

Curriculum Vitae: Colin Davalo

✉ colinmarc thierry@unito.it ☎ +33 (0)6 03 37 45 05
🌐 colindaval o.github.io

Background

Postdoc at the Giuseppe Peano Institute, Turin <i>Position funded by the ERC "GENERATE", supervised by Andrea Seppi. Year 2024-2025 spent as a guest at the Institut Fourier, Grenoble.</i>	2024 - 2026
PhD at the University of Heidelberg <i>Supervised by Beatrice Pozzetti, with distinction "Summa cum Laude".</i>	2020 - 2024
Master 2: Analysis, Arithmetic, Geometry at the University of Paris Saclay <i>Master's thesis supervised by Olivier Guichard.</i>	2020
Student at ENS Paris	2017 - 2021
Preparatory classes MPSI/MP*	2015 - 2017

Scientific Production

On Geometric Structures in the Einstein Universe for $\mathrm{SO}_0(p, p+1)$-Hitchin Representations (with Parker Evans) <i>preprint</i>	2025
Geometric Structures for G'_2-Surface Group Representations (with Parker Evans) <i>preprint</i>	2025
Anosov deformations of Barbot representations (with Samuel Bronstein) <i>preprint</i>	2025
Finite-Sided Dirichlet domains for Anosov subgroups (with Max Riestenberg) <i>preprint</i>	2024
Geometric structures for maximal representations and pencils <i>Accepted for publication in Forum of mathematics : Sigma</i>	2025
Domains of discontinuity and nearly geodesic immersions <i>Geometry & Topology 29 (2025) 2391–2461</i>	2025
Maximal and Hitchin representations in $\mathrm{Sp}(4, \mathbb{R})$ <i>Advances in Mathematics Volume 442, April 2024, 109578</i>	2024
Projective structures with (Quasi-)Hitchin holonomy (with Daniele Alessandrini and Qiongling Li) <i>Journal of the London Mathematical Society, Volume 110, Issue 4</i>	2024

Theses and Dissertations

Bachelor's Thesis "Almost Periodic Functions"	2018
<i>with Balthazar Fléchelles, supervised by Patrick Bernard</i>	
Master's Thesis "Geometric structures for representations in the Hitchin component of $\mathrm{PSL}(n, \mathbb{K})$"	2020
<i>supervised by Olivier Guichard</i>	
PhD Thesis "Geometric structures and representations of surface groups"	2024
<i>supervised by Beatrice Pozzetti</i>	

Teaching

Teaching Assistant for the course "A first course in Dynamical Systems"	Winter Semester 2021-2022
<i>Master's level course</i>	
Teaching Assistant for the course "Introduction to Ergodic Theory"	Summer Semester 2023
<i>Master's level course</i>	

Other Activities

Co-organization of the "Group Meeting", Heidelberg	Academic Year 2021-2022
Co-organization of the working group "Real Trees and Buildings", Heidelberg	Summer Semester 2022
Co-organization of the working group "Hilbert Geometries", Grenoble	Academic Year 2024-2025
Courses for the preparation of mathematical olympiads	2017-2020
<i>Courses aimed at high school students preparing for mathematical olympiads</i>	
Participation in the problem committee of the TFJM²	2016-2021
<i>Team research competition for high school students</i>	

Long Research Stays

M1 Internship at TIFR, Mumbai (4 months)	2019
Supervised by Mahan Mj.	
Research Visit at the Institut Fourier, Grenoble (4 months)	2022
Supervised by Andrea Seppi.	
Research Visit at UC Riverside and the University of Michigan (3 months)	2024
Supervised by Brian Collier and Dick Canary.	
Research Visit at MPI, Leipzig (3 months)	2024
Supervised by Anna Wienhard	

Conference Talks

Nearly Carbon Neutral Geometric Topology Conference	2022
Online talk	
<i>Description of domains of discontinuity for Anosov representations.</i>	
Meeting of the ANR project "GAPR", Nice	2023
J.A. Dieudonné Laboratory, Nice	
<i>Nearly geodesic immersions in higher rank.</i>	
International Workshop on Higher Teichmüller Theory	2024
Chern Institute, Tianjin	
<i>Maximal representations and fibrations by pencils of quadrics.</i>	
20 years of Anosov representations	2024
MPI, Leipzig	
<i>Dirichlet domains for Anosov subgroups.</i>	
Higher rank geometric structures, Higgs bundles and physics	2025
IHP, Paris	
<i>Anosov deformations of Barbot representations.</i>	
Homogeneous Dynamics and Anosov Representations	2026
SLMath, Berkeley	
<i>Title to be determined.</i>	

Seminar Talks

Seminar on Spectral Theory and Geometry	2022
Institut Fourier, Grenoble	
<i>Maximal representations and Anosov Borel in $\mathrm{Sp}(4, \mathbb{R})$.</i>	
Karlsruhe-Heidelberg-Strasbourg "Geometry Day"	2022
IRMA, Strasbourg	
<i>Maximal and Borel Anosov representations in $\mathrm{Sp}(4, \mathbb{R})$.</i>	
Seminar on Algebra, Topology and Geometry	2022
J.A. Dieudonné Laboratory, Nice	
<i>Maximal representations and Borel Anosov in $\mathrm{Sp}(4, \mathbb{R})$.</i>	
Oberseminar Differentialgeometrie	2023
Max Planck Institute, Bonn	
<i>Dirichlet domains for Anosov subgroups.</i>	
UCR Geometry Seminar	2024
UCR, Riverside	
<i>Finite-sided Dirichlet domains for Anosov representations.</i>	
RTG GeomDynTop Seminar	2024
University of Michigan, Ann Arbor	
<i>Fibrations by pencils of quadrics and maximal representations.</i>	

Geometry/Topology Seminar

2024

UIC, Chicago

*Finite-sided Dirichlet domains for Anosov representations.***Geometry Seminar**

2024

MPI, Leipzig

*Maximal representations and fibrations by pencils of quadrics.***Geometry Seminar**

2024

Universität Paderborn

*Finite-sided Dirichlet domains for Anosov representations.***Seminar on Spectral Theory and Geometry**

2024

Institut Fourier, Grenoble

*Anosov deformations of Barbot representations.***Séminaire "Géométrie et groupes discrets"**

2026

IHES, Bures sur Yvette

Slices of representations of surface groups in G_2' and associated geometric structures.