

# Edouard Feingesicht

## Background

- 2024-2025 **Non-Tenured Teaching and Research Fellow in mathematics**, Université de Caen Normandie, (LMNO)
- 2021-2024 **PhD in Mathematics**, Université de Caen Normandie, (LMNO)  
Advisor: *Eddy Godelle*  
Title: *Representations of structure groups of set-theoretical solutions to the Yang–Baxter equation*
- 2021 **Agrégation de Mathématiques**, Option C (Algebra and formal calculus), (french teaching exam)
- 2018-2020 **Master degree Mathematics and Applications**, Pure Mathematics, Sorbonne Université, Paris (with highest honour)
- 2015-2018 **Double-degree Mathematics-Physics**, Sorbonne Université, Paris (with high honour)
- 2015 **Baccalauréat - General Scientific**, Option: Computer Science, Lycée Notre-Dame de Boulogne, Boulogne-Billancourt

## Experiences

- 2020 **Research Internship**, Master's Thesis  
Advisors: *Vladimir Dotsenko, Eric Hoffbeck*  
Title: *Gröbner basis for algebraic operads*
- 2019 **Research Project**, Sorbonne Université  
Advisor: *Benoît Stroh*  
Title: *Sheaf theory and Cousin's problems*
- 2018 **Student project**, Sorbonne Université  
Advisor: *Arnaud Padrol*  
Title: *Realization of graph associahedron*
- Summer 2017 **Laboratory internship**, Observatoire de Paris (SYRTE), (10 weeks)  
Advisor: *Stéphane Guérardel*  
Title: *Computing the evolution of the density matrix for Cesium*

## Organization

- Oct. 2024 **Co-organizer**, Conference: From Garside to Yang–Baxter (Caen), with: *E. Godelle, V. Lebed*
- 2023-2024 **Co-organizer**, Young researchers Working Group on Elliptic Curves (Caen), with: *Francesco Iudica, Alexis Lucas*
- 2022-2024 **Co-organizer**, Young researchers seminar of the LMNO (Caen), With: *Francesco Iudica*

## Publications

- 2025 **Hecke algebras for set-theoretical solutions to the Yang–Baxter equation**, Accepted for publication by Journal of Algebra and its Applications.
- 2024 **Dehornoy's class and Sylows for set-theoretical solutions of the Yang–Baxter equation**, International Journal of Algebra and Computation, Vol. 34, pp. 147-173.

## Preprints

- 2025 **How structure groups and monoids grow**, with C. Dietzel & V. Lebed, arXiv:2509.16069.
- 2024 **On Dehornoy's representation for the Yang–Baxter equation**, with C. Dietzel & S. Properzi, arXiv:2409.10648.

## Skills

Languages **French (native), English (Fluent), German (Basics)**

Programming **GAP, SageMath, LaTeX, Python, HTML, Lua, Java, C++**

## Talks

- 2026 **Équation de Yang–Baxter et théorie des braces**, SPACE Seminar (Dijon, France)  
**Équation de Yang–Baxter : algèbre et combinatoire**, GADT Seminar (Dijon, France)
- 2025 **Equation de Yang–Baxter : combinatoire, algèbre et théorie de Garside.**, ADA Seminar (Calais, France)  
**Thompson group  $F$  and ordered quandles**, Workshop on Trickle groups (Tours, France)  
**Hecke algebras for set-theoretic solutions of the Yang–Baxter equation**, The Yang–Baxter Equation and all that (Bedlewo, Poland)  
**The Yang–Baxter Equation: analogies with Coxeter groups**, Bielefeld Oberseminar (Bielefeld, Germany)  
**Algèbre de Hecke pour l'équation de Yang–Baxter**, Colloquium of the French Algebra Network (Clermont-Ferrand, France)
- 2024 **Representations of structure group of set-theoretical solutions of the Yang–Baxter equation**, PhD Defense (Caen, France)  
**Representations of structure group of set-theoretical solutions of the Yang–Baxter equation**, Young Researchers' Seminar (Caen, France)  
**Hecke algebras for the Yang–Baxter Equation**, Winter Braids XIII (Montpellier, France)
- 2023 **Germs and Sylows for structure group of solutions to the Yang–Baxter equation**, Young Researchers Algebra Conference 2023 (L'Aquila, Italy)  
**Germs and Sylows for structure group of solutions to the Yang–Baxter equation**, Groups, Rings and the Yang–Baxter equation 2023 (Blankenberge, Belgium)  
**Germs and Sylows for structure group of solutions to the Yang–Baxter equation**, VUB Algebra Research Group Seminar (Brussels, Belgium)  
**Germes et Sylows pour les groupes de structure des solutions de l'équation de Yang–Baxter**, LMNO Algebra and Geometry seminar (Caen, France)
- 2022 **14th days of the Normandie-Mathématiques Federation**, (Diffusion of Mathematics)  
**An introduction to Coxeter-like groups**, Algebra Days in Caen 2022: from Yang–Baxter to Garside (Caen, France)
- 2021 **Groupes de structure des équations de Yang–Baxter**, Young Researchers Seminar (Caen, France)

## Formation

- 2021-2025 **Groups and Braids**, Participation in a Working Group (Caen, France)
- Feb. 2024 **Winter Braids XIII** (Montpellier, France), School on braids and low dimensional topology
- 2023 **Teaching Formation**, ED MIIS (Caen, France)
- Feb. 2023 **Winter Braids XII** (Tours, France), School on braids and low dimensional topology
- Sep. 2022 **Braid meeting 2022: Generalized braid groups** (Amiens, France)
- June 2022 **The algebra of the Yang–Baxter equation** (Bedlewo, Poland)
- Dec. 2021 **Winter Braids XI** (Dijon, France), School on braids and low dimensional topology
- Apr. 2021 **Scientific Integrity Formation**, ED MIIS (Caen)

## Visits

- Apr. 2025 **Barbara Baumeister**, Bielefeld (Germany), 1 week

## Teachings

(\* : course manager)

2024-2026 Undergraduate mathematics (Caen):

- Analysis and numerical applications (2<sup>nd</sup> year) (100h)
- \* Geogebra for analysis (2<sup>nd</sup> year) (92h)
- Linear Algebra (1<sup>st</sup> year) (48h)
- Algorithmics (2<sup>nd</sup> year) (40h)
- Linear Algebra (3<sup>rd</sup> year) (35h)
- Arithmetics and Groups (2<sup>nd</sup> year) (30h)
- Refreshing courses (pre-1<sup>st</sup> year) (25h)
- \* Computer algebra (15h)

2021-2024 Teaching Assistant: Networks and Telecommunications (1st year):

- Programming fundamentals (30h)
- Mathematics of transmissions (40h)
- Mathematics of numerical systems (98h)
- Mathematical analysis of signals (24h)