Aloïs Rosset

PhD at the Vrije Universiteit Amsterdam in theoretical computer science.
Areas of particular interest are Category Theory and Logic.

CONTACT

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- ⚛ iD 🔷 in 🪲

INTERESTS

- Category Theory
- Monads
- Toposes
- Quantum Computing
- Graph Rewriting
- Logic

TALKS / SEMINARS

Each first-author paper was presented at the corresponding conference. Here are the additional presentations:

- VU TCS 13 Feb 2020
- NetTCS 29 Nov 2021
- VU TCS 12 May 2023
- NetTCS 26 Oct 2023
- SYCO12 15 April 2024 🏆

SERVICE

- **Member** of IPA PhD council (Institute for Programming research and Algorithmics) 2023-2024. The institute organises events for PhDs in the Netherlands, including a Spring school and Fall school.
- **Co-organiser** of the Dutch PhD Logic 2024 at VU Amsterdam (Yearly Dutch Seminar)

LANGUAGES

- **French**: Mother tongue
- **English**: Fluent
  - 5 years PhD, Amsterdam
  - TOEFL: 108 /120 (in 2020)
  - 1 year Erasmus in Bristol
- **German**: Basic understanding
  - B2-level from high-school
  - 6 months in Swiss army
- **Dutch**: B1-level

REFERENCES

PhD (co)supervisors:
- **Jörg Endrullis** (VU Amsterdam)
- **Helle Hvid Hansen** (University of Groningen)
- **Wan Fokkink** (VU Amsterdam)

RESEARCH

- [**R**] Uniform Monad Presentations and Graph Quasitoposes (PhD Thesis)
- [**R**HE] Characterisation of LT-topologies on simplicial sets, bicoloured graphs, and fuzzy sets (TbiLLC'23 Post-proceedings)
- [**R**ZHE] Correspondence between Composite Theories and Distributive Laws (CMCS'24)
- [**R**] Partially simple graphs are Quasitoposes (TbiLLC'23)
- [**R**OE] Fuzzy Presheaves are Quasitoposes (ICGT'23)
- [**R**HE] Algebraic presentation of Semifree monads (CMCS'22)
- [OE**R**] Graph rewriting and Relabeling with PBPO+ : A unifying theory for Quasitoposes (Journal JLAMP'23)
- [OE**R**] Graph rewriting and Relabeling with PBPO+ (ICGT'21)

Collaborators	H = Helle Hvid Hansen	E = Jörg Endrullis
	O = Roy Overbeek	Z = Maaike Zwart

Awards
- 🏆 Best presentation SYCO12

EDUCATION

PhD
Th. Comp. Sc.
2020 - May 2025
	- Vrije Universiteit Amsterdam. Thesis in 2 Parts
	  - Part I: Studied monads and distributive laws, and developed further the correspondence with universal algebra
	  - Part II: Studied the usage of quasitoposes in graph rewriting, and proved several categories to be quasitoposes, adapting existing proofs (for fuzzy presheaves) or via LT-topologies.

M.Sc. + B.Sc.
Mathematics
2014 - 2019
	- Swiss Institute of Technology (EPFL) University of Bristol, 3rd year Erasmus exchange
	  - **Master thesis:** "Blakers-Massey Theorem from the perspective of HoTT"
	  - **Master project:** "Model Theory & Vaught Theorem"
	  - **Bachelor thesis**: "Gödel's Incompleteness"

TEACHING

Co-lecturer	- Logic and Modelling, *2023* (Bachelor CS Year 2)
	  - Gave 3 lectures on modal logic. Content adapted from different existing materials
	  - Included rewriting exercises & solutions

Teaching assistant	- Term rewriting systems, *2022-2024* - Included rewriting exercises & solutions, and grading exams. - Analytical geometry, *2018-2019*
Design of entrance exam	- Cours Euler (EPFL) : special cursus for children with high mathematical potential, *2019*.