# Antonio Di Stasio

## Personal Information


| | |
|---|---|
| **Name & Surname** | Antonio Di Stasio |
| **email** | antonio.distasio AT cs.ox.ac.uk |
| **Person Webpage** | antoniodistasio.github.io |
| **Google Scholar** | https://scholar.google.com/citations?user=qnH_-7AAAAAJ&hl=en |
| **DBLP** | https://dblp.org/pid/157/8638.html |


## Current Position

| | |
|---|---|
| **Date** | Starting from August 1, 2024 |
| **Qualification** | Lecturer in Computer Science |
| **Department** | Department of Computer Science |
| **Institute** | City, University of London, UK |

| | |
|---|---|
| **Date (from - to)** | Jan 3, 2023 - July 31, 2024 |
| **Qualification** | Senior Research Associate |
| **Project** | Advanced ERC "WhiteMech" |
| **Department** | Department of Computer Science |
| **Institute** | University of Oxford, UK |
| **Advisor** | Prof. Giuseppe De Giacomo |

## Work Experience

| | |
|---|---|
| **Date (from - to)** | July 1, 2020 - Dec 2022 |
| **Qualification** | Post-doctoral researcher |
| **Project** | Advanced ERC "WhiteMech" |
| **Department** | Department of Computer, Control and Management Engineering |
| **Institute** | "La Sapienza", University of Rome, Italy |
| **Advisor** | Prof. Giuseppe De Giacomo |

| | |
|---|---|
| **Date (from - to)** | June 1, 2019 - May 31, 2020 |
| **Qualification** | Post-doctoral researcher |
| **Project** | Methods and techniques to support digital creativity |
| **Department** | Department of Computer, Control and Management Engineering |
| **Institute** | "La Sapienza", University of Rome, Italy |
| **Advisor** | Prof. Massimo Mecella |

| | |
|---|---|
| **Date (from - to)** | Aug 3, 2015 - Oct 31, 2015 |
| **Qualification** | Research Scholarship |
| **Project** | Formal methods based on game theory |
| **Institute** | University of Naples “Federico II”, Italy |
| **Supervisor** | Prof. Aniello Murano |

## Research Interests

**Topics** Game Theory, Parity Games, Formal Aspects of System Specification, Verification, Synthesis, Automated Planning, and Artificial Intelligence.

## Education Degrees

**Date (from - to)** November 2015 - February 2019
**Qualification** Doctorate (Ph.D.)
**Field** Mathematical and Computer Science
**Institute** University of Naples "Federico II", Italy
**Thesis** Reasoning about LTL Synthesis over finite and infinite games
**Final grade** Excellent
**Supervisor** Prof. Aniello Murano

**Date (from - to)** 2011 - 2015
**Degree** Master Degree in Computer Science (Class LM-18)
**Institute** University of Naples "Federico II", Italy
**Obtained on** March 16th, 2015
**Final mark** 110/110 cum laude
**Thesis** An Accelerated Algorithm for log-color parity games
**Supervisor** Prof. Aniello Murano

## Former Positions

**Date (from - to)** November 5, 2017 - May 21, 2018
**Qualification** Visiting Scholar
**Department** Department of Computer Science
**Institute** Rice University, Houston, Texas, USA
**Supervisor** Prof. Moshe Y. Vardi

## Outreach Activities

**Date** September 2024
**Activity** External Examiner for PhD Thesis, Birberk, University of London

**Date** January 19 2024- February 2, 2024
**Activity** Master in Advanced Computer Science Admission, Department of Computer Science, University of Oxford

**Date (from - to)** September 2023 - July 2024
**Activity** Research Member of Common Room, Kellogg College

## Teaching Activities (Lecturer)

**Course** Game-Theoretic Approach to Planning and Synthesis
**Date (from - to)** 15-19 July 2023
**Event** European Summer School on Artificial Intelligence 2023, Athens, Greece

**Course** Game-Theoretic Approach to Planning and Synthesis
**Date (from - to)** 24-28 July 2023

**Event** European Summer School on Artificial Intelligence 2023, Ljubljana, Slovenia

**Course** Game-Theoretic Approach to Planning and Synthesis
**Date (from - to)** 4-8 July 2022
**Institute** University of Rome, "La Sapienza" & ICT-48 TAILOR
**Type** PhD Course

## Teaching Activities (Class Tutor)

**Course** Foundations of Self-Programming Agents
**Date (from - to)** January 2024 - March 2024, Hilary Term
**Institute** Department of Computer Science, University of Oxford
**Principal Instructor** Prof. Giuseppe De Giacomo

**Course** Foundations of Self-Programming Agents
**Date (from - to)** January 2023 - March 2023, Hilary Term
**Institute** Department of Computer Science, University of Oxford
**Principal Instructor** Prof. Giuseppe De Giacomo

## Teaching Assistant

**Course** Programming - Lab.
**Date (from - to)** September 2018 - December 2018
**Institute** University of Naples "Federico II", Italy
**Principal Instructor** Prof. Aniello Murano

**Course** Algorithms and data structures - Lab.
**Date (from - to)** March 2017 - October 2018
**Institute** University of Naples "Federico II", Italy
**Principal Instructor** Prof. Aniello Murano

**Course** Mathematics
**Date (from - to)** Novermber 2016 - February 2017
**Institute** University of Naples "Federico II", Italy
**Principal Instructor** Prof. Livia D'Apuzzo

**Course** Algorithms and data structures - Lab.
**Date (from - to)** March 2016 - February 2017
**Institute** University of Naples "Federico II", Italy
**Principal Instructor** Prof. Aniello Murano

## Event Organization

**Chair** Workshop on Highlights of Reasoning about Actions, Planning and Reactive Synthesis (ActSynt), ECAI 2024, Santiago de Compostela, Spain

**Chair** On the Effectiveness of Temporal Logics on Finite Traces in AI, AAAI Spring Symposium Series 2023, San Francisco, USA

**Organizing Committee member** Italian Conference on Theoretical Computer Science (ICTCS), 2017, Italian Conference on Computational Logic (CILC), 2017, TAILOR Workshop 2024

## Community Services

**Activities** Program Committee Member: ECAI 2020, AAAI 2021, IJCAI Survery Track 2021, AAMAS 2021, AAMAS 2022, IJCAI Survery Track 2021, IJCAI Survery Track 2022, IJCAI 2022 Main Track, KR 2023, ECAI 2023, IJCAI 2024, KR 2024

Subreviewer: MFCS 2017, ICTCS 2017, AAMAS 2018, IJCAI 2018, TACAS 2024, FoSSaCS 2024, PODS 2024

Journal Reviewer: Fundamenta Informaticae, JAIR, Information and Computation, ACM Computing Survery

## Scientific Communications

### Conference talks

**Title** LTLf Synthesis Under Environment Specifications (Invited Talk)
**Date** October, 2023
**Event** Brown University, Providence, USA

**Title** LTLf synthesis under environment specifications for reachability and safety properties
**Date** September 15, 2023
**Event** EUMAS 2023, Napoli, Italy

**Title** Explicit and Symbolic Approaches for Parity Games
**Date** November 29, 2022
**Event** SPIRIT 2022, Udine, Italy

**Title** Compositional Safety LTL Synthesis
**Date** October 17, 2022
**Event** VSTTE 2022, Trento, Italy

**Title** LTLf Synthesis Under Environment Specifications
**Date** September 7, 2022
**Event** ICTCS 2022, Rome, Italy

**Title** LTLf Synthesis Under Environment Specifications (Invited Talk)
**Date** August 31, 2022
**Event** VardiFest 2022, Haifa, Israel

**Title** Two-Stage Technique for LTLf Synthesis Under LTL Assumptions
**Date** September 15, 2020
**Event** Highlights 2021, Online

**Title** Two-Stage Technique for LTLf Synthesis Under LTL Assumptions
**Date** September 18, 2020
**Event** KR 2020, Online

**Title** Solving Parity Games: Explicit vs Symbolic
**Date** July 8, 2018
**Event** 6th International Workshop on Strategic Reasoning (SR 2018), Oxford, UK

**Title** Solving Parity Games Using An Automata-Based Algorithm
**Date** July 22, 2016

**Event** 21st International Conference on Implementation and Application of Automata (CIAA 2016), Seoul, South Korea

**Title** Solving parity games in scala

**Date** October 10, 2014

**Event** Formal Aspects of Component Software (FACS 2014), Bertinoro,Italy

## Publications


[1] Antonio Di Stasio, Paolo Domenico Lambiase, Vadim Malvone, and Aniello Murano. Dynamic Escape Game (Demonstration). In *AAMAS 2018*, pages 1806–1808, 2018.

[2] Antonio Di Stasio, Aniello Murano, and Moshe Y. Vardi. Solving Parity Games: Explicit vs Symbolic. In *CIAA 2018*, pages 159–172, 2018.

[3] Giuseppe De Giacomo, Aniello Murano, Sasha Rubin, and Antonio Di Stasio. Imperfect-Information Games and Generalized Planning. In *IJCAI 2016*, pages 1037–1043, 2016.

[4] Antonio Di Stasio, Aniello Murano, Giuseppe Perelli, and Moshe Y. Vardi. Solving Parity Games Using an Automata-Based Algorithm. In *CIAA 2016*, pages 64–76, 2016.

[5] Antonio Di Stasio, Aniello Murano, Vincenzo Prignano, and Loredana Sorrentino. Solving Parity Games in Scala. In *FACS 2014*, pages 145–161, 2014.

[6] Giuseppe De Giacomo, Antonio Di Stasio, Francesco Fuggitti, and Antonio Di Stasio. Pure-past linear temporal and dynamic logic on finite traces. In *IJCAI 2020*, pages 4959–4965.

[7] Giuseppe De Giacomo, Antonio Di Stasio, Moshe Y. Vardi, and Shufang Zhu. Two-stage technique for ltlf synthesis under LTL assumptions. In *KR 2020*, pages 304–314, 2020.

[8] Giuseppe De Giacomo, Antonio Di Stasio, Giuseppe Perelli, and Shufang Zhu. Synthesis with mandatory stop actions. In *KR 2021*, pages 237–246, 2021.

[9] Giuseppe De Giacomo, Antonio Di Stasio, Lucas M. Tabajara, Moshe Y. Vardi, and Shufang Zhu. Finite-trace and generalized-reactivity specifications in temporal synthesis. In *IJCAI 2021*, pages 1852–1858, 2021.

[10] Antonio Di Stasio. LTLf synthesis under environment specifications. In *ICTCS 2022*, pages 40–46, 2022.

[11] Giuseppe De Giacomo, Suguman Bansal Antonio Di Stasio, Yong Li, Moshe Y. Vardi, and Shufang Zhu. Compositional Safety LTL Synthesis. In *VSTTE 2022*, pages 1–19, 2022.

[12] Antonio Di Stasio. Explicit and symbolic approaches for parity games (short paper). In *SPIRIT 2022*, 2022.

[13] Davide Catta., Antonio Di Stasio., Jean Leneutre., Vadim Malvone., and Aniello Murano. A game theoretic approach to attack graphs. In *ICAART 2023*, pages 347–354, 2023.

[14] Giuseppe De Giacomo, Antonio Di Stasio, Lucas M. Tabajara, Moshe Y. Vardi, and Shufang Zhu. Finite-trace and generalized-reactivity specifications in temporal synthesis. *Formal Methods in System Design (2023)*, 2023.

[15] Benjamin Aminof, Giuseppe De Giacomo, Antonio Di Stasio, Hugo Francon, Sasha Rubin, and Shufang Zhu. Ltlf synthesis under environment specifications for reachability and safety properties. In *EUMAS 2023*, 2023.

[16] Ben Greenman, Siddhartha Prasad, Antonio Di Stasio, Shufang Zhu, Giuseppe De Giacomo, Shriram Krishnamurthi, Marco Montali, Tim Nelson, and Milda Zizyte. Misconceptions in finite-trace and infinite-trace linear temporal logic. In *FM 2024*, 2024.

## Languages

**Mother tongue** Italian

**Foreign language** English

## References


**Reference** Prof. Aniello Murano
**Role** Professor in Computer Science
**Institute** University of Naples "Federico II", Italy
**Email** murano@na.infn.it

**Reference** Prof. Giuseppe De Giacomo
**Role** Professor of Computer Science
**Institute** Department of Computer Science, University of Oxford, UK
**Email** giuseppe.degiacomo@cs.ox.ac.uk

**Reference** Prof. Moshe Y. Vardi
**Role** University Professor
**Institute** Rice University, Houston, TX, USA
**Email** vardi@cs.rice.edu