

SARAH DIJOLS

Email :sarah.dijols@hotmail.fr
phone number :+1 778 980 8435

Web page : <https://sarahdijols.github.io/>

CURRENT POSITION

From September 2022 to August 2023 Postdoctoral researcher at the University of Calgary, Mentor : Clifton Cunningham

From January 2022 to June 2022 Postdoctoral researcher at UBC, Vancouver, Mentor : Julia Gordon

From September 2021 to December 2021 Postdoctoral researcher at MPIM, Bonn

From December 2018 to July 2021 Postdoctoral researcher at Yau Center, Tsinghua University, Beijing, Mentor : Bin Xu

EDUCATION

From September 2014 to July 2018 PhD Thesis at the University of Aix-Marseille, under the supervision of Volker Heiermann.

2013-2014

Second year of Master, Fundamental Mathematics, Algebra and Geometry, UPMC, with honours

Master Thesis title : « L functions and Theta series » under the supervision of Jens Funke and Nicolas Bergeron.

2011-2013

Master Economics and Public Policy, PhD track, Sciences Po Paris and Ecole Polytechnique

Master Thesis title : « Prices' dynamics : could covariances highlight the financialization of commodities? » under the supervision of Nicolas Coeurdacier. First year Master in Fundamental Mathematics, Strasbourg University and UPMC

2007-2010

Double degree

Bachelor at Sciences Po Paris

Bachelor in Mathematics, Pierre et Marie Curie University with highest honours

PUBLICATIONS

Articles

Symplectic models for unitary groups, 34p, with Dipendra Prasad, *Trans. Amer. Math. Soc.*, December 2018,

<https://www.ams.org/journals/tran/2019-372-03/S0002-9947-2018-07651-6/>

The generalized injectivity conjecture, 2019, 95p, to appear at *Bulletin de la SMF* (second semester of 2022).

The completed L -function for modular forms on G_2 , with Fatma Cicek, Giuliana Davidoff, Trajan Hammonds, Aaron Pollack, Manami Roy, 25p, <https://link.springer.com/article/10.1007/s00209-022-03067-8>.

Pre-prints :

Projection of root systems, 2019, in revision.

Parabolically induced representations of G_2/SO_4 , I, March 2022,

Work in progress :

Local newforms for $SO(2n+1)$, with Didier Lesesvre

Parabolically induced representations of G_2/SO_4 , II, with Nadir Matringe

TEACHING

| Level | Courses | In charge |
|-------|--|----------------------------------|
| L3 | Fourier Analysis for engineers ($2 \times 27h$, 36h) | Clothilde Mélot/Christophe Gomez |
| L3 | Integration (36h) | Guillaume Rond |
| L3 | Algebra and Geometry (10h, 36h) | Volker Heiermann/David Kohel |
| L2 | Statistical tools for environmental sciences (28h) | Franck Torre |
| L1 | Linear Algebra, Maths/info majors (24h) | Battesti Françoise |
| L1 | Analysis, Maths/info majors (20h) | Battesti Françoise |
| L1 | Linear Algebra for social scientists (in charge of the course) (30h) | Sarah Dijols |
| L1 | Linear Algebra (54h) , Tsinghua University | Yang Yilong |
| L1 | Tutorials in Algebra and Analysis (48h) , UPMC | Programme <i>Cap en Fac</i> |
| L1 | Integral calculus with applications to physics, Math 101, UBC | Sarah Dijols |
| L1 | Differential calculus (two classes), Math 249, U of Calgary | Sarah Dijols |

TALKS

TBA, JMM, Women in Automorphic Forms, January 2023.

Parabolically induced representations of p -adic G_2 distinguished by SO_4 , CLAP conference, August 2022, Bonn.

Induced representations of p -adic G_2 distinguished by SO_4 , Poitiers and Caen Number Theory Seminars, December 2021.

Induced representations of p -adic G_2 distinguished by SO_4 , Jeunes chercheurs et jeunes chercheuses en théorie des nombres (JC2A), Paris, August 2021.

Induced representations of p -adic G_2 distinguished by SO_4 , UEA Pure Maths Seminar, and MPIM Number theory seminar, June and September 2021.

Extensions of p -adic groups, Tsinghua, Working Seminar, June 2021.

The completed L function for G_2 , Zhejiang University, Symposium Number Theory, May 2021.

Representations of G_2 distinguished by SO_4 , Voganish Seminar, August 2020.

I regularly attend and have given few talks in the Voganish Seminar, with Calgary, Beijing, and Poitiers. Two talks at the Voganish Project meeting group at BIRS, Banff, Summer 2019.

Two talks on Kottwitz, Harmonic Analysis on Reductive p -adic Groups and Lie Algebras (Spring seminar, Beida, Beijing) ; three talks on the introduction to endoscopy (autumn seminar at Beida Beijing)

The Generalized Injectivity conjecture, presented at Max Planck Institute and Gottingen, June 2018 ; at University of Calgary, Tsinghua University (Winter 2018), Bangalore ICTS (March 2019), and ICTP, Trieste.

Symplectic Models for unitary groups, Varanasi, December 2016

Seminar Algebra and Geometry, Versailles, May 2017

Seminar Poitiers, May 2017

Workshop on Representation Theory of Reductive Groups Over Local Fields, Weizmann Institute of Science, June 2017

Formule des traces relative appliquée à la démonstration d'un résultat de Waldspurger, Seminar RGR, I2M Marseille

Working group on the Trace formula, organized by Farrell Brumley at Jussieu :

Décembre 2015, Le côté spectral de la Formule des Traces pour GL_2

Mars 2016, Formule des traces relative et un résultat de Waldspurger

PhD students seminars :

Introduction à la théorie des représentations de groupes réductifs : représentations distinguées et modèles :

Grenoble, février 2017

Paris 7, mai 2017

CONFERENCES AND WORKSHOPS ATTENDED, VISITS

CLAP, Bonn, August 2022

BIRS, Basic Functions, Orbital Integrals, and Beyond Endoscopy, November 2021

École d'été du groupement des jeunes chercheurs et jeunes chercheuses en théorie des nombres (JC2A), August 2021

CIRM, online, Relative aspects in the Langlands Program, May 2021

Zhejiang University, Symposium Number Theory, May 2021

Paul Sally, MidWest Representation Theory, Online Conference, October 2020

RNT Online Workshop, October 2020

(Online) Conference on Representation Theory and Algebraic Analysis, May 2020

Algebraic and Analytic aspects of Automorphic forms , ICTS Bangalore, March 2019

On the Langlands Program : Endoscopy and Beyond, Singapore, December to January 2019

Women in Automorphic forms, Darmstadt, September 2018

Workshop on Representation Theory of Reductive Groups Over Local Fields, Weizmann Institute of Science, June 2017

Class field theory course, IISER Trivandrum, December 2017

Varanasi, TIMC AMS conference, December 2017

Relative Trace Formula, Periods, L-Functions and Harmonic Analysis, CIRM, May 2016

Summer School on Reductive Groups, Franken-Akademie Schloß Schney, Summer 2015

Automorphic forms, Shimura varieties, Galois representations and L-functions Workshop, December 2014, MSRI, Berkeley

Academic visits

Calgary University, September-November 2018
Max Planck Institute, Bonn, May-June 2018
Tata Institute of Fundamental Research, 15th of December-15th of January 2017

Current seminar and working groups attended

Pacific Automorphic Project Research Seminar
Voganish Seminar, Canadian Automorphic research group, Calgary-Pékin-Poitiers-Vancouver

ADDITIONAL ACTIVITIES

Popularization

Hippocampe program Spring 2015 (a one week introduction to mathematical research for High School students) ; participation in Piday Mucem in 2015 and « Fête de la Science » ; Maths games with High School students at CIRM library.

Participation in the PEPS-Egalité program (correspondance de Langlands) organized by Anne-Marie Aubert in April 2015. Poster presentation for a public of High School students.

Instructor in the workshop Math C2+ organized by the Polytechnique School to encourage High School female students from Aix-Marseille area to enroll in Sciences Studies.

Service

PhD students representative at the AMU Mathematics-Computer Science Doctoral School, 2015-2018.

EXTRACURRICULAR

Languages

French : Mother tongue
English : Fluent
Spanish : Moderate
Mandarin : Learning (HSK3-4)

IT Skills (to be refreshed)

Intermediate : Stata, R, GNU PLOT, OpenOffice, Excel, SageMath
Advanced : \LaTeX , PYTHON

Personal interests

Sports : Climbing, Mountaineering and Running
Mathematics, Ecology, Literature, Duduk
I have been a member of the Association Genepi which militates for « opening up » prisons. I was organizing cultural workshops for prisoners twice a month from January 2016 to June 2017. I left this association at the Autumn 2018.