

## EDUCATION

- 2015, Ph.D. in Mathematics, *Hyperspaces, Shape Theory and Computational Topology*, supervised by professor Manuel Alonso Morón, Universidad Complutense de Madrid.
- 2008, Master's Degree in Mathematics Research, with final project *3-variedades y cubiertas ramificadas*, supervised by professor José María Montesinos Amilibia, Universidad Complutense de Madrid.
- 2007, Certificate of Pedagogical Aptitude (CAP), Universidad Complutense de Madrid.
- 2007, Degree in Mathematics, Universidad Complutense de Madrid.

## POSITIONS

- November 2020 - **present**, Organizer of the Mathematics Seminar of the *Mathematics and Applied Statistics Department*, Facultad CC.EE. y EE., Universidad CEU San Pablo, Madrid.
- January 2020 - **present**, *Digital Ambassador*, Facultad CC.EE. y EE., Universidad CEU San Pablo, Madrid.
- November 2019 - **present**, Secretary of the *Mathematics and Applied Statistics Department*, Facultad CC.EE. y EE., Universidad CEU San Pablo, Madrid.
- July 2018 - **present**, Responsible of the *Inference and Advanced Statistics Teaching Unit*, Facultad CC.EE. y EE., Universidad CEU San Pablo, Madrid.
- September 2017 - **present**, Full time Professor, teaching, researching and collaborator of the admission process, Facultad CC.EE. y EE., Universidad CEU San Pablo, Madrid.
- March 2018 - October 2020, Co-Founder of DataLab Soluciones Matemáticas.
- February 2016 - August 2017, Full time Professor, Universidad Internacional Isabel I de Castilla, Burgos.
- September 2012 - December 2012, Visiting Student Researcher, Stanford University, California, USA.
- March 2009 - February 2010, Adjoint Professor, Universidad Nacional de Educación a Distancia, Madrid.

## LANGUAGES

Spanish (native), English (fluent).

## PROGRAMMING

R, Python, Matlab,  $\text{\LaTeX}$ , OxMetrics, Gretl, SPSS, EViews, Excel.

## PUBLICATIONS

- P.J. Chocano, D. Mondéjar Ruiz, M.A. Morón, F.R. Ruiz del Portal, *On the triviality of flows in Alexandroff spaces*, accepted for publication in *Topology and its Applications* on march 2022.
- D. Mondéjar, *Polyhedral expansions of compacta associated to finite approximations*, *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas*, 2022.
- P.M. Berná and D. Mondéjar, *A Functional Characterization of Almost Greedy and Partially Greedy Bases in Banach Spaces*, *Mathematics*, 2021.
- A. Zamora Saiz, C. Quesada González, L. Hurtado Gil and D. Mondéjar Ruiz. *An Introduction to Data Analysis in R. Hands-on Coding, Data Mining, Visualization and Statistics from Scratch*, Springer, 2020.
- D. Mondéjar Ruiz, M. A. Morón, *Reconstruction of metric compacta by finite approximations and inverse persistence*. *Revista Matemática Complutense*, 2020.
- D. Mondéjar Ruiz, *Unraveling the Dogbone Space*. A mathematical tribute to Professor José María Montesinos Amilibia, Departamento de Geometría y Topología UCM, Madrid, 499-513, 2016.

## PREPRINTS

- D. Mondéjar, *Universal Alexandroff hyperspaces*, under review.
- D. Mondéjar, *Shape of Hausdorff reflections*, preprint.
- D. Mondéjar, *Topological finite approximations of countable and ultrametric spaces*, preprint.

## TEACHING EXPERIENCE

- 2018 - **present**, Professor of *Banca Digital y Big Data en Finanzas* in *Master en Banca y Mercados Financieros*, Universidad de Cantabria - Banco Santander, Santander.
- 2017 - **present**, teaching Predictive and Inductive Statistics, Natural Language Processing, Econometrics, Computer Science, Statistics, Mathematics, Big Data and Data Mining (Spanish and English), Universidad CEU San Pablo, Madrid.
- February 2016 - February 2017, Advisor of 20 Master's Thesis in Mathematics Education, Universidad Isabel I de Castilla, Burgos.
- September 2016 - December 2016, Criptography and Criptanalysis. Universidad Isabel I de Castilla, Burgos.
- February 2013 - June 2014, Linear Algebra, Universidad Complutense de Madrid.
- March 2009 - February 2010, Linear Algebra, Universidad Nacional de Educación a Distancia, Madrid.
- May 2007 - July 2007, Virtualization of Mathematics for Biologists, Universidad de Alcalá de Henares, Madrid.

## GRANTS, FELLOWSHIPS AND AWARDS

- January 2021, CEU Ángel Herrera award for *Iniciativa interna para la mejora de gestión y los servicios* with the proposal *Embajadores, IT, y transformación digital unidos al servicio del CEU durante la pandemia*, Universidad CEU San Pablo, Madrid.
- January 2019, CEU Ángel Herrera award for *Mejor labor docente teniendo en cuenta la valoración del alumnado en las Universidades*, Universidad CEU San Pablo, Madrid.
- 2010 - 2014, FPI doctoral grant at UCM, Ministerio de Ciencia, Spain.
- 2012 and 2013, Research Mobility Grant, Ministerio de Ciencia, Spain.

## RESEARCH STAYS

- 2013, University of Pennsylvania, Pennsylvania, under the supervision of professor Robert Ghrist, USA (4 months).
- 2012, Stanford University, California, under the supervision of professor Gunnar Carlsson, USA (4 months).

## TALKS, CONFERENCES AND SEMINARS

- 2022, *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.
- 2018, *Jugando al Blockchain. La perspectiva del Blockchain desde la Teoría de Juegos*. XVIII Semana de la Ciencia, Universidad San Pablo CEU, Madrid.
- 2017, *La forma de los datos. Una perspectiva geométrica del Big Data..* Seminario Internacional de Estadística para las ciencias sociales. Entorno R, Universidad Rey Juan Carlos, Madrid.
- 2015, *Reconstructing compact metric spaces*. Congreso de Jóvenes Investigadores de la Real Sociedad Matemática Española, Murcia.
- 2015, *Embeddings in hyperspaces*. Spanish Young Topologists Meeting, Universidad Complutense de Madrid.
- 2015, *Čech homology from finite approximations*. Homology: Theoretical and Computational Aspects, Genoa, Italy.
- 2015, *Shape approximations of compacta*. XX1st Oporto Meeting on Geometry, Topology and Physics: Applications of Topology, Lisbon, Portugal.
- 2014, *Shape approximations of compact metric spaces*. 3rd Spanish Young Topologists Meeting, Santiago de Compostela.
- 2013, *Topics in Shape Theory*. Geometry and Topology seminar, University of Pennsylvania, USA.
- 2012, *Shape Theory and Computational topology*. Computational Topology (CompTop), Stanford University, California, USA.
- 2012, *Shape Theory II: Homology*. Seminario de doctorandos UCM, Universidad Complutense de Madrid.
- 2008, *Branched coverings and 3-manifolds*. Workshop de Jóvenes Investigadores, Universidad Complutense de Madrid.

## PARTICIPATION IN RESEARCH GRANTS

- 2019 - **present**, *Combinatoria y dinámica: aspectos geométricos y topológicos en variedades*, Ministerio de Ciencia, Innovación y Universidades, Government of Spain.
- 2010 - 2014, *Topología Geométrica, Topología en Dimensión Baja y Dinámica Topológica*, Ministerio de Ciencia e Innovación and Ministerio de Economía y Competitividad, Government of Spain.

## MEMBERSHIP

- 2021 - **present**, *Association for Mathematical Research*.
- 2015 - **present**, *Applied Algebraic Topology Network*.
- 2011 - **present**, *Red Española de Topología*.
- 2005 - **present**, *Real Sociedad Matemática Española*.
- 2017 - 2021, *Asociación Española de Profesores Universitarios de Matemáticas para la economía y la empresa*.
- 2006 - 2016, *Instituto de Matemática Interdisciplinar*.