

Diego Mondéjar

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EMPLOYMENT

- Assistant Professor on Tenure Track, Dept. of Mathematics, CUNEF Universidad, since Sep. 2023.
- Assistant Professor, Quantitative Methods Department, CUNEF Universidad, Sep. 2022 – Aug. 2023.
- Assistant Professor, Universidad CEU San Pablo, Sep. 2017 – Aug. 2022.
- Assistant Professor, Universidad Internacional Isabel I de Castilla, Feb. 2016 – Aug. 2017.
- Assistant Professor, Universidad Nacional de Educación a Distancia, Mar. 2009 – Feb. 2010.

EDUCATION

- Ph.D. in *Mathematics*, Universidad Complutense de Madrid, 2015.
- Master's Degree in *Mathematical Research*, Universidad Complutense de Madrid, 2008.
- Degree in *Mathematics*, Universidad Complutense de Madrid, 2007.

FIELDS OF INTEREST

Computational Topology and Topological Data Analysis.

PUBLICATIONS

- Mondéjar, Diego: “On a finite type multivalued shape”, *Topology and its Applications*, 334 (108553), 2023.
- Chocano, Pedro José; Mondéjar Ruiz, Diego; Morón, Manuel Alonso; Ruiz del Portal, Francisco R: “On the triviality of flows in Alexandroff spaces”, *Topology and its Applications*, 339 (108580), 2023.
- Mondéjar, Diego: “Polyhedral expansions of compacta associated to finite approximations”, *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales*.

Serie A. Matemáticas, 116(3), 99, 2022.

- Mondéjar Ruiz, Diego; Morón, Manuel A: "Reconstruction of metric compacta by finite approximations and inverse persistence", *Revista Matemática Complutense*, 34(2), 559-584, 2020.

- Zamora Saiz, Alfonso; Quesada González, Carlos; Hurtado Gil, Lluís, Mondéjar Ruiz, Diego: *An introduction to data analysis in R: hands-on coding, data mining, visualization and statistics from scratch*, Springer, 2020.

- Mondéjar Ruiz, Diego: "Unraveling the Dogbone Space", in *A mathematical tribute to Professor José María Montesinos Amilibia*, Departamento de Geometría y Topología UCM, 2016.

WORKING PAPERS

- Mondéjar, Diego: *A universal space for finite topological spaces*, arXiv:2111.04832.

- Mondéjar, Diego: *Finite approximations of countable metric and ultrametric compacta*, arXiv:2412.14325.

- Mondéjar, Diego: *Hausdorff reflection preserves shape*, arXiv:2412.06942.

SELECTED ACADEMIC HONOURS AND GRANTS

- CEU Ángel Herrera award for *Iniciativa interna para la mejora de gestión y los servicios* Universidad CEU San Pablo, 2021.

- CEU Ángel Herrera award for *Mejor labor docente teniendo en cuenta la valoración del alumnado en las Universidades*, Universidad CEU San Pablo, 2019.

- FPI doctoral grant at Universidad Complutense de Madrid, Ministerio de Ciencia, Spain, 2010 – 2014, with two research mobility grants, 2012 and 2013.

SELECTED PRESENTATIONS

CONFERENCES

Universality for finite topological spaces (Applied Topology in Poznan, 2025), *A universal hyperspace of posets* (International Conference in Topology and its Applications, Nafpaktos, 2023), *Finite approximations of compact metric spaces*, (General Topology Symposium, Japan, online, 2022).

SEMINARS

Approximation of compact metric spaces by finite samples (AATRN Vietoris-Rips Seminar, online, 2022), *Persistencia inversa para espacios métricos compactos* (Seminario de investigación Antonio Giraldo y Sonia Sastre, Universidad Politécnica de Madrid, 2022).

PROFESSIONAL ACTIVITIES

Co-founder and Data Scientist of *DataLab Soluciones Matemáticas*, March 2018 - October 2020.