

Chloé Capon

PhD student in Mathematics

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Academic CV – updated on September 25, 2024.

Research experience

- Sept 2022 – **PhD thesis**, *UMONS*, Belgium.
 - Present Title: Refinement mechanisms in many-sided reactive synthesis.
Supervisor: [Mickael Randour](#).
- Sept 2021 – **Master's thesis**, *UMONS*, Belgium.
 - Jun 2022 Title: Generation and exploitation of counterexamples in stochastic models.
Supervisor: [Mickael Randour](#).
- Sept 2021 – **Internship**, *AISIN Europe*, Belgium.
 - Nov 2021 Subject: Vehicle Routing Problem.
- Sept 2020 – **Master's project**, *UMONS*, Belgium.
 - Jun 2021 Subject: Counterexample generation in stochastic models.
Supervisor: [Mickael Randour](#).

Education

- 2020 – 2022 **Master's degree in Mathematics – specialist focus: Computer Science**, *UMONS*, Belgium.
With highest honours. Received the Maurice Boffa Award from the Department of Mathematics.
- 2017 – 2020 **Bachelor's degree in Mathematics**, *UMONS*, Belgium.
Academic minor in Computer Science. With distinction.

Publications

Extended versions are available on arXiv (links on [my website](#)).

Peer-reviewed proceedings

[CLW22] Chloé Capon, Nicolas Lecomte, Jef Wijsen. **Computing H-Partitions in ASP and Datalog**. International Conference on Logic Programming 2022 Workshops co-located with the 38th International Conference on Logic Programming (ICLP 2022), CEUR Workshop Proceedings, volume 3193, 15 pages, 2022.

Attended research events

- 2024 – Highlights'24: Highlights of Logic, Games and Automata (LaBRI, Bordeaux, France).
- MOVEP'24: 16th School on Modelling and Verification of Parallel Processes (IRISA, Rennes, France).

- 2023 – UniVr/UniUd Summer School on Formal Methods for Cyber-Physical Systems (CISM, Udine, Italy).
- 2022 – ASPOCP 2022: 15th Workshop on Answer Set Programming and Other Computing Paradigms (Technion campus, Haifa, Israel).

Talks

You can find the corresponding slides on [my website](#).

- 2024 *Taming Large MDPs Through Stochastic Games*, Highlights'24, 19/09, LaBRI, Bordeaux, France.
Generation of Counterexamples for Synthesis in Markov Decision Processes, MOVEP'24, 30/05, IRISA, Rennes, France.
- 2023 *Generation and Exploitation of Counterexamples in Stochastic Models*, Seminar given at Masaryk University, 16/10, Brno, Czech Republic.

Interns

- Cosupervision (with Thomas Brihaye, Mickael Randour, and James Main) of Baptiste Hilaire on the compact representation of strategies (May to July 2024).

Research visits

- Visit to Petr Novotný at University of Masaryk, Brno (Czech Republic), October 16-20, 2023.

Teaching

- 2023 – Present **Effective Mathematics**, *Teaching assistant*, UMONS, Belgium.
Exercise sessions for the course given by [Thomas Brihaye](#).
- 2022 – Present **Elementary Mathematics**, *Teaching assistant*, UMONS, Belgium.
Supervision of exercise sessions and test grading.
- 2022 – Present **Introduction to Differential Varieties**, *Teaching assistant*, UMONS, Belgium.
Exercise sessions for the course given by [Thomas Brihaye](#).
- 2022 – Present **Mathematics for Computer Science**, *Teaching assistant*, UMONS, Belgium.
Exercise sessions for the course given by [Thomas Brihaye](#).
- 2022 – 2024 **Complex Analysis**, *Teaching assistant*, UMONS, Belgium.
Exercise sessions for the course given by [Matthieu Simon](#).
- 2022 – 2024 **Mathematics - Supplementary Course**, *Teaching assistant*, UMONS, Belgium.
Exercise sessions for the course given by [Thomas Brihaye](#).

Miscellaneous

- Academic responsibilities – Member of the Council of the Mathematics Department at UMONS (2024-Present).
- Informant at the Mons SIEP fair in 2024.
- Informant at the UMONS' open house day in 2023.
- Participation to the “Journées Math-Sciences” at UMONS in 2023.
- Member of the Council of the Faculty of Science at UMONS (2021–2022).

Languages French (native), English (upper-intermediate), Dutch (lower-intermediate).
Driving License B