

# CURRICULUM VITAE

Axel GASTALDI

## CONTACT

Phone: **06-01-74-99-90**

Email address: **[axel.gastaldi@univ-amu.fr](mailto:axel.gastaldi@univ-amu.fr)**

Website: <https://www.i2m.univ-amu.fr/perso/axel.gastaldi/>

ResearchGate profile: <https://www.researchgate.net/profile/Axel-Gastaldi>

## RESEARCH DOMAIN

My research focuses on **Non-Commutative Geometry** and **Representation Theory**. The first one provides the tools I use (*K-theory*, *cyclic homology*, *general homological algebra* and other geometric invariants) while the second motivates my research (*Mackey analogy*, *idempotent conjecture*, *Bass' trace conjecture*).

## EDUCATION

- 2022/—: **PhD in Mathematics** supervised by Pr. Michael Puschnigg; ED 184 - Institut de Mathématique de Marseille;  
Title: "*Invariants Homologiques des Produits croisés associés au Groupes Linéaires Algébriques*"
- 2021/2022: **Master thesis** in Fundamental Mathematics *supported by a Master thesis funding* of the Archimede Institute - Aix-Marseille Université
- 2020/2021: *Master 1* in Mathematics and Applications - Aix-Marseille Université
- 2017/2020: *Licence* in Mathematics - Aix-Marseille Université
- 2017: *Baccalauréat* - Lycée Maurice Janetti

## PUBLICATION

(Still in redaction, expected in 2025) "*Periodic cyclic homology of crossed product algebras.*"

## ATTENDED CONFERENCES

- February 2025: Workshop "*Tempered representation and K-theory*"; Institut Henri Poincaré - Paris
- January 2025: Conference "*Representation Theory and Operator Algebras*"; Centre International de Rencontres Mathématiques - Marseille
- December 2024: Conference "*Arbre de Noël de Géométrie Non-Commutative*"; Institut Denis Poisson - Orléans
- December 2023: Conference "*Arbre de Noël de Géométrie Non-Commutative*"; Institut Élie Cartan de Lorraine - Metz
- March 2023: Conference "*Condensed Maths*"; CIRM - Marseille
- June 2022: Conference "*Arbre de Noël de Géométrie Non-Commutative*"; Université de Caen

## PRESENTATIONS

- June 2025: "*Introduction to cyclic homology*"; Université Paul Sabatier - Toulouse ([Notes](#))

- February 2025: "*Mackey analogy in periodic cyclic homology*"; Institut Henri Poincaré - Paris ([Notes/Video](#))
- December 2024: "*Periodic cyclic homology of crossed product algebras*"; Institut Denis Poisson - Orléans
- November 2024: "*Complexes de Koszul et théorème de Hochschild-Kostant-Rosenberg*"; Centre Physique Théorique - Marseille ([Video](#))
- October 2024: "*Differentiation as a cohomological result*"; Centre Physique Théorique - Marseille ([Notes/Video](#))

## TEACHING EXPERIENCE

Presentations for PhD seminars:

- March 2025: "*Gentle introduction to K-theory*" - Institut de Mathématiques de Marseille
- April 2024: "*How to haircut manifolds ? A story of characteristic classes*" - Institut de Mathématiques de Marseille
- May 2023: "*Algebraic study of topological groups*" - Institut de Mathématiques de Marseille
- March 2023: "*Non-commutative differential geometry in terms of stars*"; Institut de Mathématiques de Marseille

Courses for students:

- 2020/2021 : **Tutoring** in Mathematics for students in L2 Mathematics

## PARTICIPATION TO DOCTORAL COURSES AND WORKING GROUPS

- September - December 2024: "*Classes caractéristiques*"; doctoral course given by Pr. Michael Puschnigg - Institut de Mathématiques de Marseille
- September - December 2024: "*Géométrie Non-Commutative pour la Physique*"; Centre de Physique Théorique - Marseille
- September - November 2023: "*Théorie de Deligne-Lusztig*"; doctoral course given by Pr. Olivier Dudas - Institut de Mathématiques de Marseille
- January 2023 - March 2024: "*Mathématiques Condensées*"; Institut de Mathématiques de Marseille

## OUTREACH AND LEADERSHIP

- *Responsible from June 2023 to February 2025 of the [PhD seminar](#) of Mathematics/Physics, created through a collaboration between the Institut de Mathématiques de Marseille and the Centre de Physique Théorique.*
- *Supporter of the educational association [EP83](#) which fights for the blossoming of the scholar environment and try to answer to the special educational needs of each child.*

## OTHER INTERESTS

- *National champion in contemporary dance (2023 and 2024); practicing running, calisthenics, and crossfit.*
- *Interested by reading, music theory, cooking, survival techniques, and more.*