

Davide Legacci

Contact Information

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Timeline

Detailed timeline	davidelegacci.it/news
Nov. 2022 - present	Doctoral student at Laboratoire d'Informatique de Grenoble Université Grenoble Alpes , Grenoble (FR) Research: Geometry and Dynamics in Conflictual Multi-Agent Environments Supervisors: Panayotis Mertikopoulos , Bary S. R. Pradel
Aug. - Sept. 2023	Visiting period at Simons Laufer Mathematical Sciences Institute University of California, Berkeley, California Workshop: Mathematics and Computer Science of Market and Mechanism Design
Feb. 2022 - Aug. 2022	Digital Content Specialist - Mathematics StudySmarter , Munich (DE)
Sep. 2020 - Mar. 2022	Research assistant at STRUCTURES Excellence Cluster Ruprecht-Karls-Universität Heidelberg , Heidelberg (DE) Research: Poisson Geometry of Riemannian Game Dynamics Supervisors: Gabriele Benedetti , Peter Albers
2017 - 2020	Master of Science in Physics Ruprecht-Karls-Universität Heidelberg , Heidelberg (DE) Thesis: Poisson geometry in Evolutionary Game Theory Supervisors: Kurt Roth , Gabriele Benedetti Grade: 1.1 (Highest grade: 1; Pass: 4)
2012 - 2016	Bachelor of Science in Astronomy University of Padova , Padova (IT) Thesis: Quantum Vacuum Supervisor: Armando-Francesco Borghesani Grade: 110 cum laude (Highest grade: 110 cum laude; Pass: 66)

Publications

- 2026 | “*Adapting to Conflict: Equilibrium Structure and Adaptive Learning in Harmonic Games*”
Submitted
D. Legacci, P. Mertikopoulos, B. Pradelski
- 2026 | “*The Geometry of Conflict: Cycles of Regularized Learning in Continuous Games*”
Submitted
D. Legacci, P. Mertikopoulos, B. Pradelski
- 2025 | “*The impact of uncertainty on regularized learning in games*”
ICML 2025 - 42nd International Conference on Machine Learning
P.L. Cauvin, D. Legacci, P. Mertikopoulos
- 2025 | “*Characterizing the Convergence of Game Dynamics via Potentialness*”
Published in *Transactions on Machine Learning Research* (03/2025)
M. Bichler, D. Legacci, P. Mertikopoulos, M. Oberlechner, B. Pradelski
- 2024 | “*No-regret Learning in Harmonic Games: Extrapolation in the Face of Conflicting Interests*”
Spotlight at NeurIPS 2024 - 38th Conference on Neural Information Processing Systems
D. Legacci, P. Mertikopoulos, C. H. Papadimitriou, G. Piliouras, B. Pradelski
- 2024 | “*A Geometric Decomposition of Finite Games: Convergence vs. Recurrence under Exponential Weights*”
Spotlight at ICML 2024 - 41st International Conference on Machine Learning
D. Legacci, P. Mertikopoulos, B. Pradelski

Selected talks and presentations

- Apr. 2026 | **Statlearn 2026**
Université Grenoble Alpes
Adapting to Conflict: Equilibrium Structure and Adaptive Learning in Harmonic Games
- Mar. 2026 | **Journées SMAI-MODE 2026**
Nice, France
The Geometry of Conflict: Cycles of Regularized Learning in Continuous Games
- Oct. 2025 | **30 Years of Game Theory**
Institut Henri Poincaré
Continuous Games: Convergence vs. Recurrence under Dual Averaging
- Jun. 2025 | **Games and Artificial Intelligence Multidisciplinary Summer School**
Université Toulouse Capitole
A Geometric Decomposition of Continuous Games
- Oct. 2024 | **CJC-MA, Lyon**
Société de Mathématiques Appliquées et Industrielles
Learning in Games with Conflicting Interests
- Jun. 2024 | **Workshop on Learning in Games**
Institut de Mathématiques de Toulouse
Regularized Learning in Harmonic Games
- Jun. 2024 | **Games and Artificial Intelligence Multidisciplinary Summer School**

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| | Université de Lorraine
<i>Regularized Learning in Harmonic Games</i> |
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| Jun. 2024 | POLARIS Seminar
Université Grenoble Alpes
<i>Learning in Games with Conflicting Interests</i> |
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| May. 2024 | Your thesis in 180 seconds – 2nd place
Université Grenoble Alpes
<i>Learning with Extrapolation in Cyclic Games</i> |
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| Oct. 2023 | Mathematics and Computer Science of Market and Mechanism Design
University of California
<i>Recurrence vs Convergence: A Geometric Approach to Learning in Games</i> |
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| Jun. 2023 | Alpine Game Theory Symposium
Université Grenoble Alpes
<i>The Geometry of Game Dynamics</i> |
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| Feb. 2023 | POLARIS Seminar
Université Grenoble Alpes
<i>Hodge Decomposition for Normal Form Games</i> |
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| Jun. 2021 | Symplectic Geometry Seminar
Ruprecht-Karls-Universität Heidelberg
<i>A Dichotomy for the Generalized Hamiltonian Lotka-Volterra System</i> |
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| Mar. 2021 | RTG 2229 Seminar
Ruprecht-Karls-Universität Heidelberg
<i>Leau-Fatou Flower Theorem</i> |
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| Dec. 2020 | Symplectic Geometry Seminar
Ruprecht-Karls-Universität Heidelberg
<i>From Normal Form Games to Hamiltonian Evolutionary Dynamics</i> |
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| Nov. 2020 | STRUCTURES Jour Fixe
Ruprecht-Karls-Universität Heidelberg
<i>Zero-sum Evolutionary Games and Convex Hamiltonian Systems</i> |
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Awards

- 2026 | [Best poster](#) award at [SMAI-MODE 2026](#)
- 2025 | Top reviewer at [NeurIPS 2025](#)
- 2025 | Best poster award at [GAIMSS 2025 — ACM Europe School](#)
- 2024 | NeurIPS 2024 [spotlight poster](#) — top 2.5% of all submissions
- 2024 | ICML 2024 [spotlight poster](#) — top 3.5% of all submissions
- 2024 | LIG “Your Thesis in 180 seconds” competition — [second prize](#)

Teaching

W.T. 2025-2026	T.D. for the lecture Probabilités et simulation Grenoble INP - UGA
W.T. 2024-2025	T.D. for the lecture Probabilités et simulation Grenoble INP - UGA
S.T. 2021	T.A. for the lecture Differential Geometry 1 Ruprecht-Karls-Universität Heidelberg
S.T. 2021	T.A. for the seminar Geometric Quantization Ruprecht-Karls-Universität Heidelberg
S.T. 2019	T.A. for the lecture General Relativity Ruprecht-Karls-Universität Heidelberg

Affiliations

Dec. 2025 - present	Member of GHOST - Joint research project INRIA and CNRS, Grenoble INP, UGA
Nov. 2022 - Dec. 2025	Member of POLARIS - Joint research project INRIA and CNRS, Grenoble INP, UGA
Sep. 2020 - Mar. 2022	Young Researcher in the Heidelberg STRUCTURES Excellence Cluster
Sep. 2020 - Mar. 2022	Member of the Research Station <i>Geometry & Dynamics</i>
Sep. 2020 - Mar. 2022	Member of the RTG 2229 "Asymptotic Invariants and Limits of Groups and Space"