masters 2 research internship**, *LIX, Ecole Polytechnique*, Palaiseau, France, Type theory for weak omega-categories.  
Supervised by Samuel Mimram and Eric Finster
- 2016 **Masters 1 research internship**, *LRI, Université Paris Sud*, Orsay, France, A formalization of representation of symmetric groups in Coq/SSReflect.  
Supervised by Florent Hivert, Awarded by Ecole Polytechnique

## Teaching Experience

- 2017 – 2019 **Ecole Polytechnique**, *Palaiseau, France*.  
Practicals for INF361 (Java beginners class)
- 2018 – 2019 **Ecole Polytechnique**, *Palaiseau, France*.  
Practicals for INF411 (Java advanced class)
- 2018 **Ecole Polytechnique**, *Palaiseau, France*.  
Tutoring for CSE102 (Python and algorithmics)
- 2014 – 2015 **Lycée Condorcet**, *Paris, France*.  
Oral examinations "colles" in mathematics MPSI
- 2014 – 2015 **Lycée Camille Claudel**, *Palaiseau, France*.  
Academic support sessions in science (equivalent A-level)
- 2013 – 2014 **MJC - Centre Social**, *Chilly-Mazarin, France*.  
Homework supervision for children (age 8 to 10)

## Programming

- Java
- OCaml
- Python
- C/C++
- Coq
- Agda
- $\LaTeX$
- git

## Languages

- French Native
- English Bilingual, TOEFL 104/120
- German Notions

## Publications

- 2021 *Weak  $\omega$ -categories as models of a type theory*, T. Benjamin, E. Finster and S. Mimram  
arXiv:2106.04475
- 2020 *A type theoretic approach to weak  $\omega$ -categories and related higher structures*, T. Benjamin,  
PhD. thesis, Ecole Polytechnique  
tel-03106197
- 2019 *Monoidal weak  $\omega$ -categories as models of a type theory*, T. Benjamin, Submitted to the  
post-proceedings of HoTT2019  
Preprint available at <https://thibautbenjamin.github.io/pages/publications/monoidal.pdf>
- 2019 *Suspension et fonctorialisation: Deux opérations utiles en CaTT*, T. Benjamin and S. Mimram,  
in Journées Francophones des Langages Applicatifs 2019, hal-01985195

## Presentations

- 2021 *Globular weak  $\omega$ -categories as models of a type theory*, T. Benjamin, E. Finster and S. Mimram  
Workshop on Homotopy Type Theory and Univalent Foundations, Online
- 2021 *Théorie des types pour les  $\omega$ -catégories faibles*,  
LACL internal Seminar, Paris
- 2021 *Théorie des types pour les  $\omega$ -catégories faibles*,  
Seminar "Catégories supérieures, polygraphes et homotopie", IRIF, Paris
- 2020 *Théorie des types pour les  $\omega$ -catégories faibles*,  
Séminaire logique et interactions, Marseille
- 2019 *Théorie des types pour les  $\omega$ -catégories faibles monoidales*,  
Journées LHC, Lyon
- 2019 *Automatisation partielle de preuves en CaTT: L'exemple de la suspension*,  
Journées Francophones des Langages Applicatifs, Les Rousses
- 2018 *Towards a fully formalized definition of the syllepsis in weak higher categories*,  
Workshop on Higher Dimensional Rewriting and Applications, Oxford
- 2018 *A type theory for weak  $\omega$ -categories*,  
Eutypes working groups meeting, Nijmegen
- 2017 *Towards a type theory for weak  $\omega$ -functors*,  
Workshop on Higher Dimensional Rewriting and Applications, Oxford