

# Alexis Lucas

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## Background

- 2025-2026 **Teaching assistant in Mathematics**, Université de Caen Normandie (LMNO).
- 2022- 2025 **PhD in Mathematics**, Université de Caen Normandie (LMNO), under the supervision of Tuan Ngo Dac and Floric Tavares Ribeiro,  
Subject: "Anderson modules and  $L$ -series: a  $P$ -adic study".
- 2021-2022 **Master degree, Number Theory cursus**, Université Franche-Comté (Besançon), with highest honour.
- 2021 **Obtention of "Agrégation de mathématiques"**, Option C (Algebra and formal calculus), (french teaching exam).
- 2019–2021 **Master degree, Fundamental mathematics cursus**, Université de Caen Normandie, with high honour.
- 2016–2019 **Bachelor degree in Mathematics**, Université de Caen Normandie, with high honour.
- 2016 **Baccalauréat- General Scientific**, option Mathematics, Lycée Jean Guehenno (Flers), with highest honour.

## Experiences

- 2022 **Research Intership**, Master's thesis, Université de Caen Normandie (LMNO),  
Supervisors: Tuan Ngo Dac and Floric Tavares Ribeiro,  
Subject: "On the Maurischat method for Anderson  $A$ -modules".
- 2021 **Research Project**, Université de Franche-Comté (LMB), Supervisor: Hassan Houhkaba  
Subject: "Function fields and the Riemann-Roch theorem".

## Organization

- 2025–2026 **Organizer of the number theory working group**, "Autour du problème de Lehmer: de la caractéristique zéro à la caractéristique positive".
- 2023–2025 **Council member of the LMNO (Caen)**, Representative of the PhD students.
- 2023-2024 **Organizer of the PhD students working group (Caen)**, "An introduction to Elliptic Curve".
- 11/2024 **Organizer of the LMNO number theory team retreat**, Bayeux.
- 11/2023 **Co-Organizer of the LMNO number theory team retreat**, Bayeux

## Publications

- Purity and almost strict purity of Anderson  $t$ -modules**, Comptes Rendus. Mathématique, 2024, vol 362(G7), 807-812.

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## Pre-publications

**Wieferich primes for Drinfeld modules**, with X. Caruso and Q. Gazda, arXiv:2412.11588, 2024.

**A P-adic class formula for Anderson t-modules**, arXiv:2504.03430, 2025.

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## Talks (except the Caen young researchers seminar)

- 10/2025 **A P-adic class formula for Drinfeld modules**, *School in number theory EThéN*, CIRM.
- 07/2025 **A P-adic class formula for Anderson t-modules**, *33-èmes Journées arithmétiques*, Luxembourg.
- 06/2025 **A P-adic class formula for Drinfeld modules**, *33-èmes Rencontres arithmétiques de Caen : aspects  $p$ -adiques et modulo  $p$ .*
- 01/2025 **Wieferich primes and Drinfeld modules**, *Number Theory Conference*, Stellenbosch.
- 11/2024 **Nombres premiers de Wieferich dans les corps de fonctions**, LMNO number theory team retreat, Bayeux.
- 11/2023 **Quelques exemples de séries L P-adiques associées à des modules de Drinfeld**, LMNO number theory team retreat, Bayeux.

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## Talks at the Caen young researchers seminar

- 11/2024 **Nombres premiers de Wieferich dans les corps de fonctions**.
- 06/2024 **Modules de Drinfeld et séries L P-adiques**.
- 06/2022 **Diviseurs et théorème de Riemann-Roch**, working group “*Introduction aux courbes elliptiques*” of the Caen young researcher.
- 06/2022 **Pureté et presque stricte pureté des t-modules d’Anderson**.
- 10/22 **Introduction aux corps de fonctions et aux séries L associées à certains modules de Drinfeld**.
- 06/2022 **Sur la méthode de Maurischat pour les A-modules d’Anderson**.

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## Formation

- 10/2025 **School in number theory EThéN**, CIRM.
- 07/2025 **33-èmes Journées arithmétiques**, Luxembourg.
- 01/2025 **Number Theory Conference**, Stellenbosch.
- 09/2024 **Summer school: A modern introduction to Number Theory**, Pisa
- 07/2024 **Arithmetic and Geometric Aspects of Drinfeld Modules, Anderson Motives, and Computational Aspects**, Palermo.
- 02/2024 **Modules de Drinfeld: théorie, implémentations et applications à la théorie de l’information**, Marseille.
- 09/2023 **Summer school: A la découverte des correspondances de Langlands locales: représentations de groupes  $p$ -adiques, théorie du corps de classes et immeubles de Bruhat-Tits**, Amiens.
- 07/2023 **32-èmes Journées arithmétiques**, Nancy.

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## Teachings

- 2025–2026 **Advanced Topics in Mathematics , 30 hours**, *First-year mathematics students.*  
**Algebra 2, 50 hours**, *First-year computer science students.*  
**Logic and Reasoning, 25 hours**, *First-year computer science students.*  
**General Mathematics, 50 hours**, *First-year computer science students.*  
**Discrete Mathematics , 25 hours**, *First-year computer science students.*  
**Mathematics for Economics and Management, 16 hours**, *Second-year economics students.*
- 2024–2025 **General mathematics, 50 hours**, *First-year computer science students.*  
**Mathematics for Economics and Management, 16 hours**, *Second-year economics students.*
- 2023–2024 **Mathematics for Economics and Management, 16 hours**, *Second-year economics students.*  
**Algebra 1, 50 hours**, *First-year computer science students.*
- 2022–2023 **Algebra 2, 14 hours**, *First-year computer science students.*  
**Algebra 1, 50 hours**, *First-year computer science students*

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## Skills

- Languages **French (native), English (professionals skills), Spanish (basics).**  
Programming **LaTeX, Python, Maxima, SageMath.**