Andreas Pavlogiannis

Associate Professor, Aarhus University

Turing-223, IT-parken, Aabogade 34
DK-8200 Aarhus N, Denmark
✉ *pavlogiannis@cs.au.dk*
https://cs.au.dk/~pavlogiannis/

Employment

2023 – current **Associate Professor**, Department of Computer Science, Aarhus University
2019 – 2023 **Assistant Professor**, Department of Computer Science, Aarhus University
2017 – 2019 **Postdoctoral Researcher**, Lab for Automated Reasoning and Analysis, EPFL
2010 – 2011 **Graduate Researcher**, Genome Center, UC Davis

Education

2012 – 2017 **Doctor of Philosophy**, IST Austria
2010 – 2012 **Master of Science in Computer Science**, University of California, Davis
2005 – 2010 **Bachelor & Master of Science in Computer Science**, University of Patras

Distinctions & Awards

2023 Our paper [AAAI 23] selected for oral presentation
2022 Our paper [IJCAI 22] selected for a long presentation
2022 Our paper [AAAI 22] selected for oral presentation
2022 Best paper award for our paper [ASPLOS 22]
2021 Paper [NAT COM 21] covered in popular science media Current Science Daily [1]
2020 Nomination for the EATCS best paper award for our paper [ESOP 20]
2019 IEEE Lance Stafford Larson award for our paper [POPL 19] ($500)
2018 EPFL IC Department Performance Bonus (CHF 2,000)
2018 Our paper [COM BIO 18] featured in the annual highlights of Communications Biology[2]
2018 Science media coverage of our paper [COM BIO 18] in Quanta (twice)[3,4] and Wired[5]
2014 EATCS Travel Award (€100)
2011 – 2012 UC Davis Graduate Scholars Fellowship ($34,000)
2010 – 2011 Andreas Mentzelopoulos Scholarship ($5,000)
2008 Greek National Scholarships Foundation: Scholarship for academic excellence (€1,467)
2008 Greek National Scholarships Foundation: Best student award (department-wide) (€293)
2007 Greek National Scholarships Foundation: Scholarship for academic excellence (€1,467)
2007 Greek National Scholarships Foundation: Best student award (department-wide) (€293)

Grants

2022 – 2026 Villum Young Investigator: *Algorithmic Verification of Modern-Day Concurrency* (DKK 6MIL)
2019 – 2021 Schrödinger Grant J-4220: *Algorithmic Analysis of Concurrent Systems* (€135,240)
2018 – 2019 EPFL-INRIA Grant: *Resource Verification of Concurrent Systems with Data* (CHF 82,517)

[1] https://currentsciencedaily.com/stories/606763315-characterizing-amplifiers-of-natural-selection-and-their-optimization
[2] https://www.nature.com/collections/ejjbjdddff/
[3] https://www.quantamagazine.org/mathematics-shows-how-to-ensure-evolution-20180626/
[4] https://www.quantamagazine.org/the-evolutionary-math-puzzle-20180815/
[5] https://www.wired.com/story/this-mutation-math-shows-how-life-keeps-on-evolving/

Publications (author order is alphabetical unless ∗ is present, which marks first authorship)

[POPL 24a] S. Chakraborty, S. N. Krishna, U. Mathur, and A. Pavlogiannis. "How Hard Is Weak-Memory Testing?" In: *Proceedings of the ACM on Programming Languages* POPL (Jan. 2024), 66:1978–66:2009.

[POPL 24b] S. Krishna, A. Lal, A. Pavlogiannis, and O. Tuppe. "On-the-Fly Static Analysis via Dynamic Bidirected Dyck Reachability". In: *Proceedings of the ACM on Programming Languages* POPL (Jan. 2024), 42:1239–42:1268.

[TACAS 23] C. A. Larsen*, S. M. Schmidt, J. Steensgaard, A. B. Jakobsen, J. van de Pol, and A. Pavlogiannis. "A Truly Symbolic Linear-Time Algorithm for SCC Decomposition". In: *ETAPS (TACAS)*. 2023.

[SIGLOG 23] A. Pavlogiannis. "CFL/Dyck Reachability: An Algorithmic Perspective". In: *ACM SIGLOG News* 4 (Feb. 2023), pp. 5–25.

[AAAI 23] P. Petsinis, P. Karras, and A. Pavlogiannis. "Maximizing the Probability of Fixation in the Positional Voter Model". In: *Proceedings of the AAAI Conference on Artificial Intelligence* (2023).

[PLDI 23b] H. C. Tunç, P. A. Abdulla, S. Chakraborty, S. Krishna, U. Mathur, and A. Pavlogiannis. "Optimal Reads-From Consistency Checking for C11-Style Memory Models". In: PLDI. June 2023, 137:761–137:785.

[PLDI 23a] H. C. Tunç, U. Mathur, A. Pavlogiannis, and M. Viswanathan. "Sound Dynamic Deadlock Prediction in Linear Time". In: PLDI. June 2023, 177:1733–177:1758.

[PLDI 22] A. Ahmadi, M. Daliri, A. K. Goharshady, and A. Pavlogiannis. "Efficient Approximations for Cache-Conscious Data Placement". In: *Proceedings of the 43rd ACM SIGPLAN International Conference on Programming Language Design and Implementation*. PLDI 2022. Association for Computing Machinery, 2022, pp. 857–871.

[AAAI 22] J. Brendborg, P. Karras, A. Pavlogiannis, A. U. Rasmussen, and J. Tkadlec. "Fixation Maximization in the Positional Moran Process". In: *Proceedings of the AAAI Conference on Artificial Intelligence* 9 (June 2022), pp. 9304–9312.

[PRE 22] K. Chatterjee, J. Svoboda, Đ. Žikeli ć, A. Pavlogiannis, and J. Tkadlec. "Social balance on networks: Local minima and best-edge dynamics". In: *Phys. Rev. E* (3 Sept. 2022), p. 034321.

[IJCAI 22] L. Durocher, P. Karras, A. Pavlogiannis, and J. Tkadlec. "Invasion Dynamics in the Biased Voter Process". In: *Proceedings of the Thirty-First International Joint Conference on Artificial Intelligence, IJCAI-22*. International Joint Conferences on Artificial Intelligence Organization, July 2022, pp. 265–271.

[ICALP 22] M. Ganardi, R. Majumdar, A. Pavlogiannis, L. Schütze, and G. Zetzsche. "Reachability in Bidirected Pushdown VASS". In: *49th International Colloquium on Automata, Languages, and Programming (ICALP 2022)*. Leibniz International Proceedings in Informatics (LIPIcs). Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2022, 124:1–124:20.

[POPL 22] A. H. Kjelstrøm and A. Pavlogiannis. "The Decidability and Complexity of Interleaved Bidirected Dyck Reachability". In: *Proc. ACM Program. Lang.* POPL (Jan. 2022).

[ASPLOS 22] U. Mathur, A. Pavlogiannis, H. C. Tunç, and M. Viswanathan. "A Tree Clock Data Structure for Causal Orderings in Concurrent Executions". In: *Proceedings of the 27th ACM International Conference on Architectural Support for Programming Languages and Operating Systems*. ASPLOS 2022. Association for Computing Machinery, 2022, pp. 710–725. **Best Paper Award**.

[SCI REP 22] J. Svoboda*, J. Tkadlec, A. Pavlogiannis, K. Chatterjee, and M. A. Nowak. "Infection dynamics of COVID-19 virus under lockdown and reopening". In: *Scientific Reports* 1 (Jan. 2022), p. 1526.

[CAV 21] P. Agarwal, K. Chatterjee, S. Pathak, A. Pavlogiannis, and V. Toman. "Stateless Model Checking Under a Reads-Value-From Equivalence". In: *Computer Aided Verification*. Springer International Publishing, 2021, pp. 341–366.

[OOPSLA 21] T. L. Bui, K. Chatterjee, T. Gautam, A. Pavlogiannis, and V. Toman. "The Reads-from Equivalence for the TSO and PSO Memory Models". In: *Proc. ACM Program. Lang.* OOPSLA (Oct. 2021).

[IPL 21] J. Cetti Hansen, A. Husted Kjelstrøm, and A. Pavlogiannis. "Tight bounds for reachability problems on one-counter and pushdown systems". In: *Information Processing Letters* (2021), p. 106135.

[FMSD 21] K. Chatterjee, R. Ibsen-Jensen, and A. Pavlogiannis. "Faster algorithms for quantitative verification in bounded treewidth graphs". In: *Formal Methods in System Design* (Apr. 2021).

[FSTTCS 21] K. Chatterjee, R. Ibsen-Jensen, and A. Pavlogiannis. "Quantitative Verification on Product Graphs of Small Treewidth". In: *41st IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS 2021)*. Leibniz International Proceedings in Informatics (LIPIcs). Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2021, 42:1–42:23.

[CONCUR 21] R. Kulkarni, U. Mathur, and A. Pavlogiannis. "Dynamic Data-Race Detection Through the Fine-Grained Lens". In: *32nd International Conference on Concurrency Theory (CONCUR 2021)*. Leibniz International Proceedings in Informatics (LIPIcs). Schloss Dagstuhl – Leibniz-Zentrum für Informatik, 2021, 16:1–16:23.

[POPL 21a] A. A. Mathiasen and A. Pavlogiannis. "The Fine-Grained and Parallel Complexity of Andersen's Pointer Analysis". In: *Proc. ACM Program. Lang.* POPL (Jan. 2021).

[POPL 21b] U. Mathur, A. Pavlogiannis, and M. Viswanathan. "Optimal Prediction of Synchronization-Preserving Races". In: *Proc. ACM Program. Lang.* POPL (Jan. 2021).

[NAT COM 21] J. Tkadlec*, A. Pavlogiannis*, K. Chatterjee, and M. A. Nowak. "Fast and strong amplifiers of natural selection". In: *Nature Communications* 1 (June 2021), p. 4009.

[ATVA 20] A. Asadi, K. Chatterjee, A. K. Goharshady, K. Mohammadi, and A. Pavlogiannis. "Faster Algorithms for Quantitative Analysis of MCs and MDPs with Small Treewidth". In: *Automated Technology for Verification and Analysis - 18th International Symposium, ATVA 2020, Hanoi, Vietnam, October 19-23, 2020, Proceedings*. Lecture Notes in Computer Science. Springer, 2020, pp. 253–270.

[ESOP 20] K. Chatterjee, A. K. Goharshady, R. Ibsen-Jensen, and A. Pavlogiannis. "Optimal and Perfectly Parallel Algorithms for On-demand Data-Flow Analysis". In: *ETAPS (ESOP)*. Lecture Notes in Computer Science. Springer, 2020, pp. 112–140.

[LICS 20] U. Mathur, A. Pavlogiannis, and M. Viswanathan. "The Complexity of Dynamic Data Race Prediction". In: *Proceedings of the 35th Annual ACM/IEEE Symposium on Logic in Computer Science*. LICS '20. ACM, 2020, pp. 713–727.

[POPL 20] A. Pavlogiannis. "Fast, Sound, and Effectively Complete Dynamic Race Prediction". In: *Proc. ACM Program. Lang.* POPL (Jan. 2020).

[TCAD 20] A. Pavlogiannis*, N. Schaumberger, U. Schmid, and K. Chatterjee. "Precedence-Aware Automated Competitive Analysis of Real-Time Scheduling". In: *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* 11 (2020), pp. 3981–3992.

[EMSOFT 20] A. Pavlogiannis*, N. Schaumberger, U. Schmid, and K. Chatterjee. "Precedence-aware Automated Competitive Analysis of Real-time Scheduling". In: *EMSOFT*. 2020.

[PLOS CB 20] J. Tkadlec*, A. Pavlogiannis*, K. Chatterjee, and M. A. Nowak. "Limits on amplifiers of natural selection under death-Birth updating". In: *PLOS Computational Biology* 1 (Jan. 2020), pp. 1–13.

[TOPLAS 19] K. Chatterjee, A. K. Goharshady, P. Goyal, R. Ibsen-Jensen, and A. Pavlogiannis. "Faster Algorithms for Dynamic Algebraic Queries in Basic RSMs with Constant Treewidth". In: *ACM Trans. Program. Lang. Syst.* 4 (Nov. 2019), 23:1–23:46.

[POPL 19] K. Chatterjee, A. K. Goharshady, N. Okati, and A. Pavlogiannis. "Efficient Parameterized Algorithms for Data Packing". In: *Proc. ACM Program. Lang.* POPL (Jan. 2019), 53:1–53:28.

[OOPSLA 19] K. Chatterjee, A. Pavlogiannis, and V. Toman. "Value-centric Dynamic Partial Order Reduction". In: *Proc. ACM Program. Lang.* OOPSLA (Oct. 2019), 124:1–124:29.

[COM BIO 19] J. Tkadlec*, A. Pavlogiannis*, K. Chatterjee, and M. A. Nowak. "Population structure determines the tradeoff between fixation probability and fixation time". In: *Communications Biology* 1 (2019), p. 138.

[POPL 18a] M. Chalupa, K. Chatterjee, A. Pavlogiannis, N. Sinha, and K. Vaidya. "Data-Centric Dynamic Partial Order Reduction". In: *Proc. ACM Program. Lang.* POPL (2018).

[POPL 18b] K. Chatterjee, B. Choudhary, and A. Pavlogiannis. "Optimal Dyck reachability for data-dependence and alias analysis". In: *PACMPL* POPL (2018), 30:1–30:30.

[TOPLAS 18] K. Chatterjee, R. Ibsen-Jensen, A. K. Goharshady, and A. Pavlogiannis. "Algorithms for Algebraic Path Properties in Concurrent Systems of Constant Treewidth Components". In: *ACM Trans. Program. Lang. Syst.* 3 (July 2018), 9:1–9:43.

[RTS 18] K. Chatterjee, A. Pavlogiannis, A. Kößler, and U. Schmid. "Automated Competitive Analysis of Real-time Scheduling with Graphs and Games". In: *Real-Time Systems* 1 (2018), pp. 166–207.

[COM BIO 18] A. Pavlogiannis*, J. Tkadlec*, K. Chatterjee, and M. A. Nowak. "Construction of arbitrarily strong amplifiers of natural selection using evolutionary graph theory". In: *Communications Biology* 1 (2018), p. 71.

[ATVA 17] K. Chatterjee, A. K. Goharshady, and A. Pavlogiannis. "JTDec: A Tool for Tree Decompositions in Soot". In: *Automated Technology for Verification and Analysis: 15th International Symposium, ATVA 2017, Pune, India, October 3–6, 2017, Proceedings*. Springer International Publishing, 2017, pp. 59–66.

[ESOP 17] K. Chatterjee, B. Kragl, S. Mishra, and A. Pavlogiannis. "Faster Algorithms for Weighted Recursive State Machines". In: *Programming Languages and Systems: 26th European Symposium on Programming, ESOP 2017, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2017, Uppsala, Sweden, April 22–29, 2017, Proceedings*. Springer Berlin Heidelberg, 2017, pp. 287–313.

[SCI REP 17] A. Pavlogiannis*, J. Tkadlec*, K. Chatterjee, and M. A. Nowak. "Amplification on Undirected Population Structures: Comets Beat Stars". In: *Scientific Reports* 1 (2017), p. 82.

[POPL 16] K. Chatterjee, A. K. Goharshady, R. Ibsen-Jensen, and A. Pavlogiannis. "Algorithms for Algebraic Path Properties in Concurrent Systems of Constant Treewidth Components". In: *Proceedings of the 43rd Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*. POPL '16. ACM, 2016, pp. 733–747.

[ESA 16] K. Chatterjee, R. R. Ibsen-Jensen, and A. Pavlogiannis. "Optimal Reachability and a Space-Time Tradeoff for Distance Queries in Constant-Treewidth Graphs". In: *24th Annual European Symposium on Algorithms (ESA 2016)*. Leibniz International Proceedings in Informatics (LIPIcs). Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2016, 28:1–28:17.

[CAV 15] K. Chatterjee, R. Ibsen-Jensen, and A. Pavlogiannis. "Faster Algorithms for Quantitative Verification in Constant Treewidth Graphs". In: *Computer Aided Verification: 27th International Conference, CAV 2015, San Francisco, CA, USA, July 18-24, 2015, Proceedings, Part I*. Springer International Publishing, 2015, pp. 140–157.

[POPL 15a] K. Chatterjee, R. Ibsen-Jensen, A. Pavlogiannis, and P. Goyal. "Faster Algorithms for Algebraic Path Properties in Recursive State Machines with Constant Treewidth". In: *Proceedings of the 42Nd Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*. POPL '15. ACM, 2015, pp. 97–109.

[POPL 15b] K. Chatterjee, A. Pavlogiannis, and Y. Velner. "Quantitative Interprocedural Analysis". In: *Proceedings of the 42Nd Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*. POPL '15. ACM, 2015, pp. 539–551.

[SCI REP 15] A. Pavlogiannis*, K. Chatterjee, B. Adlam, and M. A. Nowak. "Cellular cooperation with shift updating and repulsion". In: *Scientific Reports* (Nov. 2015), 17147 EP -.

[RTSS 14] K. Chatterjee, A. Pavlogiannis, A. Kößler, and U. Schmid. "A framework for automated competitive analysis of on-line scheduling of firm-deadline tasks". In: *Real-Time Systems Symposium (RTSS), 2014 IEEE*. IEEE. 2014, pp. 118–127.

[PLOS CB 14] K. Chatterjee*, A. Pavlogiannis, B. Adlam, and M. A. Nowak. "The time scale of evolutionary innovation". In: *PLoS computational biology* 9 (2014), e1003818.

[FMCAD 13] K. Chatterjee, T. A. Henzinger, J. Otop, and A. Pavlogiannis. "Distributed synthesis for LTL fragments". In: *Formal Methods in Computer-Aided Design (FMCAD), 2013*. IEEE. 2013, pp. 18–25.

[BMC BIO 13] A. Pavlogiannis*, V. Mozhayskiy, and I. Tagkopoulos. "A flood-based information flow analysis and network minimization method for gene regulatory networks". In: *BMC Bioinformatics* 1 (2013), p. 137.

[FOMC 11] I. Chatzigiannakis, O. Michail, S. Nikolaou, A. Pavlogiannis, and P. G. Spirakis. "Passively mobile communicating machines that use restricted space". In: *Proceedings of the 7th ACM ACM SIGACT/SIGMOBILE International Workshop on Foundations of Mobile Computing*. ACM. 2011, pp. 6–15.

[TCS 11] I. Chatzigiannakis, O. Michail, S. Nikolaou, A. Pavlogiannis, and P. G. Spirakis. "Passively mobile communicating machines that use restricted space". In: *Theoretical Computer Science* 46 (2011), pp. 6469–6483.

[MFCS 10] I. Chatzigiannakis, O. Michail, S. Nikolaou, A. Pavlogiannis, and P. G. Spirakis. "All Symmetric Predicates in NSPACE (n^2) Are Stably Computable by the Mediated Population Protocol Model". In: *MFCS*. 2010, pp. 270–281.

Service

Program Committees: POPL '21, ESOP '22, AAAI '23, POPL '24, AAAI '24, IJCAI '24, CONCUR '24

Reviewer: ICALP '10, DISC '11, ICALP '12, SR '14, CAV '14, MFCS '15, SIROCCO '15, IPL '15, FOSSACS '15, VMCAI '16, TACAS '16, FSTTCS '16, ICALP '16, IPL '16, PLOS CB '16, IPL '17, ICALP '17, CAV '18, EPL '18, FSTTCS '18, IPL '19, TOPLAS '19, ESOP '19, ACTA INFORM '19, POPL '20, TOPLAS '20, IPL '20, POPL '21, TOPLAS '21, PLDI '21, LICS '21, ICALP '21, POPL '22, TCS '22, PLDI '22, SAS '22, PHYSICAD '22, COMPUTING '22, TOPLAS 22, KAIS '22, POPL '23, PPOPP '23, J. BIG DATA '23, PHYSICAD '23

Contributed & Invited Talks

January '24 How Hard is Weak-Memory Testing? At *POPL '23*, Londong, UK.

January '24 On-The-Fly Static Analysis via Dynamic Bidirected Dyck Reachability. At *POPL '23*, Londong, UK.

December '23 How Hard is Weak-Memory Testing? At the *21st Athens Programming Languages Seminar*. **(invited)**

November '22 Dynamic Data-Race Prediction : Fundamentals, Theory and Practice. At *Tutorials, FSE '22*, Singapore.

October '22 Context-Free Language Reachability: An Algorithmic Perspective. At *National University of Singapore*, Singapore. **(invited)**

October '22 Dynamic Concurrent Analysis and the Tree Clock Data Structure. At *Delft University of Technology*, Delft, Netherlands.**(invited)**

July '22 Evolutionary Graph Theory: Amplification and Optimization. At the *2nd Congress of Greek Mathematicians*, Athens, Greece.**(invited)**

June '22 Social Balance on Networks: Local Minima and Best Edge Dynamics. At *AGAN Workshop*, Aarhus, Denmark.**(invited)**

June '22 Evolutionary Graph Theory: Amplification and Optimization. At *AGAN Workshop*, Aarhus, Denmark.**(invited)**

June '22 A Tree Clock Data Structure for Causal Orderings in Concurrent Executions. At *COMMUTE '22*, San Diego, California, USA.**(invited)**

June '22 The Fine-Grained and Parallel Complexity of Andersen's Pointer Analysis. At *PLDI '22*, San Diego, California, USA.

June '22 Optimal Prediction of Synchronization-Preserving Races. At *PLDI '22*, San Diego, California, USA.

January '22 The Decidability and Complexity of Interleaved Bidirected Dyck Reachability. At *POPL '22*, Philadelphia, Pennsylvania, USA.

September '21 The Algorithmic View and Programming Languages and Program Analysis At *National Technical University of Athens*, Athens, Greece. **(invited)**

April '21 Dynamic Data-Race Prediction : Fundamentals, Theory and Practice. At *Tutorials, ASPLOS '21*, Online.

January '21 Dynamic Data-Race Prediction : Fundamentals, Theory and Practice. At *TutorialFest, POPL '21*, Online.

January '21 Optimal Prediction of Synchronization-Preserving Races. At *POPL '21*, Online.

January '21 The Fine-Grained and Parallel Complexity of Andersen's Pointer Analysis. At *POPL '21*, Online.

December '20 Optimal Prediction of Synchronization-Preserving Races. At the *18th Athens Programming Languages Seminar*, Online. **(invited)**

September '20 Precedence-aware Automated Competitive Analysis of Real-time Scheduling. At *EMSOFT, ESWeek '20*, Online.

July '20 The Complexity of Dynamic Data Race Prediction. At *LICS '20* (Q&A), Saarbrücken, Germany.

February '20 Amplifiers of Selection: A glimpse into evolutionary graph theory. At the *Bioinformatics Research Centre, Aarhus University*, Aarhus, Denmark. **(invited)**

January '20 Treewidth-based algorithms for Static Program Analysis. At the *University of Illinois at Urbana-Champaign*, Urbana, Illinois, USA. **(invited)**

January '20 Fast, Sound, and Effectively Complete Dynamic Race Prediction. At *POPL '20*, New Orleans, Louisiana, USA.

November '19 The Complexity of Dynamic Data Race Prediction. At the *IST Austria*, Vienna, Austria. **(invited)**

October '19 Value-Centric Dynamic Partial Order Reduction. At *OOPSLA*, *SPLASH '19*, Athens, Greece.

May '19 Algorithmic Advances in Automated Program Analysis. At *Stevens Institute of Technology*, Hoboken, New Jersey, USA. **(invited)**

May '19 Algorithmic Advances in Automated Program Analysis. At *Aarhus University*, Aarhus, Denmark. **(invited)**

March '19 Algorithmic Advances in Automated Program Analysis. At *University of Birmingham*, Birmingham, United Kingdom. **(invited)**

March '19 Algorithmic Advances in Automated Program Analysis. At *Aalto University*, Helsinki, Finland. **(invited)**

March '19 Algorithmic Advances in Automated Program Analysis. At *IMDEA*, Madrid, Spain. **(invited)**

March '19 Algorithmic Advances in Automated Program Analysis. At *Imperial College London*, London, United Kingdom. **(invited)**

February '19 Algorithmic Analysis of Concurrent and Evolutionary Systems. At *University of Groningen*, Groningen, Netherlands. **(invited)**

January '19 Algorithmic Advances in Automated Program Analysis. At *National University of Singapore*, Singapore. **(invited)**

January '19 New Algorithms for Static Program Analysis. At *University of Groningen*, Groningen, Netherlands. **(invited)**

January '19 Towards Sound and Complete Algorithms for Race Prediction. At the *5th EPFL-INRIA Workshop*, Lausanne, Switzerland. **(invited)**

December '18 Efficient Parameterized Algorithms for Data Packing. At the *16th Athens Programming Languages Seminar*, Athens, Greece. **(invited)**

July '18 Stateless Model Checking under the Data-centric View. At *FRiDA*, *FLoC '18*, Oxford, UK. **(invited)**

June '18 Algorithmic Advances in Program Analysis and Their Applications. At the *Heinz Zemanek Award, Shortlisted Candidate Presentations*, Vienna, Austria. **(invited)**

February '18 New Algorithms for Static Analysis via Dyck Reachability. At the *4th EPFL-INRIA Workshop*, Paris, France. **(invited)**

January '18 Data-Centric Dynamic Partial Order Reduction. At *POPL '18*, Los Angeles, California, USA.

January '18 Optimal Dyck Reachability for Data-dependence and Alias Analysis. At *POPL '18*, Los Angeles, California, USA.

January '18 Data-centric Dynamic Partial Order Reduction. At the *15th Athens Programming Languages Seminar*, Athens, Greece. **(invited)**

June '17 Algorithmic Advances in Program Analysis and Their Applications. At *EFPL*, Lausanne, Switzerland **(invited)**

August '16 Optimal Reachability and a Space-Time Tradeoff for Distance Queries in Constant-Treewidth Graphs. At *ESA '16*, Aarhus, Denmark.

January '16 Algorithms for Algebraic Path Properties in Concurrent Systems of Constant Treewidth Components. At *POPL '16*, St. Petersburg, Florida, USA.

July '15 Faster Algorithms for Quantitative Verification in Constant Treewidth Graphs. At *CAV '15*, San Francisco, California, USA.

March '15 Faster Algorithms for Algebraic Path Properties in Recursive State Machines with Constant Treewidth. At the *ERC Workshop*, Vienna, Austria. **(invited)**

January '15 Faster Algorithms for Algebraic Path Properties in Recursive State Machines with Constant Treewidth. At *POPL '15*, Mumbai, India.

December '14 A Framework for Automated Competitive Analysis of On-line Scheduling of Firm-Deadline Tasks. At *RTSS '14*, Rome, Italy.

July '11 Passively mobile communicating machines that use restricted space. At *FCRC '11*, San Jose, California, USA.

Student Supervision

PhD
- Yifan Dong, AU (2023-)
- Hunkar Can Tunc, AU (2021-)

MSc
- Adam Husted Kjelstrøm (2024), MSc thesis at AU
- Sergei Kirillov (2023), MSc thesis at AU
- Anna Blume Jakobsen & Jakob Burkhardt (2023), MSc project at AU
- Adam Husted Kjelstrøm (2023), MSc project at AU
- Emil Morre Christensen (2022), MSc thesis at AU
- Maximilian Egger (2022), MSc project at AU
- Loke Durocher (2022), MSc thesis at AU
- Simon Meldahl Schmidt, Casper Abild Larsen & Jesper Steensgaard (2022), MSc thesis at AU (paper: [TACAS 23])
- Loke Durocher (2021), MSc project at AU (paper: [IJCAI 22])

BSc
- Jens Emil Christensen (2023), BSc thesis at AU
- Daniel Anker Hermansen (2023), talent track program at AU
- Jens Emil Christensen (2023), talent track program at AU (Math)
- Luccas Constantin-Sukul (2023), talent-track program at AU
- Adam Munch Møller, Enok Malik Maj & Mikkel Scheel Hansen (2023), BSc thesis at AU
- Anna Blume Jakobsen, Jakob Burkhardt & Mathias Weller (2022), BSc thesis at AU
- Lasse Overgaard Møldrup & Johan Tanderup Degn (2022), BSc thesis at AU
- Adam Husted Kjelstrøm (2022), BSc thesis at AU
- Liv Kondrup (2021), BSc thesis at AU
- Kajsa Aviaja Pedersen (2021), BSc thesis at AU
- Sebastian Harbro Fruensgaard (2021), talent-track program at AU
- Asger Ullersted Rasmussen & Joachim Brendborg (2021), BSc thesis at AU (paper: [AAAI 22])
- Mikael Bisgaard Dahlsen-Jensen & Magdalena Karlin-Czerska (2021), BSc thesis at AU
- Jonathan Emil Hansen (2021), BSc thesis at AU
- Jakob Cetti Hansen & Adam Husted Kjelstrøm (2020), talent-track program at AU (paper: [IPL 21])
- Casper Abild Larsen & Simon Larsen (2020), BSc thesis at AU
- Kasper Schouborg Nielsen (2020), talent-track program at AU

Research Interns
- Giovanna Kobus Conrado (2023), PhD intern AU
- Anish Yogesh Kulkarni (2023), research intern at AU
- Ameya Prashant Deshmukh (2023), research intern at AU
- Adam Husted Kjelstrøm (2021), research intern at AU (paper: [POPL 22])
- Anders Alnor Mathiasen (2020), research intern at AU (paper: [POPL 21a])