

# Ángel Javier Alonso Hernández

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## EMPLOYMENT

2026- Assistant Professor on Tenure Track, Dept. of Quantitative Methods, CUNEF Universidad

2021-2025 University project assistant, TU Graz

2017-2020 Software engineer, Telefónica

## EDUCATION

2021-2025 Ph.D. in Mathematics, Graz University of Technology

2020-2021 M.Sc. in Mathematics, Universidad Autónoma de Madrid

2017-2019 M.Sc. in Statistical and Computational Information Processing, Universidad Complutense de Madrid and Universidad Politécnica de Madrid

2012-2017 B.Sc. in Mathematics and B.Sc. in Computer Science, Universidad Complutense de Madrid

## FIELDS OF INTEREST

Topological Data Analysis, Computational Geometry, Algebraic Topology

## PUBLICATIONS

Ángel Javier Alonso. "A Sparse Multicover Bifiltration of Linear Size." *41st International Symposium on Computational Geometry (SoCG 2025)*, 6:1-6:18, 2025

Ángel Javier Alonso, and Federico Cantero-Morán. 2024. "On the Scanning Map and the Space of Smooth Complex Projective Hypersurfaces." *The Quarterly Journal of Mathematics* 75 (4): 1507–27, 2024

Ángel Javier Alonso, and Michael Kerber. “Decomposition of Zero-Dimensional Persistence Modules via Rooted Subsets.” *Discrete & Computational Geometry*, ahead of print, 2024

Ángel Javier Alonso, Michael Kerber, and Primož Skraba. “Probabilistic Analysis of Multiparameter Persistence Decompositions into Intervals.” *40th International Symposium on Computational Geometry (SoCG 2024)*, 6:1-6:19, 2024

Ángel Javier Alonso, Michael Kerber, Tung Lam, and Michael Lesnick. “Delaunay Bifiltrations of Functions on Point Clouds.” *2024 Annual ACM-SIAM Symposium on Discrete Algorithms (SODA24)*, 4872–91, 2024

Ángel Javier Alonso, and Michael Kerber. “Decomposition of Zero-Dimensional Persistence Modules via Rooted Subsets.” *39th International Symposium on Computational Geometry (SoCG 2023)*, 7:1-7:16, 2023

Ángel Javier Alonso, Michael Kerber, and Siddharth Pritam. “Filtration-Domination in Bifiltered Graphs.” *2023 Symposium on Algorithm Engineering and Experiments (ALENEX 2023)*, 27–38, 2023

## **SELECTED ACADEMIC HONOURS AND GRANTS**

Best student paper award at 41st International Symposium on Computational Geometry (SoCG 2025)

## **SELECTED PRESENTATIONS**

International Symposium on Computational Geometry (2023, 2025), 2024 Annual ACM-SIAM Symposium on Discrete Algorithms, 2023 Symposium on Algorithm Engineering and Experiments, TDA Week 2025 at Kyoto University

## **PROFESSIONAL ACTIVITIES**

Reviewer for: Journal of Applied and Computational Topology, Foundations of Data Science, International Symposium on Computational Geometry (2022, 2025)

Co-organizer of ComPer2024 Computational Persistence Workshop in Graz