Chloé Capon

PhD student in Mathematics

✉ *chloe.capon@umons.ac.be*
🌐 *chloecapon.github.io/*

Academic CV – updated on November 21, 2024.

Research experience

Sept 2022 – Present
PhD thesis, *UMONS*, Belgium.
Title: Refinement mechanisms in many-sided reactive synthesis.
Supervisor: Mickael Randour.

Sept 2021 – Jun 2022
Master's thesis, *UMONS*, Belgium.
Title: Generation and exploitation of counterexamples in stochastic models.
Supervisor: Mickael Randour.

Sept 2021 – Nov 2021
Internship, *AISIN Europe*, Belgium.
Subject: Vehicle Routing Problem.

Sept 2020 – Jun 2021
Master's project, *UMONS*, Belgium.
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
– Journées Annuelles du GT Vérif 2024 (Université de Lille, Lille, France).
– 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, Journées Annuelles du GT Vérif 2024, 20/11, Université de Lille, Lille, France.*

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 (Czeck 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).
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