# CURRICULUM VITAE - PROF. DR. JORGE A. PÉREZ

November 2024

Bernoulli Institute for Mathematics, Computer Science, and AI Faculty of Science and Engineering University of Groningen, The Netherlands

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## 1 Academic Positions

Since Jul 2019: Associate Professor of Software Foundations

(Dutch: Universitair Hoofddocent 1 / Adjunct Hoogleraar, Grondslagen van Software). University of Groningen, The Netherlands. Tenured position (with ius promovendi) .

Apr 2014 – Jun 2019 Assistant Professor (Tenure Track), University of Groningen, The Netherlands.

Apr 2010 – Mar 2014 PostDoc Researcher, NOVA University of Lisbon, Portugal.

Jan 2007 – Dec 2009 Ph.D. Student, University of Bologna, Italy.

2002–2006 Research Assistant, Universidad Javeriana Cali, Colombia.

## 2 Current Research Interests

Concurrency Theory, Logical Foundations of Concurrency, Semantics of Programming Languages

## 3 Education

Ph.D. in Computer Science, University of Bologna, Italy. Degree Awarded on May 5, 2010.

Supervisor: Prof. Davide Sangiorgi.

Thesis: Higher-Order Concurrency: Expressiveness and Decidability Results.

Reviewers: Prof. Uwe Nestmann (Berlin) and Prof. Nobuko Yoshida (Oxford).

Engineering Degree in Computer Science, Universidad Javeriana Cali, Colombia, 2006.

Thesis: Soft Constraints in Concurrent Constraint Programming (with A. Delgado).

## 4 Grants, Recognition, and Awards

(2023) Scientific Meetings and Consultations Grant from the Dutch Research Council (NWO).

This grant provided financial support for the organization of DisCoTec 2024.

Total amount granted: 5000€.

(2022) Our iFM'22 paper "Scalable Typestate Analysis for Low-Latency Environments" (with Arslanagić and Subotić) received the *Best Artifact Award* (which recognizes reproducible research), and invited to the special issue that appeared in *ACM Formal Aspects of Computing*.

(2022) Selected as the Most Approachable Lecturer (Academic Year 2021-2022), BSc Computing Science.

(2021) Our ESOP'21 paper "Session Coalgebras: A Coalgebraic View on Session Types and Communication Protocols" (with Keizer and Basold) was selected among the *best papers* of the conference, and invited to the special issue that appeared in *ACM TOPLAS*.

(2019) Selected as member of the Young Academy Groningen (YAG), a club for the University's "most talented, enthusiastic, and ambitious young researchers".

I served as elected member of the YAG board since January 2023 until the end of my term (August 2024).

(2019-2024) VIDI Career Grant from the Dutch Research Council (NWO).

Principal Investigator. Project: Unifying Correctness for Communicating Software.

Total amount granted: 895543€.

(2018-2021) TOP Grant 2017 from the Dutch Research Council (NWO).

Principal Investigator. Project: ACCESS: Advanced Structures for Correct Communicating Software.

Total amount granted: 234563€.

(Declined due to overlap with my VIDI grant.)

(2016-2018) Joint CNRS Project France - The Netherlands (PICS program)

Project: SUCCESS: Security, adaptability, and time in Communication-Centric Software Systems

Co-Investigator. Principal Investigator: Dr Cinzia Di Giusto (Université de Nice, France).

Total amount granted: 12000€.

- (2015) Our CONCUR'15 paper "Characteristic Bisimulation for Higher-Order Session Processes" (with Kouzapas and Yoshida) was selected among the *best papers* of the conference, and invited to the special issue that appeared in Springer's *Acta Informatica*.
- (2015) Grant from the University of Groningen (Science Without Borders) to visit the Theory of Computation Group, University of Brasilia. Brasilia, Brazil

  Total amount granted: 1500€.
- (2014) Travel and accommodation grant to attend and present paper at Mathematical Structures of Computation, week on Concurrency, Logic and Types. Lyon, France

  Total amount granted: ~1000€.
- (2013-2015) Seven grants for Short-Term Scientific Missions (STSMs) from the COST Action IC1201 BETTY (Behavioral Types for Reliable Large-Scale Software Systems). Both as participant and as scientific host. *Total amount granted:* ~1000€ per grant.
- (2013-2015) Research Postdoctoral Fellowship from the Portuguese Foundation for Science & Technology. Project title: "Logic-Based Behavioral Types for Secure, Reliable & Extensible Global Infrastructures". Ranked 2nd (shared) among 117 applications. Principal Investigator. Grant included monthly stipend (1495€, for 3 years) and travel support (750€). Total amount granted: 54570€. (Resigned in 03/2014 to take up my current position.)
- (2013) Invited as one of the 200 young researchers to the 1st Heidelberg Laureate Forum. Competitive selection among 600 applicants. Heidelberg, Germany.
- (2013-2014) Selected for an ERCIM Alain Bensoussan Fellowship (12 month postdoctoral fellowship), after an open call with 155 applications.

  Total amount granted: ~ 24000€. (Declined for personal reasons.)
- (2010-2012) Postdoc scholarship within the Carnegie Mellon Portugal.

Project: INTERFACES (Certified Interfaces for Integrity and Security of Extensible Web Applications). Principal Investigators: Prof. Luís Caires and Prof. Frank Pfenning.

Grant included monthly stipend (1495€, for 2010-2012) plus installation subsidy (1000€).

Total amount granted: 54840€.

- (2007-2009) PhD Scholarship from MIUR (Italian Ministry of Education, Universities and Research). Scholarship covered monthly stipend (980€, for 2007-2009). *Total amount granted: 35280*€.
- (2006) Laureate thesis distinction (outstanding research work) by the Council of the Engineering School, Universidad Javeriana Cali (CO).

### 5 Peer-Reviewed Publications

### **Summary**

November 2024: 24 journal papers, 60 conference/workshop papers, and 1 book chapter. A full list of publications appears at the end (Section 13).

For further information, please consult my web site, DBLP entry, and Google Scholar.

## 6 Teaching

## 6.1 Qualifications

University Teaching Qualification (UTQ/BKO), the certificate of didactic competence in Dutch universities. Awarded by the University of Groningen on October 23, 2015.

#### 6.2 Courses

At the University of Groningen, I am currently the main responsible for the following quarter-long courses:

Languages and Machines (Since 2017). BSc Computing Science (~150 students).

*Models and Semantics of Computation* (Since 2022). MSc Computing Science (∼30 students).

In the past, I have been main responsible for the courses:

Program Correctness (2021-2023). BSc Computing Science.

Discrete Structures (2014-2019). BSc Computing Science.

Formal Modelling of Communicating Systems (2014-2022). MSc Computing Science.

## 6.3 Mini-Courses in Schools and Conferences

2024	Propositions as Sessions: Logical Foundations of Concurrent Computation (with Dan Frumin)
	35th European Summer School in Logic, Language and Information (ESSLLI 2024)
	Leuven, Belgium, 29 July - 2 August 2024

- 2022 Session Types for Message-Passing Concurrency (with Dan Frumin)
  Advanced Courses on Formal Methods 2022
  Institute for Programming research and Algorithmics (IPA)
  Eindhoven University of Technology, June 13–17, 2022.
- 2021 Session Types for Message-Passing Concurrency: Basic Concepts and Logical Foundations 12th International School on Rewriting (ISR 2021, Virtual Event)
- 2018 Type-based Communication Correctness in Multi-agent Systems 20th European Agent Systems Summer School (EASSS 2018)
- Session Types for Concurrent and Distributed Programming: Principles and Practice (with R. Hu and N. Yoshida)21st Symposium on Formal Methods (FM'16).
- 2012 Formal Models of Concurrency
  School of Computing Sciences (ECI'12), University of Buenos Aires, Argentina.

## 7 International activities

#### 7.1 Current International Collaborations

Prof. Luís Caires, Técnico Lisbon, Portugal: Logical foundations of concurrency.

**Dr. Ilaria Castellani**, INRIA, France: Reactive models of concurrency.

**Dr. Cinzia Di Giusto**, University of Nice, France: Reactive models of concurrency.

Dr. Emanuele D'Osualdo, University of Konstanz, Germany: Logical foundations of concurrency.

**Dr. Claudio Mezzina**, University of Urbino, Italy: Reversibility in (session-based) concurrency.

Dr. Andreia Mordido, University of Lisbon, Portugal: Deadlock-freedom in session-based concurrency.

Dr. Daniele Nantes-Sobrinho, Imperial College, UK: Session-based concurrency.

Prof. Nobuko Yoshida, Oxford University, UK: Expressiveness of session-based concurrency.

### 7.2 Involvement in European Initiatives

2014-2018	Management committee member (NL representative)
	COST Action IC1405 Reversible Computation – Extending Horizons of Computing
2014-2018	Management committee member (NL representative)
	COST Action IC1402 ARVI (Runtime Verification Beyond Monitoring)
2012-2016	Management committee member (NL representative)
	COST Action IC1201 BETTY (Behavioral Types for Reliable Large-Scale Software Systems)

## 8 Supervision

## **Summary**

I have supervised one postdoctoral researcher and have graduated five PhD candidates. I currently supervise one PhD candidate. Also, I have supervised more than 30 master/undergraduate students.

#### 8.1 Postdocs

Dan Frumin. September 2020 – February 2023 (NWO VIDI).

### 8.2 PhD students

#### Graduated Ph.D. Students (5)

Joseph Paulus: On the Expressivity of Typed Concurrent Calculi.

University of Groningen.

Graduation date: September 20, 2024.

Assessment committee: Prof. Simon Gay, Prof. Herman Geuvers, Prof. Helle Hvid Hansen

Bas van den Heuvel: Correctly Communicating Software: Distributed, Asynchronous, and Beyond.

University of Groningen.

Graduation date: April 2, 2024.

Assessment committee: Prof. Marieke Huisman, Prof. Alexander Lazovik, Prof. Nobuko Yoshida.

Alen Arslanagić: Minimal Structures for Program Analysis and Verification.

University of Groningen.

Graduation date: September 12, 2023.

Assessment committee: Prof. Marcello Bonsangue, Prof. Paola Giannini, Prof. Tijs van der Storm.

Jovana Dedeić: Relative Expressiveness of Process Calculi with Dynamic Update and Runtime Adaptation. University of Novi Sad, Serbia. Co-supervised with Vanja Pantović.

Graduation date: January 13, 2022.

Assessment committee: Prof. Jelena Ivetić, Prof. Dusan Gajić, Dr. Ivan Prokić, Dr. Hugo Torres Vieira.

Mauricio Cano: Session-based concurrency: between operational and declarative views.

University of Groningen.

Graduation date: January 7, 2020.

Assessment committee: Prof. Frank S. de Boer, Prof. Mariangiola Dezani-Ciancaglini, Prof. Tijs van

der Storm.

Third place, VERSEN Thesis Award 2020.

### Current Ph.D. Students

Juan C. Jaramillo (Colciencias scholarship). Expected graduation: September 2026.

## 9 Academic Activities

### 9.1 Steering Committee Member for International Conferences and Workshops

Since 2019 IFIP WG 6.1 Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE)

Since 2015 Combined International Workshop on Expressiveness in Concurrency and on Structural Operational Semantics (EXPRESS/SOS)

#### 9.2 General Chair of International Conferences

2024 19th International Federated Conference on Distributed Computing Techniques (DisCoTec 2024), June 17-21, 2024.

Five-day event involving three main conferences (COORDINATION, DAIS, FORTE), three associated workshops, and more than 80 participants.

### 9.3 Co-Chair of Scientific Events

#### **International Conferences**

2019 39th IFIP WG 6.1 Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE'19)

Co-chair: Nobuko Yoshida (Imperial College).

#### **National Conferences and Workshops**

2025 ICT.Open 2025 - Formal Methods track

Co-chair: Valentina Castiglione (Eindhoven)

2020 SEN Symposium 2020: Sixth Dutch national symposium on software engineering

Co-chairs: Yanja Dajsuren (Eindhoven) and Wouter Swierstra (Utrecht).

#### **International Workshops**

- Workshop on Recent Advances on Concurrency and Logic (RADICAL), co-located with CONCUR. Co-Chair: Giuseppe Perelli (Sapienza University of Rome).
- 2019 26th International Workshop on Expressiveness in Concurrency / 16th Workshop on Structural Operational Semantics (EXPRESS/SOS'19), co-located with CONCUR.

  Co-chair: Jurriaan Rot (Nijmegen).
- 2019 5th International Workshop on Behavioral Types (BEAT'19), co-located with POPL. Co-chair: António Ravara (NOVA Lisboa).
- 2018 25th International Workshop on Expressiveness in Concurrency / 15th Workshop on Structural Operational Semantics (EXPRESS/SOS'18), co-located with CONCUR.

  Co-chair: Simone Tini (Insubria).
- 2017 Workshop on Recent Advances on Concurrency and Logic (RADICAL), co-located with CONCUR. Co-Chair: Julian Gutierrez (Oxford).
- 2015 11th Workshop on Developments in Computational Models (DCM), co-located with ICTAC. Co-chair: César Muñoz (NASA Langley).

## 9.4 Program Committee Member for International Conferences and Workshops

- 37th International Conference on Computer Aided Verification (CAV'25)
   45th International Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE'25)
- 2024 19th International Workshop on Logical and Semantic Framework with Applications (LSFA'24) Second International Workshop on Formal Methods for Business Process Management (FM-BPM 2024)
- 32nd European Symposium on Programming (ESOP'23)
   44th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI 2023)
   Combined 30th International Workshop on Expressiveness in Concurrency and 20th Workshop on Structural Operational Semantics (EXPRESS/SOS 2023)
   First International Workshop on Formal Methods for Business Process Management (FM-BPM 2023)
   30 Years of Session Types (ST30)
- 2022 13th International Workshop on Programming Language Approaches to Concurrency and Communication-cEntric Software (PLACES'22)

- 2021 23rd International Symposium on Principles and Practice of Declarative Programming (PPDP'21)
  - 17th International Conference on Formal Aspects of Component Software (FACS'21)
  - 27th International Conference on Types for Proofs and Programs (TYPES'21)
  - 41st IFIP WG 6.1 Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE'21)
  - ACM SIGPLAN Workshop on Reactive and Event-based Languages & Systems 2021 (REBLS'21)
  - 16th International Workshop on Logical and Semantic Framework with Applications (LSFA'21)
- 2020 31st International Conference on Concurrency Theory (CONCUR'20)
  - 12th Workshop on Programming Language Approaches to Concurrency- & Communication-cEntric Software (PLACES'20)
  - 19th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'20)
- 2019 19th International Conference on Runtime Verification (RV'19)
  - 16th International Conference on Formal Aspects of Component Software (FACS'19)
  - Workshop on Recent Advances on Concurrency and Logic (RADICAL).
  - 18th International Conference on Autonomous Agents and Multiagent Systems (AAMAS'19)
- 2018 18th International Conference on Runtime Verification (RV'18)
  - 20th ACM International Symposium on Principles and Practice of Declarative Programming (PPDP'18) 38th IFIP WG 6.1 Conference on Formal Techniques for Distributed Objects, Components, and Systems (FORTE'18)
  - 11th Interaction and Concurrency Experience (ICE'18)
  - 33rd ACM Symposium on Applied Computing (SAC'18, Track: Service-Oriented Architectures and Programming).
- 2017 12th International Workshop on Logical and Semantic Frameworks, with Applications (LSFA'17).
  32nd ACM Symposium on Applied Computing (SAC'17, Track: Service-Oriented Architectures and Programming).
- 2016 43rd International Colloquium on Automata, Languages, and Programming (ICALP'16).
  - 23rd International Workshop on Expressiveness in Concurrency / 13th Workshop on Structural Operational Semantics (EXPRESS/SOS'16).
  - 31st ACM Symposium on Applied Computing (SAC'16, Track: Service-Oriented Architectures and Programming).
  - 1st International Workshop on Pre- and Post-deployment verification techniques (PrePost'16).
  - 9th Interaction and Concurrency Experience, (ICE'16).
- 2015 12th International Colloquium on Theoretical Aspects of Computing (ICTAC'15).
- 2014 3rd Workshop in Behavioral Types, co-located with CONCUR'14 (BEAT'14).
  - 40th Latin-American Conference on Informatics (CLEI Theory of Computation symposium)
- 2013 39th Latin-American Conference on Informatics (CLEI Theory of Computation symposium)

### 9.5 Research Visits (Selection)

- Oct 2024 Université Sorbonne Paris Nord Laboratoire d'Informatique de Paris Nord (France)
  - Hosted by Dr. Damiano Mazza for three weeks as an invited professor (professeur invité)
- May 2024 Técnico Lisboa and INESC-ID (Portugal)
  - Hosted by Prof. Luís Caires for one week
- Mar 2024 Université Côte d'Azur (France)
  - Hosted by Dr. Cinzia Di Giusto for three days, including an invited talk at "Forum Numerica"
- Jun 2023 Imperial College London (UK)
  - Hosted by Dr. Daniele Nantes-Sobrinho for three days
- May 2022 Radboud University (NL)
  - Hosted by Dr. Robbert Krebbers for two days
- May 2018 TU Wien (Austria)
  - Hosted by Prof. Agata Ciabattoni for three days
- Oct 2017 IIT Delhi (India)
  - Hosted by Prof. Sanjiva Prasad for one week
- Sep 2016 IMT Lucca (Italy)

	Hosted by Dr. Claudio Mezzina for one week
Jul 2015	University of Brasília (Brazil)
	Hosted by Prof. Mauricio Ayala for two weeks
May 2014	University of Turin (Italy)
	Hosted by Prof. Mariangiola Dezani for one week
Dec 2012	Carnegie-Mellon University (US)
	Hosted by Prof. Frank Pfenning for one week
Jul 2012	University of Buenos Aires (Argentina)
	Hosted by Prof. Sergio Iovine and Dr. Hernán Melgratti for one month as invited professor (ECI school)

## 9.6 Hosting of International Visitors (Selection)

Dr. Daniele Nantes-Sobrinho (Imperial College London, UK)
Prof. Nobuko Yoshida (Oxford University, UK)
Prof. Luís Caires (Técnico Lisboa, Portugal)
Dr. Clément Aubert (Augusta University, US)
Dr. Nicolás Cardozo (University of Los Andes, Colombia)
Dr. Ornela Dardha (University of Glasgow, UK)
Dr. Claudio Mezzina (University of Urbino, Italy)
Dr. Giulio Guerrieri (Aix-Marseille University, France)
Dr. Emanuele D'Osualdo (MPI-SWS, Germany)
Dr. Kirstin Peters (Technical University of Darmstadt, Germany)
Prof. Silvia Ghilezan (University of Novi Sad, Serbia)

## 9.7 Invitations to Scientific Meetings

2024	Invited participant to Dagstuhl Seminar "Next Generation Protocols for Heterogeneous Systems".
	Dagstuhl (Germany), January 28 – February 2.
	Organizers: Stephanie Balzer, Marco Carbone, Roland Kuhn, and Peter Thiemann.
2022	Invited presenter at the Workshop on "New challenges in programming language semantics".
	Lorentz Center (the Netherlands), November 28–December 2.
	Organizers: Andrzej Murawski, Marcello Bonsangue, and Nikos Tzevelekos.
2019	Invited speaker to the 8th Conference on "Logic and Applications" (LAP 2019).
	Dubrovnik (Croatia), September 23–27, 2019.
	Organizers: Zvonimir Sikić, Andre Scedrov, Silvia Ghilezan, Zoran Ognjanović, and Thomas Studer.
2017	Invited presenter to the Workshop on "Open Problems in Concurrency Theory II".
	Vienna (Austria), June 26–29.
	Organizers: Ilaria Castellani, Pedro R. D'Argenio, Mohammad Reza Mousavi, and Ana Sokolova.
2017	Invited participant to Dagstuhl Seminar "Theory and Applications of Behavioural Types".
	Dagstuhl (Germany), January 29 – February 3 (Declined).
	Organizers: Simon Gay, Vasco T. Vasconcelos, Philip Wadler, and Nobuko Yoshida.

2016 Invited speaker in the Fall Days on Communication, Safety and Privacy in IoT.

Organized by the Institute for Programming research and Algorithmics (IPA).

Hoog Soeren (The Netherlands), November 7-11.

## 9.8 Editorial Activity

2024	Co-editor (with O. Dardha and J. Rot) of the special issue with best papers from EXPRESS/SOS'20.
	Information and Computation, to appear.
2021	Co-editor (with N. Yoshida) of the special issue with best papers from FORTE'19.
	Logical Methods in Computer Science.
2021	Co-editor (with S. Tini) of the special issue with best papers from EXPRESS/SOS'18.
	Information and Computation, 281, 2021.
2019	Co-editor (with M. Leucker, C. Rueda, and F. Valencia) of the special issue with best papers from
	ICTAC'15.
	Mathematical Structures in Computer Science, 29(1), 2019.

2016 Co-editor (with C. Muñoz) of the post-proceedings of DCM'15.

Electronic Proceedings in Theoretical Computer Science (EPTCS), Volume 204.

2015 – 2022 Editor for the section on "Conference Reports" in SIGLOG news, the quarterly newsletter of the ACM

Special Interest Group on Logic and Computation (SIGLOG).

## 9.9 Expert Referee and Panel Member for Research Proposals

2024 Dutch Research Council (NWO) - Science domain, cluster "Informatica".

VENI grant (personal grants, up to 320 K€).

Assessment committee member and chair at interviews.

2020, 2022 Dutch Research Council (NWO) - Science domain, cluster "Informatica+".

VIDI grant (personal grants, up to 800 K€).

Reviewer of 16 research proposals; assessment committee member at interviews.

2018 Italian Ministry of Education, Universities and Research (MIUR).

Reviewer of five research proposals.

2017 American University of Beirut (AUB).

Reviewer of one research proposal.

## 9.10 Participation in Award Evaluation Committees

2020 – 2022 Evaluation committee member for the VERSEN PhD and MSc Thesis Awards.

2016 Evaluation committee member for the Best Dutch Cybersecurity Master Thesis Award.

This award is sponsored by the 4TU.NIRICT Cybersecurity theme.

## 9.11 Refereeing

#### 9.11.1 Journals

Transactions on Programming Languages and Systems (ACM)

Transactions on Computational Logic (ACM)

Distributed Computing (Springer)

Information and Computation (Elsevier)

Mathematical Structures in Computer Science (CUP)

Acta Informatica (Springer)

Logical Methods in Computer Science

Science of Computer Programming (Elsevier)

Theoretical Computer Science (Elsevier)

Journal of Logical and Algebraic Methods in Programming (Elsevier)

Information Processing Letters (Elsevier)

Journal of Computer Science and Technology (Springer)

Journal of Computer and System Sciences (Elsevier)

#### 9.11.2 International Conferences

LICS (Logic in Computer Science)

POPL (Principles of Programming Languages)

ICALP (Automata, Languages and Programming)

ESOP (European Symposium on Programming)

CONCUR (Concurrency Theory)

FoSSaCS (Foundations of Software Science and Computation Structures)

FORTE (Formal Techniques for Distributed Systems)

APLAS (Asian Symposium on Programming Languages and Systems)

FSCD (Formal Structures for Computation and Deduction)

TLCA (Typed Lambda Calculi and Applications)

PPDP (Principles and Practice of Declarative Programming)

PADL (Practical Aspects of Declarative Languages

FSTTCS (Foundations of Software Technology and Theoretical Computer Science)

IFM (Integrated Formal Methods)

LATA (Language and Automata Theory and Applications) CALCO (Algebra and Coalgebra in Computer Science) TASE (Theoretical Aspects of Software Engineering)

## 9.12 PhD Examiner (Last 5 Years, Selection)

Luc Edixhoven: Expressive specification and verification of choreographies.

Open University, December 12, 2024.

Jules Jacobs: *Guarantees by construction*. Radboud University Nijmegen, June 24, 2024.

Hans-Dieter Hiep: New Foundations for Separation Logic.

Leiden University, May 23, 2024.

Brayan Shali: Contract theory for linear control systems

University of Groningen, December 5, 2023.

Alexander Fedotov: Verification Techniques for xMAS.

TU Eindhoven, January 11, 2022.

Arjen Rouvoet: Correct by Construction Language Implementations.

TU Delft, October 13, 2021.

George Digkas: Reducing Technical Debt Density: Refactoring vs. Writing Clean New Code.

University of Groningen, October 8, 2021.

Ang Sha: Optimization of Energy Distribution in Smart Grids.

University of Groningen, March 9, 2020.

Joshua Moerman: Nominal Techniques and Black Box Testing for Automata Learning.

Radboud University Nijmegen, July 1, 2019.

## 10 Service to University and Research Institute

University of Groningen, The Netherlands

### **Current Service**

Group Leader, Fundamental Computing group

(five research staff members, 6 PhD students)

Bernoulli Institute for Mathematics, Computer Science, and AI.

Since October 2019.

Board Member (Head of Department, Computer Science), Bernoulli Institute.

Since June 2024.

#### **Past Service**

Member, Board of Admissions, MSc in Computing Science.

2018 - 2024.

Member (YAG representative), University Committee for Academic Practice

(Dutch: Universitaire Commissie Wetenschapsbeoefening, UCW).

December 2020 - November 2022.

Co-organizer, *Opening Symposium* of the Bernoulli Institute for Mathematics, Computer Science, and AI. November 1st, 2018.

Member, Programme Committee (Dutch: *Opleidingscommissie*) for Computing Science. 2017-2018.

Member, Hiring Committee (BAC), Tenure-track Assistant Professor in Computer Science (2020, 2021, 2023, 2024).

Member, Hiring Committee, Fixed-Term Lecturers in Computer Science (2021).

## 11 Public Engagement

Given the societal importance of reliable software, I have made efforts to engage with public (non-scientific) audiences, aiming to create awareness about the importance of rigorous techniques for software verification. A list of selected initiatives follows:

September 2024: Presentation at the European Researchers' Night, entitled "Software: to infinity and beyond!".

September 2023: Presentation at the European Researchers' Night, entitled "Can we rely on software?".

November 2022: Video Animation "Fundamental Computing: The Many Sides of Logic." Produced with Anne Mérat, Helle Hvid Hansen, and Revantha Ramanayake.

August 2022: Flash lecture ("flitslezing") at the Noorderzon Festival, entitled "Can we rely on software?".

April 2022: Interview in the I/O Magazine (Vol 19), a publication of the ICT Research Platform Nederland (IPN). The interview is part of an article, entitled "The Power of Logic in Computation", which presents the research of the Fundamental Computing group.

November 2021: Module in Knowlands, a project of the Scholierenacademie aimed at increasing scientific curiosity among high-school students.

October 2021: Video Animation "Fundamental computing: Mathematics and logic for software we can all rely on." Produced with Anne Mérat and Helle Hvid Hansen.

Februrary 2021: "Lespakket" (teaching package) that introduces program correctness to high-school students and teachers. The package is freely available here (in Dutch). Developed in collaboration with the Scholierenacademie, which distributes the package across high-schools in the Northern Netherlands.

September 2019: Video "Research Minute on Software Correctness". Produced by the Young Academy Groningen.

## 12 Miscellaneous

## 12.1 Personal Data

Citizenship Colombian and Italian

Family status Married, two children, born in 2017 and 2021.

Note: During the periods Mar 2017 - Jul 2018 and Jan 2022 - Feb 2024 I took parental leave (one day off per week) in non-contiguous periods. In total, I worked 0.8 FTE during 28 months.

## 12.2 Professional Memberships

ACM SIGLOG and ACM SIGPLAN - Member

European Joint Conferences on Theory and Practice of Software (ETAPS) - Member

Dutch National Association for Software Engineering (VERSEN) - Member of the Board

## 12.3 Languages

Spanish (native), English (fluent), Italian (fluent), Dutch (basic), Portuguese (basic).

## 13 Full List of Peer-Reviewed Publications

Note: Co-authors under my supervision appear underlined.

## 13.1 Book Chapters (1)

Runtime Verification for Decentralised and Distributed Systems

 (A. Francalanza, J. A. Pérez, and C. Sánchez)
 In Lectures on Runtime Verification, vol 10457 of LNCS, pp. 176-210, Springer, 2018.

## 13.2 Journal Papers (24)

Asynchronous Session-Based Concurrency: Deadlock-freedom in Cyclic Process Networks
 (B. van den Heuvel and J. A. Pérez)
 Logical Methods in Computer Science, Vol. 20(4), 2024.

Comparing Session Type Systems derived from Linear Logic
 (B. van den Heuvel and J. A. Pérez)
 Logical and Algebraic Methods in Programming (Elsevier), 142: 101004 (2025).

Minimal Session Types for the π-calculus
 (A. Arslanagic, J. A. Pérez, and A. A. Palamariuc)
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