

Guillermo A. Pérez — CV

Middelheimlaan 1 – 2020 Antwerpen – Belgium

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Education

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

Awards and Scholarships

○ 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 AbsSynthe 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

Employment

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

Membership in Scientific Societies

Member of ELLIS: European Laboratory for Learning and Intelligent Systems <i>Working with colleagues in Europe on formal methods for and with artificial intelligence</i>	Europe 2023–present
Member of the NEXOR consortium <i>Working on the next generation of cyber-physical systems at the University of Antwerp</i>	Antwerp, Belgium 2021–present
Member of Flanders Make core lab at the University of Antwerp <i>The Flemish strategic research center for the manufacturing industry</i>	Antwerp, Belgium 2020–present

Languages

English: Fluent
Dutch: Fluent
Spanish: Native

French: Fluent
Mandarin Chinese: Intermediate
German: Basic

Supervision

Post-doctoral researchers.....

- Dr. Marnix Suilen 2024–present

PhD students.....

- Allen Joseph (with Dr. Filiot at ULB) 2024–present
- Kasper Engelen 2022–present
- Shrisha Rao 2021–present
- Ramesh Krishnamurthy (with Prof. Denil at UAntwerp) 2021–present
- Dr. Gaëtan Staquet (with Prof. Bruyère at UMONS) 2020–2024
- Dr. Tim Leys 2020–2024
- Dr. Florent Delgrange (with Prof. Nowé at VUB) 2020–2023
- Dr. Dennis Gross (with Prof. Jansen at Radboud) 2019–2024
- Dr. Ritam Raha (with Dr. Fijalkow at LaBRI, Bordeaux) 2019–2023
- Dr. Raphaël Berthon (with Prof. Raskin at ULB) 2018–2022

Teaching

Bachelor's courses.....

- Theoretical Computer Science Seminar (Spring) 2024–present
- Compilers (Fall) 2019–present

Master's courses.....

- Mathematical Foundations of Reinforcement Learning (Fall) 2021–present
- Specification and Verification (Fall) 2019–present
- Programming Paradigms (Spring) 2019–present

Service

Invited speaker.....

- Automated Synthesis: Functional, Reactive and Beyond - Dagstuhl Seminar (24171)** **Germany**
The Reactive Synthesis Competition (SYNTCOMP): 2018-2021 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
- Machine Learning and Model Checking Join Forces - Dagstuhl Seminar (18121)** **Germany**
Graph-Based Reductions for Model Checking and Learning MDPs 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.....

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

Program chair.....

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

Program committee member.....

- 7th Int’l Symposium on AI Verification (SAIV 2024) 2024
- 35th Int’l Conference on Concurrency Theory (CONCUR 2024) 2024
- 45th Int’l Conference on Applications and Theory of Petri Nets and Concurrency (PN 2024) 2024
- 23rd Int’l Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2024) 2024
- 32nd EACSL Annual Conference on Computer Science Logic (CSL 2024) 2024
- 34rd Benelux Conference on Artificial Intelligence and the 31th Belgian Dutch Conference on Machine Learning (BNAIC/BeNeLearn 2022) 2022
- 18th Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2020) 2020
- AAAI Conference on Artificial Intelligence (AAAI) 2021, 2022, 2023
- Conference on Reachability Problems (RP) 2019, 2022
- Int’l Symp. on Games, Automata, Logics, and Formal Verif. (GandALF) 2021, 2022, 2023, 2024
- Workshop on Synthesis (SYNT) 2019, 2022, 2024

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

Software Tools

- AbsSynthe: A controller-synthesis tool from safety specifications
- GPOMCP: A partial-observation Monte Carlo planner with guarantees
- Acacia-bonsai: Universal coBüchi synthesis algorithms for temporal specifications

References

- Ann Nowé, Ph.D.
Prof. at VUB, Belgium
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- Frits W. Vaandrager, Ph.D.
Prof. at Radboud University, Netherlands
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- Joost-Pieter Katoen, Ph.D.
Prof. at RWTH Aachen University, Germany
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- Jean-François Raskin, Ph.D.
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