

Guillaume GEOFFROY

Ph.D. in mathematics

Last updated: 9 December 2020

DISI, Mura Anteo Zamboni, 7
40127 Bologna – Italy
guillaume.geoffroy@unibo.it
<https://geoffroy.re/>

Personal data

Guillaume Jean-Jacques Geoffroy, born in 1992 in Le Chesnay (Yvelines, France), french nationality.

Current position

Since 09/2019 **Post-doc** at the departement of computer science and engineering of the university of Bologna (research project DIAPASoN – Differential Program Semantics).

Past positions

2018 – 2019 **Visiting assistant professor (ATER)** at I2M (Institut de Mathématiques de Marseille).

Education

2015 – 2019 **Ph.D. in mathematics**, Aix-Marseille University. *Classical realizability: new tools and applications*. Advisor: Laurent Regnier. Defended on 29 March 2019.

2011 – 2015 **École Normale Supérieure diploma**, École Normale Supérieure, Paris. Major: mathematics, minor: computer science.

2014 Research internship, Universidad de la República, Montevideo (Uruguay). *Classical realizability in set theory: an example with the model of threads*. Advisor: Alexandre Miquel.

2013 – 2014 **Research Master (M2)**: Mathematical Logic and Foundations of Computer Science (LMFI), Paris Diderot University, École Normale Supérieure, Paris. With honours (Mention très bien).

2011 – 2013 University degree (L3 and M1) in mathematics, École Normale Supérieure, Paris.

2009 – 2011 CPGE (2-year program preparing for entry exams to engineering schools), Lycée Louis le Grand, Paris. Admitted to École Normale Supérieure, group MPI, rank 23rd.

2009 High-school diploma (baccalauréat général), scientific option, Lycée Évariste de Parry, Saint Paul (La Réunion, France). With honours (mention très bien, avec les félicitations du jury).

Research

Peer-reviewed publications

- 01/2021 Guillaume Geoffroy, Paolo Pistone. *A Partial Metric Semantics of Higher-Order Types and Approximate Program Transformations*. CSL 2021: 29th EACSL Annual Conference on Computer Science Logic.
- 07/2018 Guillaume Geoffroy. *Classical realizability as a classifier for nondeterminism*. LICS 2018: Thirty-First Annual ACM / IEEE Symposium on Logic in Computer Science.

Ph.D. thesis

- 03/2019 Guillaume Geoffroy. *Classical realizability: new tools and applications*. Ph.D. thesis.

Publications in preparation

- Laura Fontanella, Guillaume Geoffroy. *Preserving cardinals and weak forms of Zorn's lemma in realizability models*. Under review.
- Guillaume Geoffroy. *Linear quasi-Borel spaces: a denotational model of probabilistic computation, compatible with integration*.

Talks

- 11/2020 *Denotational semantics of probabilistic programs, beyond the discrete case*, ANR PPS meeting.
- 09/2018 *Connecting degrees of parallelism and Boolean algebras through classical realizability*, CHoCoLa.
- 07/2018 *Classical realizability as a classifier for nondeterminism*, LICS 2018.

Scientific meetings

- 06/2018 *Realizability in Marseille*, co-organizer (with Laura Fontanella).

Science popularization

Co-founder and vice-president of Pi Day association (www.piday.fr).

2015 – 2017 President of Pi Day association.

- 14 March 2017 Co-author (with Joël Cohen) of the mathematical musical *From Marseille to Vegas* and co-organizer of the Pi Tour: three performances of the musical in Paris (théâtre des Variétés), Lyon (le Transbordeur) and Marseille (le Silo), accompanied by short scientific talks (attendance: 2000). Videos: <http://www.piday.fr/extraits-video-2017/>.

14 March 2016 Co-author of the mathematical musical *Les π travaux d'Archimède* and co-organizer of Pi Day in Marseille: one performance of the musical, accompanied by short scientific talks (attendance: 700). The association received the 2016 d'Alembert Award of the French Mathematical Society for this action.

Teaching

- 2020 Algorithms and data structures (40h, lab, undergrad).
- 2018 – 2019 **Visiting assistant professor (ATER)** at Aix-Marseille University (192h per year). Linear algebra; methodology; mathematical reasoning (1st year university – L1); C and systems programming (1st year university – L1); research initiation workshops (high school).
- 2015 – 2018 **Teaching assistant** (chargé de mission d'enseignement) at Aix-Marseille University (64h per year). Introductory analysis; algebra and geometry (1st year university – L1); C programming (1st and 2nd year university – L1 & L2); logic and computability (graduate course – M2); research initiation workshops (high school).

Languages

- French (native), English, Italian, Spanish.
- 2017 – 2018 Organizer of *Café des langues de Luminy*, daily multilingual student language exchange group.