ALEXANDRA SILVA
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Year of birth : 1984
Citizenship: Portuguese
Languages : Portuguese (Native), English (Fluent), Dutch (Fluent), French (Fluent), Spanish (Basic)

Education

- PhD in Computer Science, *cum laude*   **October 2006 – December 2010**

    Financed by a personal grant from the Portuguese science foundation (FCT)
    Degree awarded by the Radboud University Nijmegen
    Research carried out in the Dutch National Research center for Mathematics and Computer Science (CWI)
    Thesis title: *Kleene Coalgebra*
    Supervisors: Jan Rutten and Marcello Bonsangue

- *Licenciatura* in Mathematics and Computer Science   **September 2001 – May 2006**

    Universidade do Minho, Braga, Portugal
    Final thesis title: *Strong Types for Relational Data Stored in Databases or Spreadsheets*
    Final Classification: 19/20 (best average grade among all degrees in the University of Minho)

- Socrates/Erasmus student   **September 2003 – Feb 2004**

    University of Bristol, United Kingdom
    Main subjects: Group theory, Data analysis and Computer Graphics

- High School   **September 1995 – Jul 2001**

    Escola Secundária Fernão de Magalhães, Chaves, Portugal
    Main subjects: Mathematics, Chemistry, Physics and Geometry
    Final Classification: 19/20

Research group

- **PhD students**

    1. Tiago Ferreira, 2023 – present.
    2. Keri D'Angelo, 2021 – present.
    3. Noam Zilberstein, 2021 – present.
    4. Mark Moeller, 2021 – present (joint with Nate Foster).
    5. Mateo Ruiz, 2021 – present.
    6. Wojciech Rozowski, 2021 – present.
    7. Todd Schmid, 2020 – 2023.
    8. William Smith, 2020 – 2023 (second supervisor, main supervisor: Fredrik Dahlqvist).
    9. Jana Wagemaker, 2019 – 2022. (co-supervisor: Jurriaan Rot).
    10. Tao Gu, 2018 – 2022. (second supervisor, main supervisor: Fabio Zanasi).
    11. Stefan Zetzsche, 2018 – 2023.
    12. Gerco van Heerdt, 2016 – 2020.

13. Tobias Kappé, 2016 – 2020.
14. Louis Parlant, 2016 – 2020.
15. Joshua Moerman, PhD 2019 (promotor: Frits Vaandrager, co-promotor: Bas Terwijn).
16. Heidy Khlaaf, PhD 2018 (joint with Nir Piterman).
17. Georgiana Caltais, PhD 2013 (promotors: Jan Rutten and Anna Ingolfsdottir; co-promotor: Marcello Bonsangue).
18. Young-Joo Moon, PhD 2011 (promotor: Farhad Arbad; co-promotor: Erik de Vink).

- **Postdocs**

  1. Léo Henry (March 2022 – present).
  2. Jana Wagemaker (October 2022 – March 2023).
  3. Gerco van Heerdt (March 2020 – June 2022).
  4. Sonia Marin (October 2019 – August 2021).
  5. Simon Docherty (October 2018 – August 2020).
  6. Bas Westerbaan (September 2019 – August 2020).
  7. Jurriaan Rot (February 2019 – January 2020, Marie Curie Fellow).
  8. Justin Hsu (September 2017 – March 2018).
  9. Paul Brunet (January 2017 – October 2018).
  10. Fredrik Dahlqvist (July 2016 – January 2019, September 2019 – October 2021).
  11. Matteo Sammartino (2015 – 2019).
  12. Daniela Petrisan (2014 – 2015).

Professional Activities and Service

- **Invited Speaker**

  1. Structure meets Power (at LICS), 2023.
  2. ETAPS 2022, 25th European Joint Conferences on Theory and Practice of Software, 2022.
  3. POPL 2022, 49th ACM SIGPLAN Symposium on Principles of Programming Languages, 2022.
  4. SBLP 2021, 25th Brazilian Symposium on Programming Languages, 2021.
  5. DLT 2021, 25th International Conference on Developments in Language Theory, 2021.
  6. LFSA 2021, 16th Logical And Semantic Frameworks With Applications, 2021.
  7. FORTE 2021, 41st International Conference on Formal Techniques for Distributed Objects, Components, and Systems, 2021.
  8. Verified software: from theory to practice, Isaac Newton Institute, 2021.
  9. WiL 2020, 4th Women in Logic Workshop, 2020.
  10. LPAR-23, 23rd International Conference on Logic for Programming, Artificial Intelligence and Reasoning, 2020.
  11. SEN symposium, 6th Dutch national symposium on software engineering, 2020.
  12. POPL 2020, Tutorial Fest, 2020.
  13. FSTTCS 2019, 39th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science, 2019.
  14. MFCS 2019, 44th International Symposium on Mathematical Foundations of Computer Science, 2019.
  15. VECoS 2018, 12th International Conference on Verification and Evaluation of Computer and Communication Systems.

16. SYSMICS logic summer school, 2018.

17. CiE 2018, Computability in Europe, 2018.

18. BCTCS 2018, British Colloquium for Theoretical Computer Science, 2018.

19. FSCD 2017, Second International Conference on Formal Structures for Computation and Deduction, 2017.

20. TACL 2017, Topology, Algebra, and Categories in Logic, 2017.

21. LearnAut 2017, First workshop on Learning and Automata, 2017.

22. RAMiCS 2017, 16th International Conference on Relational and Algebraic Methods in Computer Science, 2017.

23. Compositionality workshop, Simons Institute Berkeley, 2016.

24. CWI Lectures in honour of Adriaan van Wijngaarden (100th anniversary), 2016.

25. CSL 2016, 25th EACSL Annual Conference on Computer Science Logic, 2016.

26. BLC 2016, British Logic Colloqium, 2016.

27. ICE 2016, 9th Interaction and Concurrency Experience, 2016.

28. WIP 2016, Workshop on Information and processes, 2016.

29. CMCS 2016, 13th International Workshop on Coalgebraic Methods in Computer Science, 2016 (invited tutorial speaker).

30. WoLLIC 2015, 22nd Workshop on Logic, Language, Information and Computation, 2015 (invited talk and invited tutorial).

31. TOPDRIM 2015, International School and Conference on Topology and Data, 2015.

32. CONCUR 2015, 26th Conference on Concurrency Theory, 2015.

33. TRENDS 2014, organized by IFIP WG 1.8 on Concurrency Theory, 2014.

34. Thirtieth Conference on the Mathematical Foundations of Programming Semantics, 2014.

35. Workshop in honour of Prakash Panangaden, 2014.

36. 11th Asian Symposium on Programming Languages and Systems, 2013.

37. 9th workshop on Fixed points in Computer Science, 2013.

38. Tenth International Tbilisi Symposium on Language, Logic and Computation, 2013.

39. Doctoral Symposium, University of Porto, 2011.

- **Editorial boards and executive committees**

  1. Editorial Board of Transactions on Programming Languages and Systems (TOPLAS).

  2. Editorial Board of Mathematical Logic Quarterly.

  3. ACM SIGPLAN executive committee member (2021-2024).

  4. ACM SIGLOG executive committee member (secretary, 2012-2018).

  5. Editorial Board of Logical Methods in Computer Science.

  6. ACM SIGLOG conference committee chair (2014-2022).

  7. Editorial board of the Journal of Logical and Algebraic Methods in Programming, Elsevier (special issues' editor, 2014-2019).

- **Steering committees and special interest groups**

  1. MFPS SC (2022 – present).

  2. POPL SC, member at large (2021 – present).

  3. SIGPLAN Long-term mentoring program (2021 – present).

  4. Programming Languages Mentoring Workshop (PLMW, 2018 – 2022, chair 2020).

  5. Logic Mentoring Workshop (LMW, 2016 – 2021, chair 2017-2020).

6. IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE, 2017 – 2020)

7. FoPSS summer school series (2016 – 2022, SIGLOG representative).

8. Annual ACM/IEEE Symposium on Logic In Computer Science (LICS, 2015 – present).

9. International workshop on Coalgebraic Methods in Computer Science (CMCS, 2015 – present, chair 2022-2025).

10. IFIP TC1 Working Group on Concurrency Theory (WG1.8, 2015 – present)

11. IFIP TC1 Working Group on Foundations of System Specification (WG1.3, observer, 2015 – 2019)

12. IFIP TC2 Working Group on Functional Programming (WG2.8, member, 2019 –)

13. Interaction and Concurrency Experience (ICE workshop series, 2010 – 2019).

- **Conference program committee chair**

    1. 35th International Conference on Concurrency Theory (CONCUR 2024, co-chair: Rupak Majumdar).

    2. 32nd EACSL Annual Conference on Computer Science Logic (CSL 2024, co-chair: Aniello Murano).

    3. 47th International Symposium on Mathematical Foundations of Computer Science (MFCS 2022; co-chair: Robert Ganian).

    4. 9th Conference on Algebra and Coalgebra in Computer Science (CALCO 2021; co-chair: Fabio Gadducci).

    5. 33rd International Conference on Computer Aided Verification (CAV 2021; co-chair: Rustan Leino).

    6. 27th Workshop on Logic, Language, Information and Computation (WoLLIC 2021; co-chair: Renata Wassermann).

    7. Doctoral Symposium at Formal Methods, (DS-FM 2019; co-chair: Antónia Lopes).

    8. 33rd Conference on the Mathematical Foundations of Programming Semantics (MFPS XXXIII).

    9. 12th International Tbilisi Symposium on Language, Logic and Computation, (TbILLC 2017; co-chair: Wiebke Petersen).

    10. 37th IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE 2017; co-chair: Ahmed Bouajjani).

    11. Thirtieth Conference on the Mathematical Foundations of Programming Semantics, (MFPS 2014; co-chairs: Bart Jacobs and Sam Staton).

    12. 5th Interaction and Concurrency Experience (ICE 2012; co-chair: Marco Carbone).

    13. 4th Interaction and Concurrency Experience (ICE 2011; co-chair: Simon Bliudze).

- **Conference program committee member**

    1. 51st ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL 2024, area chair).

    2. 7th Women in Logic workshop (WiL 2023).

    3. 26th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'23).

    4. 38th International Conference on Mathematical Foundations of Programming Semantics (MFPS XXXVIII).

    5. 27th ACM SIGPLAN International Conference on Functional Programming (ICFP 2022).

    6. 10th conference on Highlights of Logic, Games and Automata (HIGHLIGHTS 2022).

    7. 28th Workshop on Logic, Language, Information and Computation (WoLLIC 2022).

8. 34th International Conference on Computer Aided Verification (CAV 2022).

9. 36th European Conference on Object-Oriented Programming (ECOOP 2022).

10. 33rd International Conference on Concurrency Theory (CONCUR 2022).

11. 35th European Conference on Object-Oriented Programming (ECOOP 2021).

12. 5th International Conference on Formal Structures for Computation and Deduction (FSCD 2021).

13. 31st International Conference on Concurrency Theory (CONCUR 2020).

14. 36th Conference on the Mathematical Foundations of Programming Semantics (MFPS XXXVI).

15. 32nd International Conference on Computer Aided Verification (CAV 2020).

16. 29th European Symposium on Programming (ESOP 2020).

17. 47th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL 2020).

18. Asian Symposium on Programming Languages and Systems (APLAS 2019).

19. PhDs in Logic XI 2019 (PhDL2019).

20. 3rd Women in Logic workshop (WiL 2019).

21. 13th International Conference on Mathematics of Program Construction (MPC 2019).

22. 31st International Conference on Computer Aided Verification (CAV 2019).

23. 3rd International Conference on Formal Structures for Computation and Deduction (FSCD 2019).

24. 28th European Symposium on Programming (ESOP 2019).

25. Seventh Mathematically Structured Functional Programming workshop (MSFP 2018).

26. 11th Interaction and Concurrency Experience (ICE 2018).

27. 43rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2018)

28. 29th International Conference on Concurrency Theory (CONCUR 2018).

29. 38th IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE 2018).

30. 27th EACSL Annual Conference on Computer Science Logic (CSL 2018).

31. 14th International Workshop on Coalgebraic Methods in Computer Science (CMCS 2018).

32. 21th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS'18).

33. Recent Advances in Concurrency and Logic (RADICAL 2017).

34. 22nd ACM SIGPLAN International Conference on Functional Programming (ICFP 2017).

35. First workshop Women in Logic (WiL 2017).

36. Workshop on probabilistic programming semantics (PPS 2017).

37. 37th annual ACM SIGPLAN conference on Programming Language Design and Implementation (PLDI 2017).

38. Seventh International Conference on Fundamentals of Software Engineering (FSEN 2017).

39. 44th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL 2017, external review committee).

40. 43rd International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2017).

41. 43rd International Colloquium On Automata, Languages, And Programming (ICALP 2017).

42. 26th European Symposium on Programming (ESOP 2017).

43. Combined 23rd International Workshop on Expressiveness in Concurrency and 13th Workshop on Structural Operational Semantics (EXPRESS/SOS 2016).

44. 11th Workshop on Logical and Semantic Frameworks, with Applications (LSFA 2016).

45. 36th IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE 2016).

46. 9th Interaction and Concurrency Experience (ICE 2016).

47. 13th International Workshop on Coalgebraic Methods in Computer Science (CMCS 2016).

48. 31st Annual ACM/IEEE Symposium on Logic In Computer Science (LICS 2016).

49. 43rd ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL 2016).

50. International Workshop on Fixed Points in Computer Science (FICS 2015).

51. 24th EACSL Annual Conference on Computer Science Logic (CSL 2015).

52. 12th International Colloquium on Theoretical Aspects of Computing (ICTAC 2015).

53. 8th Interaction and Concurrency Experience (ICE 2015).

54. 6th Conference on Algebra and Coalgebra in Computer Science (CALCO 2015).

55. 31st Conference on the Mathematical Foundations of Programming Semantics (MFPS 2015).

56. 11th International Tbilisi Symposium on Language, Logic and Computation (TbiLLC 2015).

57. 30th Annual ACM/IEEE Symposium on Logic In Computer Science (LICS 2015).

58. 22nd Workshop on Logic, Language, Information and Computation (WoLLIC 2015).

59. 8th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS 2015).

60. 12th Asian Symposium on Programming Languages and Systems (APLAS 2014).

61. 7th Interaction and Concurrency Experience (ICE 2014).

62. Twenty-Eighth Annual ACM/IEEE Symposium on Logic In Computer Science (LICS 2013).

63. 5th Conference on Algebra and Coalgebra in Computer Science (CALCO 2013).

64. CALCO-Tools 2013.

65. 6th Interaction and Concurrency Experience (ICE 2013).

66. 11th International Workshop on Coalgebraic Methods in Computer Science (CMCS 2012).

67. Doctoral Symposium affiliated with the 18th International Symposium on Fundamentals of Computation Theory (DS-FCT 2011).

68. 8th International Conference on Quantitative Evaluation of SysTems (Qest 2011).

69. 3rd Interaction and Concurrency Experience (ICE 2010).

70. 10th International Workshop on Coalgebraic Methods in Computer Science (CMCS 2010).

- **Organizing committees**

  1. FLOC 2022, advisory chair (July 2026).

  2. MFPS 2022, local organizer (July 2022).

  3. FLOC 2022, general chair (August 2022).

  4. Workshops chair (PLDI 2021-2022).

  5. Online World Logic Seminar (OWLS 2020-2022)

  6. Bellairs workshop on Probabilistic Programming (March 2020).

  7. POPL 2020, Accessibility chair, W@POPL, and Ally Skills Workshop (January 2020).

  8. ACM Celebration of Women in Computing womENcourage 2019 (Workshops co-chair).

  9. Women in Informatics Research and Education workshop (WIRE'19).

  10. Bellairs workshop on Learning and Verification (March 2019).

  11. 35th Conference on Mathematical Foundations of Programming Semantics and 8th Conference on Algebra and Coalgebra in Computer Science (MFPS and Calco 2019).

12. FLOC 2018, in charge of mentoring and diversity and organizer Ally Skills Workshop (July 2018).

13. Programming Languages Mentoring Workshop @ POPL (January 2018).

14. WoLLIC 2017, 24th Workshop on Logic, Language, Information and Computation (July 2017, co-chair: Mehrnoosh Sadrzadeh).

15. Summer School on Probabilistic Programming (May 2017).

16. Bellairs workshop on probabilistic programming languages (March 2017).

17. Programming Languages Mentoring Workshop @ POPL (January 2017).

18. Workshop on {Symmetry, Logic, Computation} @ Simons Institute (November 2016).

19. Logic Mentoring Workshop @ LICS (July 2016).

20. Bellairs workshop on formal methods for networks (March 2016).

21. Workshop on Automata and Coinduction, Tbilisi (September 2015).

22. 31st Conference on Mathematical Foundations of Programming Semantics and 6th Conference on Algebra and Coalgebra in Computer Science (MFPS and Calco 2015, co-chair: Bart Jacobs).

23. Bellairs workshop on duality and probabilistic systems (March 2014).

24. Publicity chair of CMCS and Calco (2012 – 2015).

25. Special MFPS/LICS'13 session on coalgebra.

26. 5th Interaction and Concurrency Experience (ICE 2012).

27. Workshop on Logic and Program Semantics, dedicated to Dexter Kozen on the occasion of his 60th birthday (DK 2012)

28. 4th Interaction and Concurrency Experience (ICE 2011).

29. 5th International Federated Conferences on Distributed Computing Techniques (Discotec 2010).

30. 3rd Interaction and Concurrency Experience (ICE 2010).

31. 10th International Workshop on Coalgebraic Methods in Computer Science (CMCS 2010, co-chair: Milad Niqui).

32. Coalgebra day 2009.

33. Coinduction, Interaction and Composition (CIC 2008).

- **Journal referee**

    1. American Mathematical Reviews.

    2. Information and Computation, Elsevier.

    3. International Journal of Foundations of Computer Science, World Scientific Publishing.

    4. Journal of Functional Programming, Cambridge Journals.

    5. Journal of Logic and Algebraic Methods in Programming, Elsevier.

    6. Logical Methods in Computer Science.

    7. Mathematical Structures in Computer Science, Cambridge Journals.

    8. Science of Computer Programming, Elsevier.

    9. Theoretical Computer Science, Elsevier.

    10. Transactions on Programming Languages and Systems.

- **Conference referee (external)** OOPSLA 2023, MFCS 2023, CSL 2021, PLDI 2019, POPL 2018, MFCS 2017, PSI 2017, FM 2016, ICALP 2015, CADE 2015, MFCS 2014, ICALP 2014, PP 2014, LICS 2014, FOSSACS 2014, POPL 2013, LPAR-19, FSTTCS 2013, ICFP 2013, CALCO 2013, ICE 2013, CONCUR 2013, ICALP 2013, FoSSaCS 2013, QAPL 2013, Böhm festschrift, IFIP-TCS 2012, CMCS 2012, ICE 2012, FoSSaCS 2012, FSEN 2011, POPL 2011, QAPL 2011, ICE 2011, FACS 2010, CONCUR 2010, ICE 2010, CMCS 2010, LICS 2010, FICS 2009, SBLP 2009, RTA 2009, MFPS 2009, FSEN 2009, DSL 2008, AMAST 2008, CMCS 2008, Calco-jnr 2007.

- **Grant proposal referee**
    1. National Science Foundation (NSF), USA.
    2. Fundacao Ciencia e Tecnologia (FCT), Portugal.
    3. Engineering and Physical Sciences Research Council (EPSRC), UK.
    4. Italian Ministry of Education, Universities and Research (MIUR), Italy.
    5. Agence Nationale de Recherche (ANR), France.
    6. DFG, Germany.
    7. European Research Council (ERC, chair of consolidator panel 2023).
    8. NWO, The Netherlands.

- **PhD examiner**
    1. Pietro Barbieri, Università di Genoa, February 2023.
    2. Daniel Martinez-Rivillas, PUC-Rio, December 2022.
    3. Markus Klinik, Radboud University Nijmegen, June 2021.
    4. Alejandro Aguirre, IMDEA, February 2021.
    5. Alexander Vandenbroucke, KU Leuven, November 2020.
    6. Pierre Pradic, ENS Lyon, June 2020.
    7. Gadi Espinoza, UCL, November 2018.
    8. Octavio Zapata, UCL, July 2017 (first-year viva).
    9. Abhishek Dasgupta, Oxford University, March 2017.
    10. Ulrik Rasmussen, University of Copenhagen, January 2017.
    11. Paul Brunet, ENS Lyon, October 2016.
    12. Sung-Shik Jongmans, University of Leiden, March 2016.
    13. Bjorn Bugge Grathwohl, University of Copenhagen, November 2015.
    14. Enric Cosme, Universitat de València, October 2015.
    15. Dmitriy Traytel, Technical University Munich, October 2015.
    16. Ken Madlener, Radboud University Nijmegen, October 2014.
    17. Dimiter Milushev, Leuven University, May 2013.
    18. Faranak Heidarian, Radboud University Nijmegen, July 2012.
    19. Stephanie Kemper, University of Leiden, December 2011.

- Selection committee Beth Outstanding Dissertation Award (2023).

- Selection committee CONCUR Test of Time Award (2020).

- Selection committee Ackermann Award (2020, 2021, 2022).

- Selection committee EATCS dissertation Award (2021, 2022, 2023).

- Habilitation Thesis committee Dr. Colin Riba, ENS Lyon (November 2019).

- Habilitation Thesis committee Dr. Christine Tasson, IRIF Paris (November 2018).

- Selection committee SIGPLAN John C Reynolds Dissertation Award (2017-2019).

- **External examiner**
    1. Oxford University – Final Honours Schools in Computer Science, Computer Science & Philosophy and Mathematics & Computer Science (2016-2019).
    2. Warwick University – Computer Science (2019-2022).

- **Invited seminar speaker** Theory Seminar, Cornell University, February 2022; MPI Distinguished Lecture, October 2021; Automated Reasoning seminar, TU Kaiserslautern, October 2021; LaBri, Bordeaux, November 2021; PL Club, University of Pennsylvania, September 2021; A|C Seminar, UvA, February 2021; NGN seminar, January 2021; Cornell CS colloquium, October 2020; Principles of Programming Seminar, CMU, September 2020; PLDG seminar, Cornell University, April 2020; MadPL seminar, Madison, February 2020; LSV seminar, Cachan, October 2019; Jacques Morgenstern Colloquium, Sophia-Antipolis, May 2019; Departmental Seminar, University of Leicester, March 2019; LASIGE workshop, University of Lisbon, February 2019; Algebra, Logic, and Algorithms Seminar, University of Leeds, May 2018; MPI-SWS colloquium, May 2018; RiSE seminar, University of Vienna, February 2018; Theoretical Computer Science seminar, University of Birmingham, February 2018; MGS Christmas seminar, University of Nottingham, December 2017; DIMAP seminar, University of Warwick, October 2017; Cornell CS colloquium, August 2017; Computer Lab, University of Cambridge, December 2016; InfoSec seminar, UCL, November 2016; University of Kent, June 2016; Verified Trustworthy Software Systems specialist meeting, Imperial college, April 2016; Middlesex University, February 2016; Royal Holloway departmental seminar, November 2015; Queen Mary Theory Seminar, November 2015; PUMA seminar Munich, October 2015; QuantLA seminar, Leipzig University, October 2015; Logic Seminar, Indiana University, Bloomington, July 2015; Erlangen University, June 2015; OASIS seminar, Computer Laboratory, Oxford, May 2015; University of Montreal, May 2015; Formal methods group, SRI International, April 2015; Plume team *groupe de travail*, ENS Lyon, January 2015; A|C seminar, University of Amsterdam, October 2014; Brouwer seminar, Radboud University Nijmegen, January 2014; TCS seminar, VU Amsterdam, January 2014; Logic Seminar, Indiana University, Bloomington, August 2013; MPS seminar, University of Strathclyde; MBSD seminar, Radboud University Nijmegen, June 2013; Utrecht University, June 2013; Spades seminar, INRIA Grenoble, May 2013; Chocola meeting, ENS Lyon, May 2013; Formal methods group, Technical University Eindhoven, April 2013; Technical University Brauschweig, February 2013; Brouwer seminar, Radboud University Nijmegen, October 2012; University Leicester, November 2012; Imperial College London, August 2012; Erlangen University, May 2012; University of Porto, May 2012; ACG seminar, CWI, November 2011; Minho University (Math dep.), October 2011; Reykjavik University, June 2011; Cornell University, April 2011; LiX, École Polytechnique, March 2011; Salzburg University, January 2011; IPA Herfstdagen, Veldhoven, November 2010; Technical University Brauschweig, August 2010; LiX, École Polytechnique, April 2010; University of Amsterdam, March 2010; LiX, École Polytechnique, March 2010; Arco meeting, Eindhoven University of Technology, November 2009; CoCoCo meeting, CWI, October 2009; University of Duisburg-Essen, July 2009; Arco meeting, University of Iasi, May 2009; A|C seminar, University of Amsterdam, January 2009; Arco meeting, CWI, January 2009; A|C seminar, University of Amsterdam, September 2008; Coalgebra day, Radboud University of Nijmegen, March 2008; A|C seminar, University of Amsterdam, May 2007; Coalgebra day, Radboud University of Nijmegen, October 2006; ACG seminar, CWI, October 2006; Pure Cafe, Minho University, December 2005; ACG seminar, CWI, April 2005.

  For a complete list of my talks see http://www.alexandrasilva.org/#/talks.html.

University Activities

- **Teaching**

  1. *Advanced Programming Languages*, Cornell University, 2022, 2023.
  2. *Discrete Structures*, Cornell University, 2021, 2022.
  3. *Kleene Algebras and Applications* (4-hour course), Oregon Programming Languages Summer School (OPLSS 2021), June 2021.
  4. *Kleene Algebra* (3-hour course), MOVEP Summer School, France, June 2020.
  5. *Coalgebraic techniques* (4-hour course), Oregon Programming Languages Summer School (OPLSS 2019), June 2019.
  6. *Kleene Algebra with Tests and Applications to Network Programming* (8-hour course), SYSMICS Summer School, Switzerland, August 2018.

7. *Kleene Algebra with Tests and Applications to Network Programming* (12-hour course), Bertinoro International Spring School, Italy, March 2017.

8. *Kleene Algebra and applications* (4 lectures 90min + 2 lectures 60 min), Warsaw CS PhD school, Poland, 2015.

9. *Languages, automata, and coinduction* (3 lectures 90min), TOPDRIM summer school, Camerino, Italy, 2015.

10. *Algorithms and data structures*, 2014.

11. *Languages and automata*, 2012, 2013, 2014.

12. *Coalgebra*, 2012, 2014.

13. *Coalgebra - an introduction using automata and languages*, IPA Formal methods course, with Jurriaan Rot, 2013.

14. *Wat is Informatica?*, 2013, 2014.

15. *Complexity*, 2012, 2013, 2014.

16. *Linear algebra* (tutorials only), 2012, 2013.

17. *Research Seminar*, 2012, 2013, 2014.

18. *Program correctness*, Leiden University, 2008 and 2009.

19. *Computer Architecture* (tutorials only), Minho University, 2004 and 2005.

20. *Programming in* **C** (tutorials only), Minho University, 2005.

21. *Algorithms and complexity* (evaluation of practical assignments), Minho University, 2005.

- **Internship supervision (master students)**

  1. Thibaut Antoine , ENS Rennes, 2023.
  2. Maverick Chardet, ENS Lyon, 2017.
  3. Clovis Eberhart, ENS Cachan, 2014.
  4. Louis Parlant, ENS Lyon, 2013.
  5. Ricardo Oliveira, University of Minho, 2012.
  6. Georgiana Caltais, Iasi University, 2010.
  7. Eugen Goriac, Iasi University, 2010.

- **Master thesis supervision**

  1. Jacob Wasserstein (2023).

- **Undergraduate researchers**

  1. James Li (Fall 2022).
  2. Angelina Saliling (Fall 2022, Spring 2023).
  3. Andrey Yao (Fall 2022, Spring 2023).
  4. Tiago Ferreira (Spring 2018, Fall 2019-Spring 2023).

- **Bachelor thesis supervision (UCL/RUN)**

  1. Daniele Menara, 2017.
  2. Sanne Boumans, 2014.
  3. Martin Huyben, 2014.
  4. Gerco van Heerdt, 2014.
  5. Tom Sanders, 2013.
  6. Judith van Stegeren, 2013.
  7. Peter Maandag, 2012.

    8. Tessa Matser, 2012.

- **Hiring committees**

    1. Promotion committee Full Professor in the subject area of Informatics (Minho, 2023).
    2. Promotion committee Associate Professor in the subject area of Computer Science (Porto, 2023).
    3. Promotion committee Associate Professor in the subject area of Informatics (Minho, 2023).
    4. Appointment Committee director MPI for Software Systems (Saarbrucken, 2022).
    5. Appointment Committee director MPI for Software Systems (Saarbrucken, 2021).
    6. Scientific Assessment applicants for Assistant Professor in Computer Science at the Department of Computer Science and Engineering (Chalmers, 2023).
    7. Hiring committee Assistant Professor in the subject area of Informatics (Minho, 2021).
    8. Scientific Assessment applicants for Assistant Professor in Computer Science at the Department of Computer Science and Engineering (Chalmers, 2021)
    9. Hiring committee Lecturer Quantum Information (UCL, 2019).
    10. Hiring committee Lecturer Programming Principles, Logic, and Verification (UCL, 2019).
    11. Hiring committee Lecturer Information Security (UCL, 2019).
    12. Hiring committee Professor (University of Warwick, 2018).
    13. Hiring committee Senior Teaching Fellow (UCL, 2017).
    14. Hiring committee Teaching Fellow (UCL, 2017).
    15. Hiring committee Lecturer Software Engineering (UCL, 2017).
    16. Hiring committee Lecturer Programming Principles, Logic, and Verification (UCL, 2016).
    17. Hiring committee Assistant Professor Network Security (ICIS, RU, 2014).
    18. Tenure-track review committee Maarten Sollenveld (Math department, RU, 2014).

- **Administration/Other**

    1. Cornell CS department, PhD admissions (2023-2024, chair).
    2. Cornell CS department, colloquium committee (2023, chair).
    3. Cornell CS department, DEI committee (2022-2023, chair).
    4. Cornell CS department, hiring committee (2021-2022).
    5. SIGPLAN CARES committee (2019 – present, chair 2023-2024).
    6. SIGPLAN long-term mentor (2020 – present), two mentees a year.
    7. Royal Society fellow mentor (2020 – 2021), one mentee.
    8. Departmental Tutor, Computer Science Department, UCL (2017 – 2018).
    9. UCL mentor for post-docs and young faculty members (2016 – present), one mentee a year.
    10. Athena Swan Self Assessment Team, UCL, co-leader (2015 – 2017).
    11. Board member Radboud Honours Academy (2015).
    12. Academic lecture for first year Computer Science students (2013 and 2014).
    13. Board member Halkes Women Faculty Network Nijmegen (2013 – 2015).
    14. Radboud Honors Academy mentor (2013 – 2014).
    15. Secretary of the committee *Bindend studieadvies (BSA)* for the Bachelor in Computer Science (RU) (2012).
    16. Part of the team maintaining the Studeren Informatica in Nijmegen webpage (2011 – 2014).
    17. Docent-mentor of 15 bachelor students (2012-2015).

18. Coordination (joint with Bas Terwijn) of the Master on Foundations of Computer Science (2012-2015).
19. Co-organizer (together with J. Urban) of the Brouwer seminar (January 2012 – January 2014).
20. Site representative of the bi-monthly seminar COIN (Coalgebra in the Netherlands), 2011 – 2015.
21. Co-organizer (together with F.S. de Boer) of the bi-weekly Amsterdam Coordination Group seminar (February 2008 - February 2011).

- **Other activities**

    1. Equity in Graduate Education consortium, Cornell CS co-lead (September 2022 – June 2023).
    2. Ally Skills workshop (Frameshift consulting, March 2019).
    3. Women in Leadership course (February – July 2017).
    4. Masterclass on *Theater techniques for scientists* (January – March 2013).
    5. One year *Mentoring & coaching* programme, part of the university framework *Charter Talent naar de Top* (mentor: Prof. Annalisa Fasolino, July 2012 – July 2013).

Research grants

1. European Research Council Consolidator grant   **March 2021–February 2026**
    - AutoProbe: Automated Probabilistic Black-Box Verification
      $\approx$ 2.000.000 euros, to finance two post-docs, two PhD students, and research visitors.

2. UK Research Institute in Verified Trustworthy Software Systems (VeTTS) **July 2020–March 2021**
    - Quantitative Algebraic Reasoning for Hybrid Programs. Co-I: Dahlqvist
      $\approx$ 80.000 GBP, to finance 6 month postdoc Renato Neves.

3. Engineering and Physical Sciences Research Council (EPSRC)   **September 2019–October 2023**
    - Verification of Hardware Concurrency via Model Learning (CleVer). PI: Silva, Co-I: Sammartino
      $\approx$ 800.000 GBP, to finance two post-docs for 3 years each.

4. Leverhulme Trust   **September 2019–August 2022**
    - Verification of machine learning algorithms. PI: Silva, Co-I: Dahlqvist
      $\approx$ 205.000 GBP, to finance one post-docs for 3 years.

5. UK Research Institute in Verified Trustworthy Software Systems (VeTTS) **Sept 2018–March 2022**
    - Automated Black-Box verification of network systems. PI: Silva, Co-I: Sammartino
      $\approx$ 100.000 GBP, to finance one PhD student.

6. Engineering and Physical Sciences Research Council (EPSRC)   **November 2018–October 2022**
    - A coalgebraic framework for reductive logic and proof-search (ReLiC). PI: Pym, Co-I: Silva and Docherty
      $\approx$ 975.000 GBP, to finance two post-docs for 3 years each.

7. European Research Council Starting grant   **March 2016–February 2021**
    - ProFoundNet: Probabilistic Foundations for Networks.
      $\approx$ 1.500.000 euros, to finance two post-docs, two PhD students, and research visitors.

8. Faculty of Science, Radboud University, PhD grant   **January 2015–December 2018**
      On the quality of hypotheses in active automata learning.
      $\approx$ 250.000 euros, to finance one PhD student.
      Faculty internal round, 1 out of 7 was granted.

9. NWO Veni grant   **January 2014–December 2017**

CoGrow: Coalgebraic growth – uniform studies of form emergence.
≈ 250.000 euros, to finance my salary for 3 years, and two workshops.

10. NWO project grant **January 2013- December 2016**

Practical Coinduction.
≈ 250.000 euros, to finance one PhD student, and extended visits to Cornell University, USA.

11. FCT project grant **January 2012–December 2014**

QAIS: Quantitative analysis of Systems, PTDC/EIA-CCO/122240/2010.
≈ 106.000 euros, to finance part of a PhD grant, workshop organization and trips to conferences.

12. Post-doc grant **April 2011–March 2017**

Personal grant for Post-doc studentship (FCT grant SFRH/BPD/71956/2010).
6 year 1.0FTE post-doc position, declined.
Part of this grant has been/will be used for my extended visits to Prof. Dexter Kozen (Cornell, USA) and Dr. Luís Barbosa (Minho, Portugal).

13. Service Oriented Computing: foundations and calculi. **October 2006–September 2010**

Personal grant for PhD studentship abroad (FCT grant SFRH/BD/27482/2006), 132.080 euros.

Other grants

1. KNAW visiting professors **November 2013**

To finance the visit of Prof. Dr. D. Kozen during the fall of 2014 and one workshop
29.000 euros

2. NWO visitors grant **May 2012**

To finance the visit of Prof. Dr. D. Kozen during the summer of 2012
10.500 euros

3. NWO grant to organize the workshop *Kleene Coalgebra* **November 2010**

4. NATO travel grant to attend the International Summer School Marktdoberdorf. **August 2007**

5. ERASMUS scholarship. **September 2003- February 2004**

Department of Computer Science, University of Bristol, United Kingdom.

6. Calouste Gulbenkian Foundation scholarship. **October 2002- August 2003**

Scholarship given to junior researchers in mathematics.
Department of Mathematics, University of Minho, Portugal.
Advisor: Prof. Dr. Assis Azevedo.

Publications

For an up-to-date list of my publications, I refer to my scholar page; on 31st June 2023, my publications have been cited 2331 times, my h-index is 26, and my i10-index is 59.

Theses

[1] Alexandra Silva. Kleene Coalgebra. PhD Thesis. Radboud University Nijmegen. *Cum laude*. Supervisors: Prof. Dr. J. Rutten and Dr. M. Bonsangue.

[2] Alexandra Silva. Strong Types for Relational Data Stored in Databases or Spreadsheets. Final dissertation *Licenciatura em Matemática e Ciências de Computação* (equivalent of a master thesis). Supervisors: Prof. Dr. J.N.Oliveira and Dr. J. Visser.

Edited books and special issues of international journals

[3] R. Ganian, A. Silva, S. Szeider, editors. 47th International Symposium on Mathematical Foundations of Computer Science (MFCS 2022), August 22–26, 2022, Vienna, Austria. LiPICS, volume 241, 2022.

[4] A Silva, K. Rustan M. Leino, editors. Computer Aided Verification: 33rd International Conference, CAV 2021, Virtual Event, July 20–23, 2021, Proceedings. Volumes 12759 and 12760. Lecture Notes in Computer Science, Springer, 2021.

[5] G. Barthe, J. P. Katoen, A. Silva, editors. Foundations of Probabilistic Programming. Cambridge University Press.

[6] A. Silva, S. Staton, P. Sutton, C. Umbach, editors. Language, Logic, and Computation: 12th International Tbilisi Symposium, TbiLLC 2017, Lagodekhi, Georgia, September 18-22, 2017, Revised Selected Papers. Lecture Notes in Computer Science, vol. 11456, Springer, 2019.

[7] A. Silva, editor. Proceedings of the 33rd conference on Mathematical Foundations of Programming Semantics. Electronic Notes in Theoretical Computer Science, vol. 336, pp. 1-3, 2018.

[8] A. Bouajjani , A. Silva, editors. Proceedings of Formal Techniques for Distributed Objects, Components, and Systems - 37th IFIP WG 6.1 International Conference, FORTE 2017, Held as Part of the 12th International Federated Conference on Distributed Computing Techniques, DisCoTec 2017, Neuchatel, Switzerland, June 19-22, 2017. Lecture Notes in Computer Science, vol. 10321, pp. 1-2, 2017.

[9] L. Barbosa, A. Cunha, A. Silva, editors. *Quien sabe por Algebra, sabe scientificamente.* A tribute to José Nuno Oliveira. Special issue with selected contributions dedicated to José Nuno Oliveira on the occasion of his 60th birthday. Journal of Logical and Algebraic Methods in Programming, vol.5, issue 85, 2016.

[10] I. Lanese, M. Carbone, A. Silva and A. Sokolova, editors. Special issue with selected contributions of the 5th Interaction and Concurrency Experience. Science of Computer Programming 100, 2015.

[11] B. Jacobs, A. Silva, S. Staton, editors. Proceedings of the 30th conference on Mathematical Foundations of Programming Semantics. Electronic Notes in Theoretical Computer Science, 2014.

[12] I. Lanese, M. Carbone, A. Silva and A. Sokolova, editors. Proceedings of the 5th Interaction and Concurrency Experience. Electronic Proceedings in Theoretical Computer Science, Vol. 104, 2012.

[13] S. Bliudze, R. Bruni, M. Carbone and A. Silva, editors. Special issue with selected contributions of the 4th Interaction and Concurrency Experience. Scientific Annals of Computer Science, vol. XXIII, 2012.

[14] R. Constable and A. Silva, editors. Logic and Program Semantics - Essays Dedicated to Dexter Kozen on the Occasion of His 60th Birthday. Lecture Notes in Computer Science, vol. 7230, Springer, 2012.

[15] S. Bliudze, R. Bruni, M. Carbone and A. Silva, editors. Proceedings of the 4th Interaction and Concurrency Experience. Electronic Proceedings in Theoretical Computer Science, Vol. 59, 2011.

[16] B. Jacobs, M. Niqui, J. Rutten and A. Silva, editors. Special issue with selected contributions of the 10th International Workshop on Coalgebraic Methods in Computer Science. Theoretical Computer Science, vol. 412(38), pp. 4967-5110, 2011.

[17] S. Ben Mokhtar, S. Bliudze, R. Bruni, A. Silva and A. Troina, editors. Special issue with selected contributions of the 3rd Interaction and Concurrency Experience. Scientific Annals of Computer Science, vol. XXI, 2011.

[18] S. Bliudze, R. Bruni, D. Grohmann and A. Silva, editors. Proceedings of the 3rd Interaction and Concurrency Experience. Electronic Proceedings in Theoretical Computer Science, Vol. 38, 2010.

[19] B. Jacobs, M. Niqui, J. Rutten and A. Silva, editors. Proceedings of the 10th International Workshop on Coalgebraic Methods in Computer Science. Electronic Notes in Theoretical Computer Science, Vol. 264(2), 2010.

[20] B. Jacobs, M. Niqui, J. Rutten, and A. Silva, editors. Short Contributions CMCS 2010. CWI Technical Report SEN-1004, 2010, pp. 1 - 32.

Book Chapters

[21] N. Bezhanishvili, M. Bonsangue, H. H. Hansen, D. Kozen, C. Kupke, P. Panangaden, A. Silva. Minimisation in Logical Form. Outstanding Contributions to Logic devoted to Samson Abramsky's work in logic, Springer, 2023.

[22] F. Dahlqvist, D. Kozen, A. Silva. Semantics of probabilistic programming: A gentle introduction. Foundations of Probabilistic Programming, CUP, 2020.

Refereed articles in international journals

[23] E Ruppel, S Liu, E Garza, S Ryu, A Silva, T Ringer. Long-Term Mentoring for Computer Science Researchers Communications of the ACM 66 (5), 2023.

[24] M. Bickford, D. Kozen, and A. Silva. Formalizing Moessner's theorem and generalizations in Nuprl. Journal of Logical and Algebraic Methods in Programming, 2022.

[25] T. Kappé, P. Brunet, B. Luttik, A. Silva, and F. Zanasi. Equivalence checking for weak bi-Kleene algebra. Logical Methods in Computer Science 17(3), 2021.

[26] F. Bonchi, A. Sokolova, and A. Silva. Distribution Bisimilarity via the Power of Convex Algebras. Logical Methods in Computer Science 17(3), 2021.

[27] E. Albert, M. Gómez-Zamalloa, M. Isabel, A. Rubio, M. Sammartino, and A. Silva. Actor-based model checking for Software-Defined Networks. Journal of Logical and Algebraic Methods in Programming, 2021.

[28] S. Goncharov, S. Milius, and A. Silva. Towards a Uniform Theory of Effectful State Machines. ACM Transactions on Computational Logic (TOCL), vol. 21(3), 2020.

[29] D. Kozen and A. Silva. Left-handed completeness. Theoretical Computer Science, 2020.

[30] G. van Heerdt, J. Moerman, M. Sammartino, and A. Silva. A (co)algebraic theory of succinct automata. Journal of Logical and Algebraic Methods in Programming, 2019.

[31] T. Kappé, P. Brunet, B. Luttik, A. Silva, and F. Zanasi. On Series-Parallel Pomset Languages: Rationality, Context-Freeness and Automata. Journal of Logical and Algebraic Methods in Programming, 2019.

[32] H. Beohar , S. Kuepper , B. Koenig , A. Silva , T. Wissmann. A coalgebraic treatment of conditional transition systems with upgrades. Logical Methods in Computer Science, 2018.

[33] J. Endrullis, H. Hansen, D. Hendriks, A. Polonsky, and A. Silva. A Coinductive Framework For Infinitary Rewriting And Infinitary Equational Reasoning. *Logical Methods in Computer Science*, 2018.

[34] D. Kozen, K. Mamouras, and A. Silva. Completeness and Incompleteness in Nominal Kleene Algebra. Journal of Logical and Algebraic Methods in Programming, 2017.

[35] Jean-Baptiste Jeannin and Dexter Kozen and A. Silva. CoCaml: Functional Programming with Regular Coinductive Types. Fundamenta Informaticae 150, 347–377, 2017.

[36] D. Kozen and A. Silva. Practical Coinduction. Mathematical Structures in Computer Science, 2017.

[37] J. Jeannin, D. Kozen, and A. Silva. Well-Founded Coalgebras, Revisited. Mathematical Structures in Computer Science, 2017.

[38] J. Rot, F. Bonchi, M. Bonsangue, D. Pous, J. Rutten, and A. Silva. Enhanced Coalgebraic Bisimulation. Mathematical Structures in Computer Science, 2017.

[39] F. Bonchi, M. Bonsangue, G. Caltais, J. Rutten and A. Silva. A coalgebraic view on decorated traces. Mathematical Structures in Computer Science, Volume 26, Issue 7, 1234–1268, 2016.

[40] F. Bonchi, S. Milius, A. Silva, F. Zanasi. Killing epsilons with a dagger: A coalgebraic study of systems with algebraic label structure. Theoretical Computer Science, 2015.

[41] N. Oliveira, A. Silva, L. Barbosa. IMC$_{Reo}$: Interactive Markov Chains for stochastic Reo. Journal of Internet Services and Information Security 5(1), 3–28, 2015.

[42] B. Jacobs, A. Silva, and A.Sokolova. Trace Semantics via Determinization. Journal of Computer and System Sciences 81(5), 859–879, 2015.

[43] F. Bonchi, M. Bonsangue, H. Hansen, P. Panangaden, J. Rutten, and A. Silva. Algebra-Coalgebra Duality in Brzozowski's Minimization Algorithm. *ACM TOCL*, Volume 15, Number 1, 2014.

[44] Y. Moon, A. Silva, C. Kräuse and F. Arbab. A Compositional Model to Reason about end-to-end QoS in Stochastic Reo Connectors. *Science of Computer Programming*. Volume 80, Pages 3–24, 2014.

[45] D. Kozen and A. Silva. On Moessner's Theorem. American Mathematical Monthly, Volume 120, Number 2, 2013.

[46] A. Silva, F. Bonchi, M. Bonsangue and J. Rutten. Generalizing determinization from automata to coalgebras. *Logical Methods in Computer Science*, Volume 9, Number 1, 2013.

[47] M. Bonsangue, S. Milius and A. Silva. Sound and complete axiomatizations of coalgebraic language equivalence. *ACM TOCL*, Volume 14, Number 1, 2013.

[48] M. Bonsangue, G. Caltais, E. Goriac, D. Lucanu, J. Rutten and A. Silva. Automatic Equivalence Proofs for Non-deterministic Coalgebras. *Science of Computer Programming*. Volume 78(9), Pages 1324–1345, 2013.

[49] A. Silva. Position automata for Kleene Algebra with tests. *Scientific Annals of Computer Science (SACS)*, Volume XXII, Issue 2, Pages 367-394, 2012.

[50] F. Bonchi, M. Bonsangue, M. Boreale, J. Rutten and A. Silva. A coalgebraic perspective on linear weighted automata. *Information and Computation*, Volume 211, Pages 77–105, 2012.

[51] M. Bonsangue, D. Clarke, and A. Silva. A Model of Context-Dependent Component Connectors. *Science of Computer Programming*, Volume 77(6), Pages 685–706, 2012.

[52] A. Silva, F. Bonchi, M. Bonsangue, and J. Rutten. Quantitative Kleene Coalgebras. *Information and Computation*, Volume 209, Issue 5, Pages 822-849, 2011.

[53] A. Silva, M. Bonsangue and J. Rutten. Non-deterministic Kleene Coalgebras. *Logical Methods in Computer Science*, Volume 6, Issue 3, 2010.

[54] A. Silva and J. Rutten. A coinductive calculus of binary trees. *Information and Computation*, Volume 208, Issue 5, Pages 578-593, 2010.

Refereed articles in proceedings of international conferences

[55] E. Voogd, E. Johnsen, A. Silva, Z. Susag and A. Wasowski. Symbolic Semantics for Probabilistic Programs. QEST 2023.

[56] M. Moeller, T. Wiener, A. Solko-Breslin, C. Koch, N. Foster, A.Silva. Automata Learning with an Incomplete Teacher. ECOOP 2023.

[57] W. Rozowski, T. Kappé, D. Kozen, T. Schmid, and A. Silva. Probabilistic Guarded KAT Modulo Bisimilarity: Completeness and Complexity. ICALP 2023.

[58] W. Smith, F. Dahlqvist, A. Silva. Deterministic stream-sampling for probabilistic programming: semantics and verification LICS 2023.

[59] D. Kozen, A. Silva, and E. Voogd. Joint Distributions in Probabilistic Semantics. MFPS 2023.

[60] S. Zetzsche, A. Silva, M. Sammartino. Generators and Bases for Monadic Closures CALCO 2023.

[61] T. Schmid, T. Kappé, A. Silva. A Complete Inference System for Skip-free Guarded Kleene Algebra with Tests. ESOP 23.

[62] N. Zilberstein, D. Dreyer, A. Silva. Outcome Logic: A Unifying Foundation for Correctness and Incorrectness Reasoning. OOPSLA 23.

[63] S. Zetzsche, A. Silva, M. Sammartino. Guarded Kleene Algebra with Tests: Automata Learning. MFPS 2022.

[64] T. Ferreira, G. van Heerdt, A. Silva. Tree-Based Adaptive Model Learning. A Journey from Process Algebra via Timed Automata to Model Learning 2022.

[65] G. van Heerdt, T. Kappe, J. Rot, M. Sammartino, A. Silva. A Categorical Framework for Learning Generalised Tree Automata. CMCS 2022.

[66] J. Wagemaker, N. Foster, T. Kappé, D. Kozen, J. Rot, A. Silva. Concurrent NetKAT - Modeling and analyzing stateful, concurrent networks. ESOP 2022.

[67] T. Schmid, W. Rozowski, J. Rot, and A. Silva. Processes Parametrised by an Algebraic Theory. ICALP 2022.

[68] T. Schmid, J. Rot, and A. Silva. On Star Expressions and Coalgebraic Completeness Theorems. MFPS 2021.

[69] S. Zetzsche, G. van Heerdt, M. Sammartino, and A. Silva. Canonical automata via distributive law homomorphisms. MFPS 2021.

[70] N. Giannarakis, A. Silva, and D. Walker. ProbNV: probabilistic verification of network control planes. Proceedings of the ACM on Programming Languages 5 (ICFP), 2021.

[71] T. Ferreira, H. Brewton, L. D'Antoni, and A. Silva. Prognosis: closed-box analysis of network protocol implementations Proceedings of the 2021 ACM SIGCOMM 2021 Conference, 762-774, 2021.

[72] T. Schmid, T. Kappé, D. Kozen, and A Silva. Guarded Kleene Algebra with Tests: Coequations, Coinduction, and Completeness. ICALP 2021.

[73] J. Bao, S. Docherty, J. Hsu, and A. Silva. A Bunched Logic for Conditional Independence. 36th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS), 2021.

[74] G. van Heerdt, T. Kappe, J. Rot, A. Silva. Learning Pomset Automata. FoSSACS 2021.

[75] T. Gu, A. Silva, F. Zanasi. Hennessy-Milner Results for Probabilistic PDL. MFPS 2020.

[76] L. Parlant, J. Rot, A. Silva, B. Westerbaan. Preservation of Equations by Monoidal Monads. MFCS 2020.

[77] J. Wagemaker, P. Brunet, S. Docherty, T. Kappé, J. Rot, A. Silva. Partially Observable Concurrent Kleene Algebra. CONCUR 2020.

[78] G. van Heerdt, M. Sammartino, A. Silva. Learning Automata with Side-Effects. CMCS 2020.

[79] T. Kappe, P. Brunet, A. Silva, J. Wagemaker, and F. Zanasi. Concurrent Kleene Algebra with Observations: From Hypotheses to Completeness. FoSSACS 2020.

[80] G. van Heerdt, C. Kupke, J. Rot, A. Silva. Learning Weighted Automata over Principal Ideal Domains. FoSSACS 2020.

[81] S. Smolka, N. Foster, J. Hsu, T. Kappé, D. Kozen, A. Silva. Guarded Kleene algebra with tests: verification of uninterpreted programs in nearly linear time. POPL 2020, **Distinguished Paper Award**.

[82] J. Wagemaker, M. Bonsangue, T. Kappé, J. Rot, A. Silva. Completeness and Incompleteness of Synchronous Kleene Algebra. MPC 2019.

[83] L. D'Antoni, T. Ferreira, M. Sammartino, A. Silva. Symbolic Register Automata. CAV 2019.

[84] P. Brunet, A. Silva. A Kleene theorem for nominal automata. ICALP 2019.

[85] S. Smolka, P. Kumar, D. Kahn, N. Foster, J. Hsu, D. Kozen, A. Silva. Scalable verification of probabilistic networks. PLDI 2019.

[86] G. van Heerdt, T. KappĂŠ, J. Rot, M. Sammartino, A. Silva Tree Automata as Algebras: Minimisation and Determinisation. CALCO 2019.

[87] T. Kappe, P. Brunet, A. Silva, J. Wagemaker, and F. Zanasi. Kleene Algebra with Observations. CONCUR 2018.

[88] A. Aguirre, G. Barthe, J. Hsu, A. Silva. Almost Sure Productivity. ICALP 2018.

[89] F Dahlqvist, V Danos, I Garnier, A Silva. Borel kernels and their approximation, categorically. MFPS 2018.

[90] G. van Heerdt, B. Jacobs, T. Kappé, A.Silva. Learning to Coordinate – *Coördineren kun je leren – dedicated to Farhad Arbab on the occasion of his retirement*, May 2018.

[91] F. Dahlqvist, L. Parlant, and A. Silva. Layer by Layer – Combining Monads. ICTAC 2018.

[92] G van Heerdt, J Hsu, J Ouaknine, A Silva Convex Language Semantics for Nondeterministic Probabilistic Automata. ICTAC 2018.

[93] E. Albert, M. Gomez-Zamalloa , A. Rubio , M Sammartino, and A. Silva. SDN-Actors: Modeling and Verification of SDN Programs International Symposium on Formal Methods 2018, Springer.

[94] T. Kappe, P. Brunet, A. Silva, and F. Zanasi. Concurrent Kleene Algebra: Free Model and Completeness. *Proceedings of ESOP'18*, Lecture Notes in Computer Science, Springer, 2018.

[95] T. Kappe, P. Brunet, B. Luttik, A. Silva, and F. Zanasi. Brzozowski goes concurrent — A Kleene theorem for Pomset languages. *28th International Conference on Concurrency Theory (CONCUR 2017)*, LiPIcs, September 2017.

[96] F. Bonchi, A. Silva, and A. Sokolova. The Power of Convex Algebras. *28th International Conference on Concurrency Theory (CONCUR 2017)*, LiPIcs, September 2017.

[97] G. van Heerdt, M. Sammartino and A. Silva. CALF: Categorical Automata Learning Framework. *26th EACSL Annual Conference on Computer Science Logic (CSL 2017)*, LiPIcs, August 2017.

[98] G. van Heerdt, M. Sammartino and A. Silva. CALF: Categorical Automata Learning Framework (short abstract). *LiVe 2017: 1st Workshop on Learning in Verification.*

[99] S. Smolka, P. Kumar, N. Foster, D. Kozen, and A. Silva. Cantor meets Scott: Domain-theoretic foundations for probabilistic network programming. *In Principles of Programming Languages (POPL'17)*, ACM, January 2017.

[100] J. Moerman, M. Sammartino, A. Silva, B. Klin, M. Szynwelski. Learning nominal automata. *In Principles of Programming Languages (POPL'17)*, ACM, January 2017.

[101] A. Silva. Coalgebraic Learning (Invited Talk). 25th EACSL Annual Conference on Computer Science Logic (CSL 2016), LIPIcs vol. 62, 2016.

[102] R. Krebbers, L. Parlant, A. Silva. Moessner's Theorem: An Exercise in Coinductive Reasoning in Coq. Theory and Practice of Formal Methods 2016: 309-324.

[103] N. Foster, D. Kozen, K. Mamouras, M. Reitblatt and A. Silva. Probabilistic NetKAT. *Proceedings of ESOP'16*, Lecture Notes in Computer Science, vol. 9632, pages 282–309, Springer, 2016.

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[105] A. Silva. Applications of Automata and Concurrency Theory in Networks (Invited Talk). 26th International Conference on Concurrency Theory (CONCUR 2015), LIPIcs vol. 42, 2015.

[106] D. Kozen, K. Mamouras, D. Petrisan, and A. Silva. Nominal Kleene Coalgebra. *Automata, Languages, and Programming (ICALP 2015)* Lecture Notes in Computer Science, vol. 9135, pages 286–298, Springer, 2015.

[107] J. Endrullis, H. Hansen, D. Hendriks, A. Polonsky, A. Silva. A Coinductive Framework for Infinitary Rewriting and Equational Reasoning. *26th International Conference on Rewriting Techniques and Applications*, June 2015. **Best paper award**.

[108] N. Foster, D. Kozen, M. Milano, A. Silva, and L. Thompson. A coalgebraic decision procedure for NetKAT. *In Principles of Programming Languages (POPL'15)*, ACM, Mumbai, India, January 2015.

[109] S. Goncharov, S. Milius, A. Silva. Towards a Coalgebraic Chomsky Hierarchy. *Procedings IFIP TCS 2014*, Lecture Notes in Computer Science, vol. 8705, pages 265–280, Springer, 2014.

[110] F. Bonchi, S. Milius, A. Silva, and F. Zanasi. How to kill epsilons with a dagger - a coalgebraic take on systems with algebraic label structure. *Procedings CMCS'12*, Lecture Notes in Computer Science, vol. 8446, pages 53–74, Springer, 2014.

[111] N. Oliveira, A. Silva, L. Barbosa. Quantitative Analysis of Reo-based Service Coordination. In Proceedings of the 29th Annual ACM Symposium on Applied Computing, 2014.

[112] B. Jacobs and A. Silva. A Categorical Perspective on Automata Learning. In *Horizons of the Mind. A Tribute to Prakash Panangaden - Essays Dedicated to Prakash Panangaden on the Occasion of His 60th Birthday.* Lecture Notes in Computer Science, vol. 8464, pages 384-406, Springer, 2014.

[113] Filippo Bonchi, Georgiana Caltais, Damien Pous, and Alexandra Silva. Brzozowski's and up-to algorithms for must testing. In *11th Asian Symposium on Programming Languages and Systems (APLAS 2013)*, volume 8301 of *Lecture Notes in Computer Science*, pages 1–16, 2013.

[114] B. Jacobs and A. Silva. Initial Algebras of Terms, with binding and algebraic structure. Categories and Types in Logic, Language and Physics. Festschrift on the occasion of Jim Lambek's 90th birthday. Lecture Notes in Computer Science, vol. 8089, pages 267–282, Springer, 2013.

[115] A. Silva and B. Westerbaan. A Coalgebraic View on ε-Transitions. *Proceedings of Calco'13*, Lecture Notes in Computer Science, vol. 8089, pages 267–282, Springer, 2013.

[116] J. Jeannin, D. Kozen and A. Silva. Language Constructs for Non-Well-Founded Computation. *Proceedings of ESOP'13*, Lecture Notes in Computer Science, vol. 7792, pages 61–80, Springer, 2013.

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Prizes and awards

- 2023: Bowers CIS Research Award, May 2023.

- 2023: Amazon Research Award, March 2023.

- 2020: Distinguished Paper Award, POPL 2020.

- 2019: Royal Society Wolfson Award.

- 2018: Needham award (BCS).

- 2017: Presburger award (EATCS).

- 2016: Philip Leverhulme Prize.

- 2015: *Best paper award* at 26th International Conference on Rewriting Techniques and Applications (RTA 2015).

- 2014: Christiaan Huygens prize, honorable mention.

- 2011: IBM Portugal Scientific Award (it is the most important national award in Computer Science for researchers under 36-years old)

- 2010: *Cum laude* distinction for PhD (Radboud Universiteit Nijmegen)

- 2010: Brazilian symposium on formal methods (SBMF'10), *Best presentation award*

- 2010: *Rappe promotie premie*, Radboud Universiteit Nijmegen (Awarded to PhD students who finish their thesis in 4 years)

- 2007: *Prémio Engenheiro António de Almeida* (Awarded to students of selected degrees who successfully conclude their studies with the best average grade).

- 2007: *Prémio Senado Universitário* and *Prémio Governo Civil de Braga* (Awards given, respectively, by the University Dean and the Civil Government of Braga to the student who concludes his/her degree with the highest grade among all University of Minho degrees).

- 2006: *Bolsa de Estudo por Mérito a estudantes do Ensino Superior*, Portuguese Education Ministery (Award given to best students of each scientific area).

- 2006: *Prémio Caixa Geral de Depósitos*, University of Minho (Award given to the best student of selected degrees at University of Minho).

- 2005: MVS award - Most Valuable Student, Microsoft.

- 2003, 2004, 2005 and 2006: *Prémio de mérito escolar*, University of Minho (Award given to best students in each degree).