

# SARAH DIJOLS

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## CURRENT POSITION

From January 2022 to June 2022 Postdoctoral researcher at UBC

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.

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## 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

*2010-2011*

Second year of Magistere in Mathematics, Strasbourg University

*2009-2010*

Visiting student at the University of British Columbia, Vancouver, Canada

Bachelor at Sciences Po Paris

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

*2007-2009*

Double degree Sciences Po Paris and Pierre et Marie Curie University

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## RESEARCH

Subjects : Representations of reductive groups, automorphic forms.

*Publications*

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

*The generalized injectivity conjecture*, 2019, 67p, being considered for publication at Bulletin de la SMF.

*Pre-prints* : *Projection of root systems*, 2019, in revision.

*The completed L-function for modular forms on  $G_2$* , with Fatma Cicek, Giuliana Davidoff, Trajan Hammonds, Aaron Pollack, Manami Roy, 25p, April 2021, submitted.

Parabolically induced representations of  $G_2 \backslash SO_4$  I, December 2021, with Jerrod Smith

*Work in progress :*

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

Parabolically induced representations of  $G_2 \backslash SO_4$  II

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## 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>

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## TALKS

*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

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## CONFERENCES AND WORKSHOPS ATTENDED, VISITS

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 (Spring 2021)

*Pacific Automorphic Project Research Seminar*

*Voganish Seminar, Canadian Automorphic research group, Calgary-Pékin-Poitiers-Vancouver*

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### 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.

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### 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 :  $\text{\LaTeX}$ , 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.