Salim Rostam

Maître de conférences

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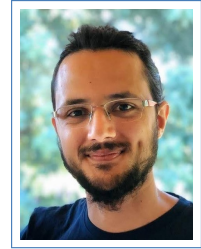
Positions

2023–   **Maître de conférences (*lecturer*)**, *Université de Tours*

2018–2023   **Agrégé-préparateur**, *École normale supérieure de Rennes*

Diplomas

2018   **Ph.D.**, *Université de Versailles Saint-Quentin-en-Yvelines*, Laboratoire de mathématiques de Versailles, under the supervision of Maria Chlouveraki (UVSQ) and Nicolas Jacon (Université de Reims Champagne–Ardenne)
Title: Quiver Hecke algebras and generalisations of Iwahori–Hecke algebras

2015   **Master's degree**, first class Honours, University of Rennes 1 (France)

2014   **Ranked 6th at "agrégation" of mathematics**
[French competitive exam to teach in high schools]

2012   **Admission to the ENS Cachan**
Bachelor's degree, first class Honours, University of Rennes 1 (France)
TOEIC, 875 points

2009   **Level B2 in German**, *Goethe-Institut*, equivalent to CLES 2

Publications

2023   **Identifying Young diagrams among residue multisets**, Annals of Combinatorics
DOI : 10.1007/s00026-023-00641-7, HAL: 03030397, arXiv : 2011.13872

      Skew cellularity of the Hecke algebras of type $G(\ell, p, n)$, *with Jun Hu and Andrew Mathas*, Representation Theory **27** 508–573 (2023)
DOI : 10.1090/ert/646, HAL : 03268869, arXiv : 2106.11459

      Core size of a random partition for the Plancherel measure, Annales de l'IHP, série B (Probabilités et Statistiques) **59**(4) 2151–2188 (2023)
DOI : 10.1214/22-AIHP1310, HAL : 03426306, arXiv : 2111.05970

2021   **Morita equivalences for cyclotomic Hecke algebras of type B and D**, *with L. Poulain d'Andecy*, Bulletin de la SMF **149**(1) 179–233 (2021)
DOI : 10.24033/bsmf.2828, HAL : 02104136, arXiv : 1903.01580

2019   **Stuttering blocks of Ariki–Koike algebras**, Algebraic Combinatorics **2** no. 1 75–118 (2019)
DOI : 10.5802/alco.40, HAL : 01794943, arXiv : 1711.10347

Cyclotomic quiver Hecke algebras and Hecke algebra of $G(r,p,n)$, Transactions of the AMS **371** no. 6 3877–3916 (2019)
DOI : [10.1090/tran/7485](#), HAL : [01794939](#), arXiv : [1609.08908](#)

2017 **Cyclotomic Yokonuma–Hecke algebras are cyclotomic quiver Hecke algebras**, Advances in Mathematics **311** 662–729 (2017)
DOI : [10.1016/j.aim.2017.03.004](#), HAL : [01628497](#), arXiv : [1603.03901](#)

Preprint

2023 **Limit shape for regularisation of large partitions under the Plancherel measure**
HAL : [03990469](#), arXiv : [2302.07115](#)

PhD

2018 **Quiver Hecke algebras and generalisations of Iwahori–Hecke algebras**, 173 pages, TEL : [01954325](#)

Invited speaker

2022 **Size of the core of partitions under the Plancherel measure**, *Probability and statistics seminar*, LMV, Versailles, 1h

Size of the core of partitions under the Plancherel measure, *Probability seminar*, IRMAR, 1h

2019 **Cellularité de l'algèbre de Hecke de** $G(r,p,n)$, *Séminaire GRAP*, LAFMA, Amiens, 1h

Cellularité de l'algèbre de Hecke de $G(r,p,n)$, *Colloque tournant du GDR TLAG*, LMA Poitiers, 50 min

2018 **Quelques aspects combinatoires de la théorie des représentations des algèbres de Hecke**, *Annual opening conference day of the doctoral school*, IHES, 50 min

2017 **A quiver Hecke-like presentation for the Hecke algebra of** $G(r,p,n)$, *Algebra seminar*, University of Sydney, 1h

Other talks (selected)

In conferences

2023 **Constructing Young diagrams (with rectangles via regular partitions)**, *Workshop ANR CORTIPOM*, CIRM, 1h

Skew cellularity of the Hecke algebras of complex reflection groups, *Applications of Hecke and related algebras: Representations, Integrability and Physics*, École de Physique des Houches, 30 min

2022 **Core size of large partitions under the Plancherel measure**, *Séminaire Lotharingien de Combinatoire (SLC 87)*, Saint-Paul-en-Jarez, 25 min

2021 **Skew cellularity of the Hecke algebra of** $G(r,p,n)$, *Combinatorics and Representation Theory in Lausanne (CoRepTiL)*, 30 min

2019 **Stuttering multipartitions and blocks of Ariki–Koike algebras**, *Séminaire Lotharingien de Combinatoire*, Curia (Portugal), 30 min

2018 **Stuttering multipartitions and blocks of Ariki–Koike algebras**, *Representations in Lie Theory and Interactions*, CIRM, 30 min

Stuttering multipartitions and blocks of Ariki–Koike algebras, *Groups and Algebras in Bicocca for Young Algebraists*, Milan (Italy), 30 min

2017 **Cellularité de l'algèbre de Hecke de $G(r, p, n)$**, *Conference for ANR ACORT PhD students*, Université Paris 7, 1h

2016 **Fixed-point subalgebra of quiver Hecke algebras for a quiver automorphism (and application to the Hecke algebra of $G(r, p, n)$)**, *Nikolaus Conference*, Aachen (Germany), 20 min

Algèbres de Yokonuma–Hecke et de Hecke carquois, *Journée de l'ANR ACORT*, LAMFA (Amiens, France), 1h

In seminars

2023 **Cocktail of partitions**, *Séminaire de géométrie arithmétique*, IRMAR, Rennes, 1h

Cores and regular partitions, *SPACE (Statistics, Probability, Algebra, Combinatorics, Ergodic theory) Seminar*, IDP, Tours, 1h

2022 **Size of the core of partitions under the Plancherel measure**, *Mathematical physics and algebraic topology seminar*, LAREMA (Angers), 1h

2021 **Blocs de l'algèbre d'Ariki–Koike et ensemble de sur-niveau pour la fonction poids généralisée**, *Séminaire GAAO*, LMBP, Clermont-Ferrand, 1h

2020 **Cellularité de l'algèbre de Hecke de $G(r, p, n)$**, *Algebra and geometry seminar*, LMNO, Caen, 1h

2019 **Équivalences de Morita entre algèbres de Hecke cyclotomiques**, *PhD student seminar*, LAFMA, Amiens, 1h

2018 **Algèbre de Hecke carquois et algèbre de Hecke de type $G(r, p, n)$**, *Seminar "Groupes, Représentations et Géométrie"*, IMJ-PRG, Université Paris 7, 1h30

2017 **Résidus bégayants**, *PhD student seminar*, LMV, Université de Versailles Saint-Quentin, 1h

Graduation sur l'algèbre de Hecke de type D, *PhD students algebra seminar*, IRMAR, Université Rennes 1, 1h

2016 **Groupe symétrique et son algèbre de Hecke. Algèbre de Hecke carquois cyclotomique**, *PhD students seminar*, UVSQ (Versailles, France), 1h

Talks for a broad audience

2022 **Two hearts, that is too much!**, *5 minutes Lebesgue*, IRMAR, Video (in French) available at https://www.youtube.com/watch?v=OZFTeFN6L98

2020 **Talk "Arithmetic of Infinity"**, *Fête de la Science (Festival of Science)*, for undergraduates, Laval

2018 **Participation to the French version of "Three Minute Thesis"**

2017 **Mini-workshop about Rubik's Cube**, *Fête de la Science (Festival of Science)*, for undergraduates, Reims

Administrative

2022–2026	**Member of the ANR CORTIPOM (COmbinatorial Representation Theory and Interaction with PrObablistic Models)**
2021–2024	**Member of an Individual follow-up comitee**, *for a PhD student at IRMAR*
2021–2023	**Responsible of the Arithmetic Geometry Seminar**, *IRMAR*
2021–2022	**Member of a think tank about including sustainable developpement in the teachings at the ENS**
2020–2021	**Conception and marking of an algebra exam for the entrance selection at the ENS**
2019–2020	**Member of a working group on the environmental impact of research**, *IRMAR*
2017–2018	**Member of the laboratory council of the LMV**
	Webmaster of the webpage "*jeunes chercheurs*" (young researchers) of the LMV

Conference organisation

2025	**Co-organiser for the closing conference of ANR CORTIPOM**
2017	**Co-organiser of the "Conference for ANR ACORT PhD students"**, Université Paris 7

▬▬▬ (Working) seminars

2023–	**SPACE seminar**, IDP, Université de Tours
2018–2023	**Arithmetic geometry seminar**, IRMAR, Université Rennes 1
2019–2020	**Working seminar on derived algebraic geometry**, IRMAR
2017–2018	**Working seminar on algebraic groups**, LMV
2015–2018	**Algebra-geometry seminar**, LMV

▬▬▬ Supervision

Research seminar M2 (second year of Masters):
- Symmetric functions in infinitely many variables. Nourdine Youssouf, 2022–2023.
- Schur functions. Walid El-Ouadghiri, 2022–2023.
- Cellular algebras. Antoine Dequay, 2021–2022.

L3 level (third year of Bachelor):
- Research assisted reading: a theorem of Anderson on cores. Sylvain Chaurand and Maxence Michot, 2022–2023.
- Research assisted readings: Coxeter groups. Léo Brochier and Marceau Ringuede, 2021–2022.
- (with Vincent Cossart) Calculation of a minimal system of variables. Samy Campot, Alexandre Daniel and Agnès Michelet, 2016–2017.

Other: animation of to half-days for "J-INTENS" (inter-departments activity in the ENS Rennes about environmental and societal transitions).

▬▬▬ Reviewings

Articles were reviewed for the following journals:

2022 Journal of Algebra

2018 Proceedings of the Edinburgh Mathematical Society

Teaching loads

2023–2024 **164h**, *maître de conférences*, Université de Tours
2021–2023 **150h/y**, *agrégé-préparateur*, ENS Rennes
2018–2021 **120h/y**, *agrégé-préparateur*, ENS Rennes
2016–2018 **64h/y**, *PhD student*, UVSQ
2014–2016 **2-3h/y**, *mathematics orals*

Attended conferences

International conferences

2022 **Séminaire Lotharingien de Combinatoire (SLC 87)**, Saint-Paul-en-Jarez
2021 **Combinatorics and Representation Theory in Lausanne (CoRepTiL)**, EPFL
2019 **Séminaire Lotharingien de Combinatoire (SLC 83)**, Curia (Portugal)
2018 **Representations in Lie Theory and Interactions**, CIRM
2017 **Algebraic and Geometric Combinatorics of Reflection Groups**, UdeM and CRM (Montréal, QC, Canada)
2016 **Algebraic Combinatorics in Representation Theory**, CIRM
Representation Theory in Samos, Samos (Greece)

Local conferences (selection)

2024 **Meeting of the ANR CORTIPOM**, LPSM Paris
2023 **Workshop ANR CORTIPOM**, CIRM
Meeting ANR CORTIPOM, IECL Nancy
2022 **Meeting of the ANR CORTIPOM**, LPSM Paris
Starting days of the ANR CORTIPOM, IDP Tours
2021 **GDR TLAG days**, Montpellier
2019 **Colloque tournant du GDR TLAG**, LMA, Poitiers
2017 **Conference for ANR ACORT PhD students**, Université Paris 7
2016 **Nikolaus Conference 2016**, Aachen (Germany)
Journées de théorie des représentations, LMR (Reims, France)

Schools

2023 **Applications of Hecke and related algebras: Representations, Integrability and Physics**, *École de Physique des Houches*
2018 **Groups and Algebras in Bicocca for Young algebraists (GABY)**, *Università degli Studi di Milano Bicocca (Milan, Italy)*
2017 **Current Topics in the Theory of Algebraic Groups**, *Université de Bourgogne (Dijon, France)*
Algebraic and Geometric Combinatorics of Reflection Groups, *UQÀM (Montréal, QC, Canada)*

Abroad stays

2017 **University of Sydney**, with Andrew Mathas, two weeks

2016 **University of California, Los Angeles**, with Raphaël Rouquier, three weeks
University of Oregon, with Alexander Kleshchev, one week

Languages

French	Native
English	Conversationnal
German	Conversationnal

Computer science

Languages	C++, Caml	Mathematics	Magma, Maple, Mathematica, GAP, Sage, Scilab
OS	Ubuntu, Windows	Visioconference	BigBlueButton, Microsoft Teams, Zoom
Others	LaTeX, Linux terminal, touch typing		

Miscellaneous

Brainteasers, chess, classical guitar, mathematics, tennis