

Léonard Guetta

Postdoc in mathematics

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Academic positions

- 2021-2023 **Postdoctoral Fellow**, *Max Planck Institute für Mathematik*, Bonn
Under the supervision of Viktoriya Ozornova.
- 2019-2021 **A.T.E.R**, *Université Paris-Cité*
Temporary teaching assistant in computer science and mathematics.

Education

- 2016-2020 **PhD in mathematics**, *Université Paris-Cité*, IRIF laboratory, Paris
“Homology of strict ω -categories” under the supervision of François Métayer (Université de Paris) and Clemens Berger (Université de Nice-Sophia Antipolis). Defense held in January 2021.
- 2014-2016 **Master degree in fundamental mathematics**, *Université de Paris*, Paris
Homotopy Theory, Algebraic Topology, Differential Geometry, Algebra, Functionnal Analysis, Mathematical Logic, etc.
- 2011-2014 **Engineering school**, *ENSTA Paristech*, Paris
Specialization in applied Mathematics.

Talks

- Jun. 2023 Polygraphic homology of local systems, *Conference in honor of François Métayer's retirement*, Université Paris-Cité, **Invited speaker**
- Nov. 2022 Groupoid-valued presheaves as models for homotopy types, *Seminar on higher categories, polygraphs and homotopy*, Université Paris-Cité
- Mar. 2022 Homotopy types as ∞ -groupoids, *Part of a miniseries “An introduction to homotopy type theory and univalent foundations”*, MPIM Bonn, **Invited speaker**
- Sep. 2021 Homology of strict ω -categories and the bubble-free conjecture, *Workshop “Homotopical Algebra and Higher Structures”*, Oberwolfach, **Invited Speaker**
- Nov. 2019 Homology of strict ω -categories, *Seminar on Logic and interactions*, Université Aix-Marseille, **Invited Speaker**
- Oct. 2019 Homotopy colimits and slices of small categories, *Seminar on higher categories, polygraphs and homotopy*, Université Paris-Cité
- Mar. 2018 Non-universality of colimits in the category of strict ω -categories, *Seminar on higher categories, polygraphs and homotopy*, Université Paris-Cité
- Feb. 2018 Homology of (1-)categories, *Seminar on higher categories, polygraphs and homotopy*, Université Paris-Cité
- Jun. 2017 A few remarks on the acyclic models method, after M. Barr, *Seminar on higher categories, polygraphs and homotopy*, Université Paris-Cité

Publications

Published papers

- 2021 **Homology of categories via polygraphic resolutions**, *Journal of Pure and Applied Algebra*, Vol. 225, No. 10
- 2020 **Polygraphs and discrete Conduché ω -functors**, *Higher Structures*, Vol. 4, No. 2
- 2017 **A unifying approach to the acyclic models method and other lifting lemmas**, *Theory and Applications of Categories*, Vol. 32, No. 25

Preprints

- 2023 **Fibrantly induced model structures**, *arXiv:2301.07801*
joint work with Lyne Moser, Maru Sarazola and Paula Verdugo
- 2022 **Presheaves of groupoids as models for homotopy types**, *arXiv:2209.13346*

Teaching experience

- 2016-2021 **Teaching in computer science at undergraduate level**, *Université Paris-Cité*, Paris
- 2019-2021 **Teaching in mathematics at undergraduate level**, *Université de Paris*, Paris

Other research activities

- 2016 **Master's thesis**, *Université Paris-Cité*, Paris, 5 months
"A categorical approach to the definition of differential manifolds" under the supervision of François Métayer and Alain Prouté.
- 2014 **Research Internship**, *C.E.A*, Saclay, 5 months
Category theory and quantum computing
- 2013 **Research Internship**, *Universitat Autònoma de Barcelona*, Barcelona, 5 months
Singular integrals and complex analysis

Language

French *Mother Tongue*
English *Fluent*

Spanish *Elementary*
German *Elementary*