FABIO AURELIO D'ASARO

Assistant Professor in Logic (PHIL-02/A)

fabioaurelio.dasaro@univr.it | +39 347 300 1762 | website | Scholar | GitHub

Researcher in Logic (PHIL-02/A) working in Logic and AI: epistemic, probabilistic and temporal reasoning, argumentation, and logic programming (ASP/ILASP). Teaching and supervision span Logic and Philosophy of Science, AI, theoretical and applied Computer Science, Epistemology of Big Data, and Logic Programming.

EXPERIENCE

2026 – present Assistant Professor, University of Verona (Verona, Italy)
Research and teaching on uncertain and epistemic reasoning, temporal and probabilistic logics, logic programming, reasoning about actions and change, bounded reasoning, and formal argumentation for (explainable) AI.

2025 – present Honorary Lecturer, University College London (UCL) (London, UK)
Department of Information Studies, Faculty of Arts and Humanities. Continuing collaboration on explainable AI and the Event Calculus (KIDS group). Email: fabio.dasaro.14@ucl.ac.uk — profiles.ucl.ac.uk/46877-fabio-d'asaro

2025 – 2026 Postdoctoral Researcher, University of Salento (Lecce, Italy)
Department of Human Studies (PHIL-02/A). Project FAIR — Future AI Research (PE00000013), NRRP/MUR, NextGenerationEU, Spoke 6 ("Symbiotic AI"), PI: Paolo Baldi.

2022 – 2025 Assistant Professor, University of Verona (Verona, Italy)
Research and teaching on uncertain and epistemic reasoning, temporal and probabilistic logics, logic programming, reasoning about actions and change, bounded reasoning, and formal argumentation for (explainable) AI. Partially funded by PON R&I 2014-2020, DM 1062/2021 (Action IV.4); UniVR code 2021rtdaPON03; CUP B39J21025840001; 12-month secondment at REVO.

2020 – 2021 Postdoctoral Researcher, Logic Group, University of Milan (Milan, Italy)
Uncertain, depth-bounded and epistemic logics.

2019 – 2020 Postdoctoral Researcher, CRDC Tecnologie (University of Naples Federico II) (Naples, Italy)
AVATEA Project (AI to support rehabilitation of children with neuro-motor disorders); explainable AI for robotics and preference learning.

2013 – 2014 Research Assistant, University of Palermo (Palermo, Italy)
NEVERLOST Project (PO-FESR 2007-2013): (sub)optimal antenna displacement in arbitrary 2D spaces via soft-computing (fuzzy logic, genetic algorithms); educational "serious game" for theoretical CS.

Jun – Sep 2011 Undergraduate Intern, ICAR-CNR Palermo (Palermo, Italy)
IMPULSO project: a path-visualization tool using the Google Maps APIs.

EDUCATION

2014 – 2019 PhD in Artificial Intelligence, University College London (UCL)
Thesis: "Probabilistic Epistemic Reasoning About Actions" (supervisors: Rob Miller, Antonis Bikakis, Luke Dickens). Modelling uncertainty and knowledge-producing actions in the Event Calculus. Excerpts published in Artificial Intelligence (AIJ) and LPNMR.

2013 – 2014 MSc in Pure Mathematics and Mathematical Logic, University of Manchester
Distinction (≈ 110/110 cum laude). Dissertation: "Analogical Reasoning in Unary Inductive Logic" (supervisor: Jeff B. Paris).

2006 – 2011 BSc in Computer Science, University of Palermo
110/110 cum laude. Dissertation on the Church-Turing thesis and new models of computation (supervisor: Settimo Termini).

HONOURS

- MSc with Distinction (≈ 110/110 cum laude) — University of Manchester, 2014

- BSc summa cum laude (110/110 e lode) — University of Palermo, 2011

PUBLICATIONS

Google Scholar, 19 Jun 2026: 281 citations, h-index 10, i10-index 13.

2026

- Rational expectations and kinematic information in coordination games
  M. Fanghella, C. F. Colombo, **F. A. D'Asaro**, M. T. Pascarelli, G. Barchiesi, M. Rabuffetti, M. Ferrarin, F. Guala and C. Sinigaglia, in: *Cognition 271*, doi:10.1016/j.cognition.2026.106453.
- Early Target Object Prediction in Action Observation
  M. Fanghella, **F. A. D'Asaro**, D. Quarona, G. Barchiesi, M. Rabuffetti, M. Ferrarin and C. Sinigaglia, in: *Quarterly Journal of Experimental Psychology*, doi:10.1177/17470218261442536.
- Explaining Neural Networks in Preference Learning: a Post-hoc Inductive Logic Programming Approach
  D. Fossemò, F. Mignosi, G. Placidi, L. Raggioli, M. Spezialetti and **F. A. D'Asaro**, in: *Theory and Practice of Logic Programming*, doi:10.1017/S1471068426100441.
- Non-monotonic Bounded Reasoners
  P. Baldi and **F. A. D'Asaro**, in: *Logic & Cognition Conference (L&C 2026)*.

2025

- AI in the Experimental Loop: Implications for Replicability in Social Robotics and Social Sciences
  A. Aquino, **F. A. D'Asaro**, R. Gaudenzi, M. Lezcano, V. Iacovella and M. Vezzoli (Preprint).
- A Graphical Formalism for Reasoning about Substitution in Resource Transforming Procedures
  A. Bikakis, **F. A. D'Asaro**, A. Diallo, L. Dickens, A. Hunter and R. Miller, in: *Journal of Artificial Intelligence Research*, doi:10.1613/jair.1.18606.
- Checking trustworthiness of probabilistic computations in a typed natural deduction system
  F. A. D'Asaro, F. Genco and G. Primiero, in: *Journal of Logic and Computation*, doi:10.1093/logcom/exaf003.
- Non-monotonic Bounded Reasoners
  P. Baldi and **F. A. D'Asaro**, in: *The Reasoner 19(1)*, doi:10.54103/1757-0522/27548.
- Weighted Assumption Based Argumentation to reason about ethical principles and actions
  P. Baldi, **F. A. D'Asaro**, A. Dyoub and F. A. Lisi, in: *Proceedings of CILC 2025*.
- A Translation of Probabilistic Event Calculus into Markov Decision Processes
  L. Xu, L. Dickens and **F. A. D'Asaro**, in: *Proceedings of TIME 2025*, doi:10.4230/LIPIcs.TIME.2025.21.

2024

- "Sensing" the future: From Kant to the brain as a predictor
  R. Gaudenzi, M. Scandola, **F. A. D'Asaro**, V. Moro and M. Badino, doi:10.22541/au.171945748.89099414/v1 (Preprint (ESS Open Archive / Authorea)).
- How can we conceive replicability with AI-mediated experimental conditions? A position talk
  A. Aquino, **F. A. D'Asaro**, M. Lezcano, V. Iacovella, M. Scandola and M. Vezzoli, in: *Atti del Congresso AIP Sperimentale 2024*.
- Educare all'IA. La sfida didattica dell'Intelligenza Artificiale: ChatGPT e Gemini
  M. Badino, **F. A. D'Asaro** and F. Pedrazzoli, in: *Sanoma Italia* (ISBN 9791256030019).
- An Answer Set Programming-based implementation of Epistemic Probabilistic Event Calculus

F. A. D'Asaro, A. Bikakis, L. Dickens and R. Miller, in: *International Journal of Approximate Reasoning*, doi:10.1016/j.ijar.2023.109101.

2023

- Deep Reinforcement Learning for Robotic Approaching Behavior Influenced by User Activity and Disengagement
  L. Raggioli, **F. A. D'Asaro** and S. Rossi, in: *International Journal of Social Robotics*, doi:10.1007/s12369-023-01044-7.
- An Application of a Runtime Epistemic Probabilistic Event Calculus to Decision-making in e-Health Systems
  F. A. D'Asaro, L. Raggioli, S. Malek, M. Grazioso and S. Rossi, in: *Theory and Practice of Logic Programming*, doi:10.1017/S1471068422000382.
- A Unifying Framework for Learning Argumentation Semantics
  Z. Mileva, A. Bikakis, **F. A. D'Asaro**, M. Law and A. Russo, in: *arXiv preprint arXiv:2310.12309*.
- BRIOxAlkemy: A Bias Detecting Tool
  G. Coraglia, **F. A. D'Asaro**, F. Genco, D. Giannuzzi, D. Posillipo, G. Primiero and C. Quaggio, in: *Proceedings of BEWARE-23 (AIxIA 2023)*.
- Advancing the Boundaries of Formal Argumentation: Reflections on the AI3 Special Issue
  M. D'Agostino, **F. A. D'Asaro** and C. Larese, in: *Journal of Applied Logics*.
- How do Decision Support Systems Nudge?
  F. Pedrazzoli, **F. A. D'Asaro** and M. Badino, in: *Proceedings of CEPE 2023*.

2022

- Using Inductive Logic Programming to globally approximate Neural Networks for preference learning: challenges and preliminary results
  D. Fossemò, F. Mignosi, L. Raggioli, M. Spezialetti and **F. A. D'Asaro**, in: *Proceedings of BEWARE-22 (AIxIA 2022)*.
- Proof-checking bias in labeling methods
  G. Primiero and **F. A. D'Asaro**, in: *Proceedings of BEWARE-22 (AIxIA 2022)*.
- Explainable artificial intelligence models and methods in finance and healthcare
  B. S. Caffo, **F. A. D'Asaro**, A. d'Avila Garcez and E. Raffinetti, in: *Frontiers in Artificial Intelligence*, doi:10.3389/frai.2022.970246.

2021

- Modelling Accuracy and Trustworthiness of Explaining Agents
  A. Termine, G. Primiero and **F. A. D'Asaro**, in: *Proceedings of LORI 2021*, doi:10.1007/978-3-030-88708-7_19.
- Introducing k-lingo: a k-depth bounded version of ASP system clingo
  F. A. D'Asaro, P. Baldi and G. Primiero, in: *Proceedings of KR 2021*, doi:10.24963/kr.2021/65.
- Probabilistic Typed Natural Deduction for Trustworthy Computations
  F. A. D'Asaro and G. Primiero, in: *Proceedings of the 22nd Int. Workshop on Trust in Agent Societies (TRUST 2021 @ AAMAS)*.
- Predicting humans: a sensor-based architecture for real time Intent Recognition using ProbLog
  G. D. Acciaro, **F. A. D'Asaro** and S. Rossi, in: *Proceedings of WOA 2021*.

2020

- Probabilistic Reasoning About Epistemic Action Narratives
  F. A. D'Asaro, A. Bikakis, L. Dickens and R. Miller, in: *Artificial Intelligence 287*, doi:10.1016/j.artint.2020.103352.

- Administrating Cognitive Tests Through HRI: an Application of an Automatic Scoring System Through Visual Analysis
  S. Sangiovanni, M. Spezialetti, **F. A. D'Asaro**, G. Maggi and S. Rossi, in: *Proceedings of ICSR 2020*.
- Towards an Inductive Logic Programming approach for explaining black-box preference learning systems
  F. A. D'Asaro, M. Spezialetti, L. Raggioli and S. Rossi, in: *Proceedings of KR 2020*, doi:10.24963/kr.2020/88.

2019

- Towards a Logic-Based Approach for Multi-Modal Fusion and Decision Making during Motor Rehabilitation Sessions
  F. A. D'Asaro, A. Origlia and S. Rossi, in: *Proceedings of WOA 2019*.

2017

- Computational Intelligence and Citizen Communication in the Smart City
  F. A. D'Asaro, M. A. Di Gangi, V. Perticone and M. E. Tabacchi, in: *Informatik-Spektrum 40(1)*.
- Foundations for a Probabilistic Event Calculus
  F. A. D'Asaro, A. Bikakis, L. Dickens and R. Miller, in: *Proceedings of LPNMR 2017*.

2016

- A Note on Carnap's Continuum and the Weak State Description Analogy Principle
  F. A. D'Asaro and J. B. Paris (Unpublished).

2015

- Agents Displacement in Arbitrary Geometrical Spaces: An Evolutionary Computation based Approach
  F. D'Aleo, **F. A. D'Asaro**, V. Perticone, G. Rizzo and M. E. Tabacchi, in: *Proceedings of ICAART 2015*.

2014

- L'obiezione di una Lady ed il computer che vince ai telequiz
  F. A. D'Asaro, V. Perticone and M. E. Tabacchi, in: *flessibilMENTE: un modello sistemico di approccio al tema della flessibilità, Pensa Multimedia*.

2013

- Reflections on Technology and Human Sciences: rediscovering a common thread through the analysis of a few epistemological features of fuzziness
  F. A. D'Asaro, V. Perticone, M. E. Tabacchi and S. Termini, in: *Archives for the Philosophy and History of Soft Computing(1)*.
- A fuzzy methodology to alleviate information overload in eLearning
  F. A. D'Asaro, V. Perticone and M. E. Tabacchi, in: *Proceedings of EUSFLAT 2013*.
- Technology and human sciences: a dialogue to be constructed or a common thread to be rediscovered?
  F. A. D'Asaro, V. Perticone, M. E. Tabacchi and S. Termini, in: *Proceedings of IFSA/NAFIPS 2013*.

EDITED VOLUMES

- G. Coraglia, F. A. D'Asaro, A. Dyoub, F. A. Lisi, G. Primiero (eds.). Proceedings of the 3rd Workshop on Bias, Ethical AI, Explainability and the role of Logic and Logic Programming (BEWARE 2024). CEUR-WS, Vol. 3881, 2024.
- G. Boella, F. A. D'Asaro, A. Dyoub, L. Gorrieri, F. A. Lisi, C. Manganini, G. Primiero (eds.). Proceedings of the 2nd BEWARE Workshop (BEWARE 2023). CEUR-WS, Vol. 3615, 2024.
- G. Boella, F. A. D'Asaro, A. Dyoub, G. Primiero (eds.). Proceedings of the 1st BEWARE Workshop (BEWARE 2022). CEUR-WS, Vol. 3319, 2022.

- M. D'Agostino, F. A. D'Asaro, C. Larese (eds.). Proceedings of the 5th Workshop on Advances in Argumentation in Artificial Intelligence (AI^3 2021). CEUR-WS, Vol. 3086, 2021.
- F. A. D'Asaro, M. D'Agostino, C. Larese (eds.). Special Issue "Advances in Argumentation in Artificial Intelligence". Journal of Applied Logics (IfCoLog), 10(3), 2023.
- B. S. Caffo, F. A. D'Asaro, A. d'Avila Garcez, E. Raffinetti (eds.). Research Topic "Explainable AI Models and Methods in Finance and Healthcare". Frontiers in Artificial Intelligence, 2022.
- J. Arias, R. Calegari, L. Dickens, F. A. D'Asaro et al. (eds.). Proceedings of the ICLP 2022 Workshops. CEUR-WS, 2022.
- A. D'Angelo, F. A. D'Asaro, F. Gullo, M. P. Kato, D. Mandaglio, E. Serra, F. Spezzano, G. Stilo (eds.). Preface to the WSDM 2026 Workshops Companion. ACM, 2026.

TEACHING

2022 – present Lecturer, University of Verona

- Logic and Philosophy of Science (M-FIL/02), BA in Philosophy
- Epistemology of Big Data (M-FIL/02), MSc in Data Analytics
- Computational Epistemology (M-FIL/02), MSc in Artificial Intelligence
- Logic and Philosophy of Science in Physiotherapy (M-FIL/02), BSc
- Lab of Computer Science and Multimedia Technologies (INF/01), BA in Philosophy
- Lab of Artificial Intelligence and Neuroscience, PhD in Human Sciences
- Logic Learning (Logic-Based Learning), PhD in Computer Science

2025 Lecturer, 8th Winter School in Linguistics (Verona / Free Univ. of Bolzano)

- Introduction to Machine Learning (1.5h)

2023, 2025 Lecturer, 3rd & 4th Summer School on Bayesian Statistical Analysis (Verona)

- Introduction to Bayesian Probability (3h)

2023 Lecturer, IECS Doctoral School, University of Trento

- Logic Programming and Explainable AI (20h intensive, PhD)

2021 Guest Lecturer, University of Milan (Dept. of Philosophy)

- Topics in Logic, Probability and Computation (PhD; with H. Hosni, P. Baldi)
- Trends in Machine Learning (MSc, in H. Hosni's Probability Logic)

2015 – 2023 Teaching Assistant, University College London

- INST0074 Machine Reasoning for AI (module lead on Formal Argumentation, 2022/23)
- INST0060 Foundations of Machine Learning and Data Science
- INST0019 Introduction to Programming and Scripting; INST0029; INST0004

2013 – 2014 Teaching Assistant, University of Palermo

- Theoretical Computer Science (lab demonstrator)

INVITED TALKS

Jun 2026 Invited talk, PACMAN 2026 (Proof, Argumentation, Computation, Modalities and Negation), University of Verona

Jun 2026 "Weighted Assumption-Based Argumentation" (with P. Baldi), symposium "Uncertain Reasoning and Computation", SILFS 2026 Triennial Conference, IUSS Pavia

May 2025	Learning Argumentation Semantics, PACMAN 2025, Roma Tre University
Mar 2024	Logic programming for Explainable AI, PACMAN 2024, University of Verona
Sep 2023	"Are Turing Machines Predictable Entities?", symposium on Turing's Imitation Game (with R. Gaudenzi, G. Longo, T. Numerico), SILFS 2023, University of Urbino
Jun 2023	Explainable AI applications of ILP, University of Salento
Apr 2023	Explainable AI applications of ILP, University of Lugano
Mar 2022	Probabilistic epistemic reasoning about actions, UCL, UK
Dec 2021	Explaining black-boxes using ILASP, University of Trieste
Aug 2021	"Probabilistic Reasoning About Epistemic Action Narratives", IJCAI 2021
Apr 2021	Invited demo, Lorentz Center Workshop on Explainable Medical AI
Jun 2020	Explaining black-boxes using ILASP, SPIKE Group, Imperial College London

PROJECTS

2025 – 2026 FAIR (PNRR)
Logic for ethical human-AI collaboration (eDefAI, "Symbiotic AI"). PE00000013, Spoke 6, CUP H97G22000210007.

2022 – 2024 REVO (PON)
Researcher (Verona side, partially funded): AI methods to support insurance-policy sales — handwriting recognition, entity matching, and eligibility pre-screening. Ministerial PON R&I funding (DM 1062/2021); 12-month industrial secondment at the partner company, REVO Insurance.

2022 – 2025 BRIO (PRIN)
Proponent / collaborator (Milan; then external, EThOS Verona). Formal frameworks for trust and bias. PRIN 2020, 2020SSKZ7R_001 (ERC SH4).

2018 – 2019 AVATEA (POR)
Runtime epistemic probabilistic Event Calculus for sensor fusion in rehabilitation serious games. POR Campania FESR 2014-2020, CUP B13D18000130007.

SOFTWARE

- **PEC** — Probabilistic Event Calculus — reference implementation.
- **k-lingo** — Depth-bounded (k-depth) version of the ASP solver clingo (KR 2021).
- **WABA Playground** — In-browser Weighted Assumption-Based Argumentation (clingo-wasm).
- **ArgLAS** — Learning ASP encodings of argumentation semantics with ILASP.
- **tptnd-lean** — Typed natural deduction in Lean 4 — machine-checked fairness certificates.
- **LogicBenchmarkQuestions** — Dataset of logic puzzles to benchmark LLM reasoning.

SUPERVISION AND MENTORING

- Zlatina Mileva (Imperial College London) — Outstanding Project Award; preprint on learning argumentation semantics
- Daniele Fossemò & Marco D'Aviero (L'Aquila) — ILP for XAI; open dataset and BEWARE-22 paper
- Veronica Zenatelli (Verona) — BA thesis on LLMs and the Frame Problem; benchmark dataset
- Sara Sangiovanni (Napoli Federico II) — HRI pipeline for automated test administration; ICSR 2020

- Gennaro Daniele Acciaro (Napoli Federico II) — intent recognition with ProbLog/Event Calculus; WOA 2021
- Luca Raggioli (Napoli Federico II) — deep RL for human-aware approaching; IJSR 2023
- Francesco Pedrazzoli (Verona, PhD) — ethics of recommender systems; CEPE-23

PROFESSIONAL SERVICE

- Co-organizer, eDefAI — 3rd Logic for the AI Spring Summer School, Lecce, 2025
- Workshop Chair / co-organiser, BEWARE workshops (Bias, Ethical AI, Explainability, Logic), AIxIA, 2022–2024 and 2026
- Workshop Proceedings Chair, WSDM 2026 (ACM)
- Program Committee, IJCAI 2020, 2024 and 2025
- Program Committee, KR 2022, 2023, 2024 and 2025
- Program Committee, ECAI 2023
- Program Committee, WEB&GRAPH 2026
- Co-organizer, EThOS seminar series, since 2022
- Workshop Chair, 1st ME&E (Machine Ethics and Explainability), ICLP 2021
- Workshop Chair, 5th AI^3 (Advances in Argumentation in AI), AIxIA 2021
- Co-organizer, LUCI Lab seminars (Milan, Philosophy), 2020/2021
- Review Editor, editorial boards of Frontiers in AI, Frontiers in Big Data, Frontiers in AI in Neurology
- Dissemination: regular columns on the BRIO project in The Reasoner, 2022-2024
- Public engagement: webinar "Insegnare filosofia nell'era dell'IA" (with M. Badino), "Didattica digitale della Filosofia" series, 2025

REVIEWING

- Journals: IJAR (2025), Journal of Logic and Computation (NETREASON SI), AMAI (Commonsense SI), J. Hydrologic Engineering
- Conferences: KR (2022-2025), IJCAI (2016-2019, 2024, 2025), ECAI 2023, AAAI-18, ICLP-17, ICSR-2020, SMC-19, WOA-19

RESEARCH GROUPS

- EThOS — Ethics and Technologies Of the Self, University of Verona
- LUCI — Logic, Uncertainty, Computation and Information, University of Milan
- SPIKE — Imperial College London
- KIDS — Knowledge, Information and Data Science, UCL

MEMBERSHIPS

- AILA — Associazione Italiana di Logica e sue Applicazioni
- SILFS — Società Italiana di Logica e Filosofia delle Scienze
- AIxIA — Associazione Italiana per l'Intelligenza Artificiale
- GULP — Gruppo ricercatori e Utenti di Programmazione Logica
- AISC — Associazione Italiana di Scienze Cognitive
- SISS — Società Italiana di Storia della Scienza

SKILLS

- **Logic programming:** ASP/clingo, Prolog/ProbLog, ILASP/FastLAS
- **Programming:** Python, Java, JavaScript/TypeScript, PHP, SQL, HTML/CSS; C, MATLAB; Lisp-family, Anglican

LANGUAGES

Italian — native · English — full professional proficiency

INTERESTS

Cinema · Guitar · Music · Chess