

# Diego Artacho

Updated January 26, 2024

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## Summary

I am a third-year Mathematics PhD student at Imperial College London, working under the supervision of Marie-Amélie Lawn and Steven Sivek. I am primarily interested in the different ways in which special (twisted) spinors encode geometric properties of manifolds.

## Education

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

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

**Autonomous University of Barcelona** Barcelona, Spain  
Degree in Mathematics September 2015 – June 2020

**Autonomous University of Barcelona** Barcelona, Spain  
Degree in Physics September 2015 – June 2020

## Scholarships

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

## Research outputs

**Generalised Killing Spinors on Three-Dimensional Lie Groups**  
*Preprint, 2024. [Available here.](#)*

**Generalised Spin<sup>r</sup> Structures on Homogeneous Spaces**  
with Marie-Amélie Lawn.  
*Preprint, 2023. [Available here.](#)*

**Translating Solitons in Generalised Robertson–Walker Geometries**  
with Marie-Amélie Lawn and Miguel Ortega.  
*Preprint, 2022. [Available here.](#)*

## Research experience

**Research stay at Phillips Universität Marburg** November 2023  
Collaboration with Ilka Agricola.

**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**

September 2016– June 2020

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 experience

**Senior Graduate Teaching Assistant at Imperial College** October 2022 – Present

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 – Present

Courses: Introduction to University Mathematics, Linear Algebra and Groups, Analysis I, Analysis II, Measure Theory.

**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

**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<sup>r</sup> 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.](#)