Simon Zugmeyer

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Education, qualifications

2016– **Preparation of a PhD thesis**, *Institut Camille Jordan*, Lyon, France.
Under the supervision of Louis Dupaigne and Ivan Gentil, on functional inequalities and their link with partial differential equations.

2015–2016 **Masters in mathematics for research, studies in "Partial differential equations"**, *ENS Lyon*, Lyon, France.
Masters in mathematics geared towards research, ran jointly by the ENSL and the UCBL.

2014–2015 **Masters in Mathematics and agrégation**, *Université Claude Bernard Lyon 1*, Lyon, France.
Masters in mathematics geared towards teaching, and preparation to the agrégation (rank: 16th).

2011–2013 **Bachelor and M.Sc. in Physics**, *ENS Lyon*, Lyon, France.
Common core, then specialization in fundamental physics. The ENS is a french *grandes écoles* and one of the most prestigious universities in France.

Publications

1. "Sharp trace Gagliardo-Nirenberg-Sobolev inequalities for convex cones, and convex domains". Pre-published: arXiv:1710.08233

Talks

October 8th, 2018 **PhD seminar**, *ICJ*, Lyon, France.
"Réarrangements symétriques décroissants"

June 27th, 2018 **An analyst, a geometer and a probabilist walk into a bar**, *Cardiff University*, Cardiff, Wales.
"Entropy flow and sharp Sobolev inequalities"

June 13th, 2018 **Workshop on stability of functional inequalities and applications**, *IMT*, Toulouse, France.
"From the Borell-Brascamp-Lieb inequality to sharp trace-Sobolev inequalities"

May 14th, 2018 **Colloque Inter'Actions**, *UCBL*, Lyon, France.
"De la théorie de Brunn-Minkowski (alias l'inégalité arithmético-géométrique) aux inégalités de Sobolev optimales"

April 3rd, 2018 **Séminaire d'équipe, EDPA**, *ICJ*, Lyon, France.
"De l'inégalité de Borell-Brascamp-Lieb aux inégalités de Sobolev à trace optimales"

March 13th, 2018 **Opening conference for the EFI ANR**, *LJLL (Jussieu)*, Paris, France.
"From the Borell-Brascamp-Lieb inequality to sharp trace-Sobolev inequalities"

May 9th, 2017 **PhD seminar**, *ICJ*, Lyon, France.
"Petite balade isopérimétrique"

November 9th, 2016 **Séminaire compréhensible**, *Institut Fourier*, Grenoble, France.
"Inégalités de Sobolev optimales"

Administrative and organisational responsibilities

2019 **Inter'Actions 2019 Colloquium**.
joint organisation with, among others, the LJK (Grenoble) et the IMB (Bordeaux)

2018– **Member of the board**, *Department of Mathematics*, UCBL.

2017–2018 **PhD Seminar**, *of both ICJ and UMPA*.
organisation, with both Hugo Vanneuville and Jonathan Husson

Teaching

Teaching Assistant, directed studies (TD) and preparation for oral exams (Khôlles), *UCBL*, Lyon, France.
- TD en L2 : Mathématiques 4 (PCSI) (36h, printemps 2019)
- Khôlles en L1 (prépa) : Fondamentaux des mathématiques 2 (13h, printemps 2019)
- Khôlles en L1 (prépa) : Fondamentaux des mathématiques 1 (10h, automne 2018)
- TD en L1 : Fondamentaux des mathématiques 2 (33h, printemps 2018)
- Khôlles en L3 : mesure et intégration (19h, automne 2017)
- Khôlles en L2 : Math III (17h, automne 2017)
- TD d'analyse IV (L2) : suites et séries de fonctions (45h, printemps 2017)
- Khôlles en L3 : analyse complexe et calcul différentiel (19h, printemps 2017)

Professional experiences

Winter 2016 **Research program "Interactions between Partial Differential Equations and Functional Inequalities"**, *Mittag-Leffler Institute*, Stockholm, Sweden.
Invited for two weeks

Summer 2016 **Graduate thesis**, *Université Claude Bernard Lyon 1*, Lyon, France.
Four month long internship, working on sharp Sobolev inequalities and their minimizers, under the supervision of Louis Dupaigne and Ivan Gentil.

Winter 2015 **Winter school: "Nonlinear Functions Spaces in Mathematics and Physical Sciences" (NFS)**, *Université Claude Bernard Lyon 1*, Lyon, France.

Spring 2015 **Graduate thesis**, *Université Claude Bernard Lyon 1*, Lyon, France.
Study of symmetric decreasing rearangements and inequalities following. Thesis written under the supervision of Ivan Gentil.