Diego Artacho

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Summary

I am a postdoctoral researcher at the Geometry group of KU Leuven. I am primarily interested in the different ways in which special spinors encode geometric properties of manifolds. I am also passionate about teaching.

Experience

KU Leuven Leuven, Belgium
Postdoctoral researcher November 2025 – present
Research area: Differential Geometry

Education

Imperial College London London, UK
PhD in Mathematics October 2021 – October 2025
Research area: Differential Geometry

University of Cambridge Cambridge, UK
MASt in Mathematics (Part III) September 2020 – June 2021

Autonomous University of Barcelona Barcelona, Spain
Bachelor's Degree in Mathematics September 2015 – June 2020

Autonomous University of Barcelona Barcelona, Spain
Bachelor's Degree in Physics September 2015 – June 2020

Scholarships

Roth Scholarship –from the Department of Mathematics at Imperial College London 2021
EPSRC Scholarship EP/W523872 –funding my doctoral studies 2021

Publications

Killing Mean Curvature Solitons from Riemannian Submersions
with Marie-Amélie Lawn and Miguel Ortega.
Journal of Mathematical Analysis and Applications, 2025. Available here.

Invariant Spinors on Flag Manifolds
with Uwe Semmelmann.
International Journal of Mathematics, 2025. Available here.

The Geometry of Generalised Spin^r Spinors on Projective Spaces
with Jordan Hofmann.
Symmetry, Integrability and Geometry: Methods and Applications (SIGMA), 2025. Available here.

Generalised Killing Spinors on Three-Dimensional Lie Groups
Manuscripta Mathematica, 2025 Available here.

Generalised Spin^r Structures on Homogeneous Spaces
with Marie-Amélie Lawn.
Differential Geometry and its Applications, 2025. Available here.

New Examples of Translating Solitons in Generalised Robertson-Walker Geometries
with Marie-Amélie Lawn and Miguel Ortega.
To appear in the Asian Journal of Mathematics, 2025. Available here.

Research stays

Research stay at the University of Granada September 2024
Collaboration with Miguel Ortega, developing new methods for the study of mean curvature flow solitons using Riemannian submersions.

Research stay at Phillips Universität Marburg November 2023
Collaboration with Ilka Agricola, initiating a project on special contact metric structures.

Research stay at the University of Granada September 2022
Collaboration with Miguel Ortega, studying mean curvature flow on generalised Robertson–Walker spacetimes.

Undergraduate research stay at the Autonomous University of Barcelona 2017
I studied some aspects of non-commutative algebra under the supervision of Francesc Perera.

Research stay at the Institute for High Energy Physics of Barcelona (IFAE) July 2016

Teaching

Associate Fellowship of the Higher Education Academy June 2024 – Present
Official recognition of my teaching abilities and experience.

Supervision of undergraduate research project December 2024 – May 2025
Supervision of a second-year undergraduate from the University of Bristol, working on Killing spinors with respect to the canonical connection on a homogeneous space.

Senior Graduate Teaching Assistant at Imperial College October 2022 – October 2025
Courses: Introduction to University Mathematics, Linear Algebra and Groups.
Among my duties are marking, checking academic materials, coordinating the teaching task of my fellow teaching assistants, monitoring problem sessions and demonstrating at the whiteboard.

Graduate Teaching Assistant at Imperial College October 2021 – October 2025
Courses: Introduction to University Mathematics, Linear Algebra and Groups, Analysis I, Analysis II, Measure Theory, Lebesgue Measure and Integration, Groups and Rings.

Undergraduate Teaching Assistant at the Autonomous University of Barcelona 2018
Courses: Linear Algebra.
I monitored some problem-solving sessions for first-year undergraduate students.

Talks

Generalised Spin Structures September 2025
Differential Geometry and its Applications. Brno, Czech Republic.
Link to event site.

Generalised Spin Structures July 2025
Workshop on Even and Odd Dimensional Geometric Structures. Bari, Italy.
Link to event site.

A Generalisation of Spin Structures May 2025
Seminari de Topologia de la UB. Barcelona, Spain.
Link to event site.

Quaternion-Kähler Manifolds February 2025
Quaternion-Kähler manifolds and the LeBrun-Salamon Conjecture. The third Marburger Arbeitsgemeinschaft Mathematik (MAM III). Marburg, Germany.
Link to event site.

Spin Geometry and Generalisations November 2024
Seminari de Geometria de la UAB. Barcelona, Spain.
Link to event site.

Characteristic Classes on Homogeneous Spaces June 2024
Spin Geometry Working Group. London, UK.

What is Spin Geometry? January 2024
KCL/UCL Junior Geometry Seminar. London, UK.
Link to seminar site.

Twisted Spin Structures November 2023
Forschungsseminar Differentialgeometrie und Analysis. Marburg, Germany.
Link to seminar site.

Invariant Twisted Spinors on Homogeneous Spaces October 2023
The Crazy World of Arthur L. Besse. A workshop on Einstein manifolds. Stuttgart, Germany.
Link to event site.

Generalised Spin^r Structures on Homogeneous Spaces May 2023
BIRS Workshop: Spinorial and Octonionic Aspects of G_2 and Spin(7) Geometry. Banff, Canada.
Link to event site. Recorded talk.

Tauberian Operators on Banach Spaces March 2020
Red de Análisis Funcional y Aplicaciones: X Workshop on Functional Analysis in Tenerife, Spain.
Link to event site.

Referees

Prof. Dr. Uwe Semmelmann uwe.semmelmann@mathematik.uni-stuttgart.de
Prof. Miguel Ortega miortega@ugr.es
Dr. Marie-Amélie Lawn m.lawn@imperial.ac.uk
Dr. Charlotte Kestner (teaching) c.kestner@imperial.ac.uk