

## PERSONAL DETAILS

Age 27 years old  
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## ABOUT ME

Always attracted by theory, I nevertheless started with more applied studies. Once the theoretical studies were underway this allowed me, to understand the concepts from within a certain distance. Today, I'm in PhD in the fields of K-theory, groupoids and their  $C^*$ -algebras, index theory, functional analysis and non-commutative geometry. I'm also really interested in the popularisation/vulgarisation of science, for all audiences (young researchers or laymen).

## PRESENTATIONS

### Talks in conferences

- Fully ellipticity using groupoids, 5 mins, conference topological groupoids and their  $C^*$ -algebras, Isaac Newton Insitut, Queen's university Belfast Nothern Ireland, 30 june to 4 july 2025.
- Index theory for manifolds with corners, 40 mins, Thematic school Baum Connes conjecture IHP Paris France, 29 january 2025, invited speaker.
- Index theory for manifolds with corners, 30 mins, Non commutative geometry christmas tree Orléans France, 11-14 december 2024.

### Talks for a wider audience

- Introduction to the Atiyah Singer theorem and to the K-theory of  $C^*$ -algebras, 1 hour, séminaire doctorant de l'insitut de mathématiques de Marseille, 9 january 2025
- Introduction to the Atiyah Singer theorem and to the K-theory of  $C^*$ -algebras, 1 hour, Student seminar institut de mathématiques de Toulouse, 10 october 2024
- Quid of index theory and K-theory, 45 mins, young pure math researchers seminar Insitut de mathématiques de Toulouse, 13 december 2023.

### Science outreach

- Presentation on scientific research careers in a high school class, Toulouse, june 2025
- Facilitated a workshop on Turing machines for children aged 8-12, as part of the Les Maths en Scène outreach festival, Toulouse, 15 to 16 march 2024 (La marelle de Turing : [link here](#))
- Facilitated a Turing machine workshop for a general audience at the *Quai des savoirs*, Toulouse, 10 february 2024

## CONFERENCES ATTENDED

Conference - Topological groupoids and their  $C^*$ -algebras

*Isaac Newton Insitut, Queen's University Belfast (speaker)*

30 june - 4 july  
2025

Summer School - Groupoids from a measurable, topological and geometric perspective

*Université Paris cité - Paris*

23 june - 27  
june 2025

Thematic school - Baum Connes Conjecture

*Insitut Henri Poincaré Paris France (invited speaker)*

27 january - 7  
february 2025

Thematic school - Représentation theory and operator algebras

*CIRM Marseille France*

5-11 january  
2025

Conference - Non commutative geometry christmas tree

*Insitut Denis Poisson Orléans France (speaker)*

11-14 december  
2024

Conference - Non commutative geometry and higher structures

*Aristotle University of Thessaloniki Greece*

16-22 september  
2024

**Conference - Group operator algebras and Non commutative geometry**

*CIRM Marseille France*

22-26 April 2024

**Conference - French German Non commutative christmas tree**

*Institut Elie Cartan de Lorraine Metz France*

7-9 december 2023

**Conference - NSeaG2023 Noncommutative geometry and operator algebras**

*Hausdorff Center for mathematics Bonn Germany*

8-12 may 2023

**MasterClass - Non commutative geometry and analysis on manifolds**

*Institut Elie Cartan de Lorraine Metz France*

13-15 april 2023

**EDUCATION**

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**PhD**

*Paul Sabatier University-Toulouse 3, Toulouse, France*

Geometric and topological obstructions for Fredholm boundary conditions on manifolds with singularities.

September 2023 - July 2026

**M2 Research And Innovation (RI) Domain: Math and Application**

*Paul Sabatier University-Toulouse 3, Toulouse, France*

(lectures in english)

This master was oriented to geometry (complex geometry, hyperbolic geometry, homotopy, homology, ...). It was also focus in spectral theory and in  $K$ -theory of  $C^*$ -algebras.

2022-2023

**Agrégation of mathematics (competitive examination for French public education system)**

*Paris Saclay University, Orsay, France.*

Obtained: rank 174/338 (agregate status is not a diploma)

2021-2022

**M1 fundamentals and applied mathematics: speciality fundamental mathematics**

*Paris Saclay University, Orsay, France*

This master was devoted to advanced studies on PDEs using distribution theory, Sobolev spaces theory, ... It was also oriented to harmonic analysis, and to spectral theory for Sobolev spaces purposes.

2020-2021

**Bachelor pure and applied mathematics**

*Paris Saclay University, Orsay, France*

2017-2020

**Generalist engineering school**

*Polytech Nancy, Lorraine University, Nancy, France*

2016-2017

**WORK EXPERIENCE**

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**Internship in Paul Sabatier University**

*The aim of this internship is to put  $K$ -theory into practice in the problem that historically gave birth to it: the Atiyah-Singer index theorem using  $K$ -theory of deformation groupoids.*

*Supervisor: Dr Paulo Carillo Rouse*

March - June 2023

**Internship in highschool teaching**

*During this internship I taught mathematics to two classes only Mondays under the supervision of their usual teacher.*

*Responsible: Mrs. Pons*

October - December 2022

**Internship in CEA - Paris Saclay, team Neurospin**

*Goal of this internship was to modelize the heat diffusion in a patient's brain during an MRI examination to prevent brain damage.*

*Objectives: Understand the physic problem / Modelize the heat diffusion using matlab / Data analysis and valorization*

*Software: Windows, matlab*

*Supervisor: Dr. Gras Vincent*

July - August 2020

**SKILLS**

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**Language**

*MT* French  
*Fluent* English  
*Scholar* German

**Organisational duties**

Responsible of pure math doctoral seminar - Université de Toulouse, France