Guillermo A. Pérez — CV

Middelheimlaan 1 – 2020 Antwerpen – Belgium

+31 (0)6 11781544 • guillermo.perez@uantwerpen.be

www.uantwerpen.be/en/staff/guillermoalberto-perez/

Education

Université libre de Bruxelles (ULB)	**Brussels, Belgium**
Ph.D. Computer Science	*2012–2016*
National Tsing-Hua University (NTHU)	**Hsinchu, Taiwan**
M.Sc. Information Systems and Applications	*2010–2012*
Universidad Tecnológica Centroamericana (UNITEC)	**Tegucigalpa, Honduras**
*B.Sc. Computer Science, **Summa cum Laude***	*2005–2009*

Awards and Scholarships

- Outstanding Paper Award – AAAI Conf. on AI (AAAI) — 2025
- Best Paper Award – Int'l Conf. on Formal Modeling & Analysis of Timed Sys. (FORMATS) — 2023
- Outstanding Teaching Award within the Faculty of Science, University of Antwerp — *2021*
- Fondation Wiener-Anspach Post-Doctoral subsidy — *2017*
- Kurt Gödel medal for my synthesis tool AbSynthe at FLoC Olympic Games — *2014*
- Fonds de la Recherche Scientifique (F.R.S.-FNRS) Aspirant fellowship — *2014–2018*
- International Cooperation and Development Fund (ICDF) scholarship — *2010–2012*

In the media

My research, mostly in the context of formal methods for trustworthy AI, has been featured in the media:

- Our "outstanding" AAAI 2025 paper on a decidable class of partially observable Markov decision processes was the topic of two blog posts in Le Monde's binaire and it was covered by AIhub.org
- Results from Dennis Groß' 2020 collaboration with TNO on attacking models for image classification were featured in an article of NewScientist

Employment

University of Antwerp	**Antwerp, Belgium**
Tenured Associate Professor	*October 2023–present*
University of Antwerp	**Antwerp, Belgium**
Tenure-Track Assistant Professor	*October 2018–2023*
Université libre de Bruxelles	**Brussels, Belgium**
Research Assistant (supported by F.R.S.-FNRS)	*January 2017–October 2018*
University of Oxford	**Oxford, United Kingdom**
Visiting Researcher	*2017*
Informática Atlántida	**Tegucigalpa, Honduras**
Software Engineer	*2008–2010*

Membership in Scientific Societies

Member of ELLIS: European Laboratory for Learning and Intelligent Systems	**Europe**
Working with colleagues in Europe on formal methods for and with artificial intelligence	*2023–present*

Member of Flanders Make core lab at the University of Antwerp   **Antwerp, Belgium**
The Flemish strategic research center for the manufacturing industry   *2020–present*

Languages

English: Fluent   **French:** Fluent
Dutch: Fluent   **Mandarin Chinese:** Basic
Spanish: Native   **German:** Basic

Supervision

Post-doctoral researchers
o Dr. Marnix Suilen   *2024–present*

PhD students
o Vanessa Flügel   *2025–present*
o Kasper Engelen   *2022–present*

Alumni
o Dr. Ramesh Krishnamurthy (with Prof. Denil at UAntwerp)   *2021–2025*
o Dr. Shrisha Rao   *2021–2025*
o Dr. Gaëtan Staquet (with Prof. Bruyère at UMons)   *2020–2024*
o Dr. Tim Leys   *2020–2024*
o Dr. Florent Delgrange (with Prof. Nowé at VUB)   *2020–2024*
o Dr. Dennis Gross (with Prof. Jansen at Radboud)   *2019–2024*
o Dr. Ritam Raha (with Dr. Fijalkow at LaBRI, Bordeaux)   *2019–2023*
o Dr. Raphaël Berthon (with Prof. Raskin at ULB)   *2018-2022*

Teaching and Service

Bachelor's courses taught at UAntwerp
o Theoretical Computer Science Seminar (2nd Sem.)   *2024–present*
o Compilers (1st Sem.)   *2019–present*

Master's courses taught at UAntwerp
o Mathematical Foundations of Reinforcement Learning (1st Sem.)   *2021–present*
o Specification and Verification (1st Sem.)   *2019–present*
o Programming Paradigms (2nd Sem.)   *2019–present*
o Software Testing and Beyond Summer School   *2025–present*

Service at UAntwerp
o Vice-chair of the Department of Computer Science   *2025–present*
o CS-Department Planning Manager for Students and Assistants Supporting Courses   *2025–present*
o Member of the Pre-Screening Commission for Int'l Masters' Programs in CS   *2018–present*

Service to the Community

Invited talks
Decidable Problems for Partially Observable MDPs   **Croatia**
8th International Symposium on AI Verification (SAIV)   *2025*

The Reactive Synthesis Competition (SYNTCOMP): 2018-2021   **Germany**
Automated Synthesis: Functional, Reactive and Beyond - Dagstuhl Seminar (24171)   *2024*

Parameter Synthesis for One-Counter Automata   **France**
10th International Workshop on Weighted Automata: Theory and Applications   *2021*

Regret Minimization in Discounted-Sum Games   **Belgium**
International Symposium on Games, Automata, Logics, and Formal Verification (GandALF) *2020*

Revisiting Synthesis for One-Counter Automata   **Germany**
22nd International Workshop on Verification of Infinite-State Systems   *2020*

Optimizing Expectation with Guarantees in POMDPs   **Belgium**
Workshop: Theory and Algorithms in Graph and Stochastic Games   *2019*

Graph-Based Reductions for Model Checking and Learning MDPs   **Germany**
Machine Learning and Model Checking Join Forces - Dagstuhl Seminar (18121)   *2018*

Competition organizer

Annual Reactive Synthesis Competition, with S. Jacobs, P. Schlehuber-Caissier
SYNTCOMP is affiliated with the conference CAV, `https://www.syntcomp.org/`   *2019–present*

Steering committee member

o The International Conference on Quantitative Evaluation of SysTems (QEST)   *2023–2027*

Program chair

o Organizer of the "The Futures of Reactive Synthesis" Dagstuhl seminar (23391), with N. Fijalkow, B. Finkbeiner, and E. Polgreen   *2023*
o General & program chair of the Int'l Conf. on Concurrency (CONCUR) 2023, with J.-F. Raskin *2023*
o Workshop chair of the Federated Logic Conference (FLoC) 2022, joint with S. Almagor   *2022*
o Program chair of the Workshop on Synthesis (SYNT 2021), joint with E. Polgreen   *2021*
o Organizer of SYNTCOMP Camp, a satellite tutorial of ETAPS 2019   *2019*

Program committee member

o 45th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2025)   *2025*
o 11th Symposium on Dependable Software Eng. Theories, Tools and Applications (SETTA 2025) *2025*
o 32st Int'l Conf. on Tools & Algorithms for the Construction & Analysis of Systems (TACAS 2026) *2026*
o 50th International Symposium on Mathematical Foundations of Computer Science (MFCS 2025) *2025*
o 35th Int'l Conference on Concurrency Theory (CONCUR 2024)   *2024*
o 23rd Int'l Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2024)   *2024*
o 32nd EACSL Annual Conference on Computer Science Logic (CSL 2024)   *2024*
o 34rd Benelux Conf. on AI and the 31th Belgian Dutch Conf. on ML (BNAIC/BeNeLearn 2022) *2022*
o 18th Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2020)   *2020*
o Int'l Symposium on AI Verification (SAIV)   *2024, 2025*
o Int'l Conference on Applications and Theory of Petri Nets and Concurrency (PN)   *2024, 2025*
o AAAI Conference on Artificial Intelligence (AAAI)   *2021, 2022, 2023*
o Conference on Reachability Problems (RP)   *2019, 2022, 2025*
o Int'l Symp. on Games, Automata, Logics, and Formal Verif. (GandALF)   *2021, 2022, 2023, 2024*
o Workshop on Synthesis (SYNT)   *2019, 2022, 2024, 2025*

Other service

o Artifact Evaluation Chair for FoSSaCS 2026   *2026*
o Part of the iCORE Ranking Application for QEST-FORMATS   *2025*
o Scientific Advisor of ReqCon.ai in ELSA-ai.eu Funded Project   *2025*

Research Grants

PI of Synthesis of reactive systems from formal specifications and examples (SynthEx) **€194K**
Funded by the Research Foundation - Flanders (FWO) at UAntwerp   *2024–2027*

co-PI of Infectious disease economics and AI with guarantees (DESCARTES) €800K
Funded by the Inter-university Research Fund (iBOF), Flanders, Belgium 2021–2024

co-PI of Deterministic and inexpensive realizations of advanced control (DIRAC-SBO) €468K
Funded by Flanders Make, the strategic research center for the Flemish manufacturing industry 2020–2023

PI of Safe Artificial Intelligence and Learning for Verification (SAILor) €254K
Funded by the Research Foundation - Flanders (FWO) at UAntwerp 2020–2023

PI of Counter-Automata Algorithms for Software Verification Tools (CAST) €205K
Funded by the University Research Fund (BOF) at UAntwerp 2019–2023