JOSÉ LUIS CARMONA JIMÉNEZ

\sim Ph.D. in Mathematics

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SUMMARY

I hold a Ph.D. in Mathematics with a specialization in general homogeneous spaces, which involves a Lie group acting transitively on a manifold. In my published papers, I have explored transitive actions in various contexts, utilizing a range of techniques. These findings have been published in highly regarded journals within the field.

Additionally, I have had the opportunity to undertake two research stays, one in Santiago de Compostela (Spain) and another in Marburg (Germany). During these stays, I collaborated with esteemed professors such as J.C. Díaz-Ramos and I. Agricola, whose contributions to our research area are invaluable. I was privileged to work alongside their outstanding research groups.

Currently, I am engaged in a postdoctoral research position at the Simion Stoilow Institute of Mathematics of the Romanian Academy in Bucharest. Here, I continue my work in homogeneous spaces and collaborate closely with professors S. Moroianu and A. Moroianu. I am eager to explore new avenues of research and foster potential collaborations in the future.

RESEARCH INTEREST: -

Due to their elegance and the insights they offer into the interaction between symmetry and geometry, I am interested in group and pseudo-group actions. In particular, I am specialized in transitive actions, that is, the manifold is homogeneous or locally homogeneous. My general goal is to describe the insights of group actions preserving tensor structures through the study of solutions of a system of covariant derivatives.

WORK EXPERIENCE				
From: Sep-2024	Postdoctoral Researcher in the Simion Stoilow Institute IMAR This Postdoctoral position is supported by the PNRR-III-C9-2023-I8 grant CF 149/31.07.2023 Conformal Aspects of Geometry and Dynamics in Bucharest.			
From: Sep-2022 To: Aug-2024	Teacher in a High School Permanent position.			
From: Oct-2020 To: Aug-2022	Predoctoral Researcher in differential geometry FPI predoctoral fellow at the group of research <i>Geometrical, topological and sociated with dynamical systems.</i> . Principal researcher: Marco Castrillón Lóp	University Complutense of Madrid d combinatorial structures as- bez.		
From: Jul-2020 To: Sep-2020	Researcher in differential geometry Institu Researcher grant in ICMAT (CSIC) associated with the research group ALGEE was to research in Differential Geometry, Symplectic Geometry and Geometric	ito de Ciencias Matemáticas (ICMAT) BRA AND GEOMETRY. The aim c Mechanics.		
EDUCATION -				
2018 - 2024	Ph.D. in Mathematics Ph.D. Thesis: "Homogeneous descriptions and families of homogeneous strubra, Geometry and Topology. Advisor: Marco Castrillón López	University Complutense of Madrid uctures" Department of Alge-		
2018 - 2019	Master in Mathematics Teaching	University of Granada		
2017 - 2018	Master in Advanced Mathematics GPA: 9.58/10. Dissertation: " <i>The Ambrose-Singer Theorem</i> " Tutor: Marco Castrillón López.	University Complutense of Madrid		
2013 - 2017	Degree in Mathematics GPA: 9.17/10.	University of Málaga		
PUBLICATIONS				

ACCEPTED:

jcarmona@imar.roBucharest, Romania

Dec-2022	Carmona Jiménez, J.L., Castrillón López, M. DOI: 10.1007/s00009-022-02197-x The Ambrose–Singer Theorem for General Homogeneous Manifolds with Applications to Sym- plectic Geometry. Mediterr. J. Math. 19, 280 (2022). Ranking: Q2. Índice de impacto: 1.1.
Sep-2022	Carmona Jiménez, J.L., Castrillón López, M. DOI: 10.1007/s10455-022-09852-2 The homogeneous holonomies of complex hyperbolic space. Ann. Glob. Anal. Geom. 62, 391–411 (2022). Ranking: Q2. Índice de impacto: 0.7.
Aug-2020	Carmona Jiménez J.L., Castrillón López M. DOI: 10.3390/axioms9030094 Reduction of Homogeneous Pseudo-Kähler Structures by One-Dimensional Fibers. Axioms. 9(3):94 (2020). Ranking: JCR - Q2 (Mathematics, Applied) Índice de impacto: 2.0
PREPRINT:	
Dec-2023	Carmona Jiménez, J.L., Castrillón López, M., Díaz Ramos, J.C. DOI: arXiv:2312.16934 The Ambrose–Singer Theorem for cohomogeneity one Riemannian manifolds.
TEACHING EXP	
UNIVERSITY:	
2021/2022	Linear algebra, 1st year, 30 hoursFaculty of MathematicsTeaching to students in the degree in Mathematics (UCM)Faculty of Mathematics
2021/2022	Linear algebra, 1st year, 15 hoursFaculty of InformaticsTeaching to students in the degree in Mathematics (UCM)Faculty of Informatics
2021/2022	Linear algebra, 1st year, 30 hoursFaculty of MathematicsTeaching to students in the degree in Mathematics (UCM)Faculty of Mathematics
2020/2021	Linear algebra, 1st year, 30 hoursFaculty of MathematicsTeaching to students in the degree in Mathematics (UCM)Faculty of Mathematics
SEMINAR COUF	RSE:
2020/2021	The Ambrose-Singer Theorem, 10 hoursUniversity of Santiago de CompostellaThe Seminar course occurs during my stay at Faculty of Mathematics in Santiago de Compostella.
HIGH SCHOOL:	
2023/2024	Mathematics at High SchoolI.E.S. Las LagunasTeaching to students in I.E.S. Las Lagunas in Mijas, Spain.
2022/2023	Mathematics at High SchoolI.E.S. Mar de AlboránTeaching to students in I.E.S. Mar de Alborán in Estepona, Spain.
RESEARCH STA	Υ
From: 1st-May-2022 To: 31th-Jul-2022	University of Marburg // Philipps-Universität Marburg Germany Research stay with the Prof. Dr. habil. Ilka Agricola at the Faculty of Mathematics and Informatics
From: 20th-Sep-2021 To: 20th-Dec-2021	University of Santiago de Compostela spain Research stay with Profesor Catedrático José Carlos Díaz Ramos at the department of Geom- etry and Topology
RESEARCH GRO	DUPS

2022 - Current	Geometrical, topological and combinatorial structures associated with dynamical systems (PID2021-126124NB-IOO) My contribution: Participant. Principal researcher: Marco Castrillón López and Luis Giraldo. Funding entity: Ministry of Science and Innovation. Start-end date: 01/09/2022 - 31/08/2025. Funding amount: €108,900.00.
2020	Algebra and geometry: Differential Geometry, Symplectic Geometry and Geometric Me- chanics (20205- CEX001) I was a participant during my research contract at ICMAT.
2019 - 2022	Combinatorics and dynamics: geometric and topological aspects in manifolds (PGC2018- 098321-B-100) Contribution: Participant. PIs: Marco Castrillón López and Luis Giraldo. Funding entity: Ministry of Science and Innovation. Start-end date: 01/01/2019 - 31/12/2021. Funding amount: €68,002.00.
FELLOWSHIPS	
2019-2022	FPI predoctoral fellowship at University Complutense of Madrid
	Funding entity: Ministry of Science and Innovation, Spain. Start-end date: 01/10/2020 - 31/08/2022. Department: Álgebra, Geometry and Topology.

Group of research: Geometrical, topological and combinatorial structures associated with

Research fellowship to collaborate with a department during the Master in Mathematics

Department: Department of Álgebra, Geometry and Topology at University Complutense of

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CONFERENCE PARTICIPATION

Madrid.

2017-2018

dynamical systems.

Principal researcher: Marco Castrillón López.

Start-end date: 06/11/2017 - 06/07/2018.

Advisor: Marco Castrillón López.

Funding entity: Ministry of Science and Innovation, Spain.

Aug-2022	Conference Differential Geometry and its Applications University of Hradec Králové. Talk: <i>The Ambrose-Singer Theorem for symplectic geometry</i> .	DGA-22
Oct-2021	Symmetry and Shape II University of Santiago de Compostela. Talk: <i>On reductive locally homogeneous Fedosov manifolds.</i>	USC
Aug-2021	Online Summer School on Geometry and Topology University of Hradec Králové. Talk: <i>Fedosov Homogeneous Structures</i> .	
Dec-2020	Third BYMAT conference: Bringing Young Mathematicians Togother Instituto de ciencias matemáticas (ICMAT). Talk: <i>The Ambrose- Singer Theorem for general homogeneous manifolds with applications to</i> <i>plectic geometry.</i>	ICMAT Э sym-
Oct-2019	Symmetry and Shape I University of Santiago de Compostela. Poster: <i>Characterization of simply-connected homogeneous spaces with geometric structu</i>	usc ures.

Sep-2019	Conference Differential Geometry and its Applications University of Hradec Králové.	DGA-19
	Poster: A generalization of Ambrose-Singer Theorem.	
Jul-2019	13th ICMAT International Summer Shool on Geometry, Mechanics and Control Instituto de ciencias matemáticas (ICMAT), Madrid. Talk: <i>Locally homogeneous Riemannian spaces</i> .	ICMAT
May-2019	Second BYMAT conference: Bringing Young Mathematicians Togother Instituto de ciencias matemáticas (ICMAT), Madrid. Attendee.	ICMAT
Jul-2018	12th ICMAT International Summer Shool on Geometry, Mechanics and Control Instituto de ciencias matemáticas (ICMAT), Madrid. Attendee.	ICMAT
SHORT TALKS		
Jul-2023	Divulgation talk at VII Ph.D.ay Mathematics Talk in Spanish at University Complutense of Madrid Title: <i>Teselaciones y espacios homogéneos</i> . Title in English: <i>Tessellations and homogeneous spaces</i> .	
Apr-2023	Round table about professional outings in Mathematics Participant of the round table talking about my personal experience. Title: Mesa Redonda de la IV Jornada sobre Salidas Profesionales de las Matemáticas. Title in English: Round Table of the IV Conference on Career Opportunities in Mathematics	
Apr-2022	Interesting seminar of Geometry and Topology (UMA) Talk in English for the department of Geometry and Topology at University of Málaga. Title: <i>The Ambrose-Singer Theorem</i> .	
Jun-2021	Divulgation talk at V Ph.D.ay Mathematics Talk in Spanish at University Complutense of Madrid Title: <i>Las geometrías homogéneas del espacio hiperbólico complejo.</i> Title in English: <i>The Homogeneous Geometries of Complex Hyperbolic Space</i>	
Nov-2021	Divulgation Seminar at University of Santiago de Compostela Talk in Spanish. Title: <i>Teselaciones y Espacios homogéneos.</i> Title in Engish: <i>Tessellations and homogeneous spaces</i> .	
Jul-2019	Divulgation talk at III Ph.D.ay Mathematics Talk in Spanish at University Complutense of Madrid Title: <i>El teorema de Ambrose-Singer. Un puente entre el Álgebra, la Geometría y el Análisis.</i> Title in English: <i>The Ambrose-Singer Theorem: A Bridge between Algebra, Geometry, and Analysis.</i>	
LANGUAGES		

English - C1. Spanish - native