

Colin Davalo

Curriculum Vitae

Contact Information

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EDUCATION

Postdoc position 2024 - Now
Institut Fourier
Position funded through the ERC GENERATE, supervised by Andrea Seppi.

PhD Student 2021 - 2024
Univesität Heidelberg
"Geometric structures and representations of surface groups" with mention "Suma cum Laude", supervised by Beatrice Pozzetti.

Student of the ENS Paris 2017-2021

Master 2 : Analysis, Arithmetic, Geometry 2020
Université Paris-Saclay
Master thesis on "Fibration of domains of discontinuity for Hitchin representations" supervised by Olivier Guichard.

Admitted to the ENS Paris 2017

Classes préparatoires MPSI/MP* 2015-2017
Lycée Louis le Grand, Paris

Baccalauréat S (High School Graduation) 2015
Lycée Blaise Pascal, Orsay

PRE-PUBLICATIONS

Finite-Sided Dirichlet domains for Anosov subgroups 2024
(with Max Riestenberg)

Geometric structures for maximal representations and pencils 2024

PUBLICATIONS

- Projective structures with (Quasi-)Hitchin holonomy** 2021
(with Daniele Alessandrini and Qionglin Li)
Accepted for publication in "Journal of the London mathematical society"
- Maximal and Hitchin representations in $\mathrm{Sp}(4, \mathbb{R})$** 2024
Advances in Mathematics Volume 442, April 2024, 109578
- Domains of discontinuity and nearly geodesic immersions** 2023
Accepted for publication in "Geometry and Topology"

TEACHING EXPERIENCE

- Tutoring for "A first course in Dynamical system"** Winter Semester 2021-2022
Universität Heidelberg
- Tutoring for "Introduction to ergodic theory"** Summer Semester 2023
Universität Heidelberg

CONFERENCE TALKS

- Nearly Carbon Neutral Geometric Topology Conference** September 2022
Online talk
Description of domains of discontinuity for Anosov representations.
- Meeting of the projet ANR "GAPR", Nice** February 2023
Laboratoire J.A. Dieudonné, Nice
Nearly geodesic immersions in higher rank.
- International Workshop on Higher Teichmüller Theory** Mai 2024
Chern Institute, Tianjin
Maximal representations and fibrations by pencils of quadrics.

SEMINAR TALKS

- Séminaire de théorie spectrale et géométrie** April 2022
Institut Joseph Fourier, Grenoble
Représentations maximales et Borel Anosov dans $\mathrm{Sp}(4, \mathbb{R})$.

Karlsruhe-Heidelberg-Strasbourg "Geometry Day"

May 2022

IRMA, Strasbourg

Maximal and Borel Anosov representations in $\mathrm{Sp}(4, \mathbb{R})$.

Séminaire d'algèbre, topologie et géométrie

October 2022

Laboratoire J.A. Dieudonné, Nice

Représentations maximales et Borel Anosov dans $\mathrm{Sp}(4, \mathbb{R})$.

Oberseminar Differentialgeometrie

December 2023

Max Plank Institute, Bonn

Dirichlet domains for Anosov subgroups.

UCR Geometry seminar

January 2024

UCR, Riverside

Finite-sided Dirichlet domains for Anosov representations.

RTG GeomDynTop Seminar

December 2023

University of Michigan, Ann Arbor

Fibrations by pencils of quadrics and maximal representations.

Geometry/Topology seminar

December 2023

UIC, Chicago

Finite-sided Dirichlet domains for Anosov representations.

Geometry seminar

December 2023

MPI, Leipzig

Maximal representations and fibrations by pencils of quadrics.

Geometry seminar

December 2023

Universität Paderborn

Finite-sided Dirichlet domains for Anosov representations.

WORKSHOPS AND READING GROUPS

Rencontre "Groupes et Géométrie"

September 2021

La maison du Kleeback, Munster

Description of domains of discontinuity for some representations of surface groups.

Young Researcher's Workshop on Positivity in Lie Groups

January 2022

IWH, Heidelberg

Exercise session on Lie Groups.

Workshop on Minimal surfaces in symmetric spaces and Labourie's conjecture August 2022

L'Escandille, Autrans

Maximal representations in rank 2

Reading group AdS Geometry and Representations Summer 2022

Heidelberg

Complete spacelike surfaces, visible domain and convex core.

Workshop on connected components of character varieties August 2024

Centre Paul Lengevin, Aussois

Exotic component in the character variety of $SO(p, p+1)$

INTERNSHIPS

M1 internship in TIFR, Mumbai Summer 2019

Supervised by Mahan Mj.

Low dimensional geometry and topology, Thurston's compactification and train tracks.

RTG Research visit in Institut Fourier, Grenoble Winter 2022

Supervised by Andrea Seppi.

Immersion in the space of geodesics in \mathbb{H}^3 , and pencils of quadrics.

Research visit in UC Riverside and the University of Michigan Winter 2024

OTHER ACTIVITIES

TFJM² problem comitee 2019-2021

POFM courses (french preparation for math olympiads) 2016 - 2022