Thibault JUILLARD

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General information

Birth date   🔖   The 12th of December, 1996.

Nationality   🔖   French.

ORCID   🔖   https://orcid.org/0000-0001-9071-0409

Employment History

Since 07/2025	🔖	**Postdoc, Universität Hamburg**, Department of Mathematics, Germany. Mentor: Sven Möller.
10/2024 – 06/2025	🔖	**Teacher and researcher, École polytechnique**, Centre de Mathématiques Laurent Schwartz, Palaiseau, France. Temporary position during the last year of my Ph.D.
02/2022 – 09/2024	🔖	**Doctoral researcher, Université Paris-Saclay,** Institut de mathématiques d'Orsay, France.

Education

02/2022 – 06/2025	🔖	**Ph.D. Mathematics, Université Paris-Saclay,** Orsay, France. Supervisor: Anne Moreau. Thesis title: *Reduction by stages for affine W-algebras and applications*. Defended on the 13th of June, 2025.
09/2020 – 01/2022	🔖	**M.Sc. Mathematics, École polytechnique fédérale de Lausanne**, Switzerland. Thesis title: *Nilpotent orbits, Slodowy slices and BRST cohomology*.
08/2017 – 08/2021	🔖	**M.Sc. Mathematics, École polytechnique,** Palaisseau, France.

Research Publications

Journal Articles

1   N. Genra and T. Juillard, "Reduction by stages for affine W-algebras," 2025, Preprint. 🔗 URL: https://arxiv.org/abs/2501.04501.

2   N. Genra and T. Juillard, "Reduction by stages for finite W-algebras," *Mathematische Zeitschrift*, vol. 308, no. 1, p. 15, 2024. 🔗 URL: https://link.springer.com/article/10.1007/s00209-024-03567-9.

Thesis

1   T. Juillard, "Reduction by stages for W-algebras and applications," Ph.D. thesis, Université Paris-Saclay, 2025. 🔗 URL: https://theses.hal.science/tel-05149024.

Talks

Conferences

10/2025	🔖	*Reduction by stages for affine W-algebras.* Conference "Collaborations in algebra, representation theory and ethics", École normale supérieure, Lyon, France.

Talks (continued)

06/2025   ■   *Reduction by stages, a geometric approach.* Conference "Representation Theory XIX", IUC, Dubrovnik, Croatia.

06/2024   ■   *Reduction by stages for W-algebras.* Conference "Vertex algebras, geometric representation theory and quantum groups", CIRM, Luminy, France.

           ■   *Chiralisation of reduction by stages.* Conference "Groups and their actions", Levico Terme, Italy.

01/2024   ■   *Reduction by stages for W-algebras.* Winter school in mathematical physics, Les Diablerets, Switzerland.

10/2022   ■   *Reduction by stages for finite W-algebras.* Workshop "Quantum symmetries", Centre de recherche en mathématiques, Montréal, Canada.

Seminars

05/2025   ■   *Reduction by stages for affine W-algebras, a geometric approach.* Algebraic geometry seminar, Université de Lille, France.

01/2025   ■   *Reduction by stages for affine W-algebras, a geometric approach.* Representation theory seminar, I2M, Luminy, France.

12/2024   ■   *Reduction by stages for affine W-algebras, a geometric approach.* Mathematical physics seminar, Hamburg, Germany.

11/2024   ■   *Reduction by stages: from Slodowy slices to affine W-algebras.* Seminar "Groups, representations and geometry", Paris Cité, France.

10/2024   ■   *Reduction by stages for affine W-algebras.* Algebra and representation theory seminar, Tor Vergata, Rome, Italy.

03/2024   ■   *Reduction by stages for W-algebras.* Seminar "AGATA", Montpellier, France.

01/2024   ■   *Reduction by stages for W-algebras.* Algebra seminar, ICJ, Lyon, France.

Reading groups

01/2025   ■   *Symplectic geometry and characteristic variety.* Reading group "D-modules", IMO, Orsay, France.

03/2024   ■   *Examples of GIT constructions: quiver varieties.* Reading group "Good moduli stacks", IMO, Orsay, France.

02/2024   ■   *Equivariant sheaves and linearisations in GIT.* Reading group "Good moduli stacks", IMO, Orsay, France.

11/2023   ■   *Geometric Invariant Theory.* Reading group "Good moduli stacks", IMO, Orsay, France.

04/2023   ■   *Double Poisson vertex algebras.* Worshop "Hall algebras and vertex algebras in enumerative geometry", Skye, Scotland.

01/2023   ■   *Character variety and tautological classes.* Reading group "P = W Conjecture", IMO, Orsay, France.

Grants

06/2025   ■   *Vivaldi program.* Travel grant.
            Funding institution: Fondation Mathématique Jacques Hadamard.
            Host institution: IUC, Dubrovnik, Croatia.

Grants (continued)

06/2024	▮	*Vivaldi program*. Travel grant. Funding institution: Fondation Mathématique Jacques Hadamard. Host institution: CIRM, Luminy, France.
06/2023	▮	*Vivaldi program*. Travel grant. Funding institution: Fondation Mathématique Jacques Hadamard. Host institution: IUC, Dubrovnik, Croatia.
10/2022	▮	*Program for junior scientific visibility*. Travel grant. Funding institution: Fondation Mathématique Jacques Hadamard. Host institution: CRM, Montréal, France.

Teaching

Supervision of exercise sessions

2024 – 2025	▮	*Euclidean and Hermitian spaces,* Bachelor 2, Polytechnique, Paris, France.
2023 – 2025	▮	*Differential geometry,* Bachelor 3, Polytechnique, Paris, France.
2022 – 2023	▮	*Series of functions, differential equations,* Bachelor 2, Polytechnique, Paris, France.
2021	▮	*Geometry,* Bachelor 2, EPFL, Lausanne, Switzerland.
	▮	*Linear algebra 1,* Bachelor 1, EPFL, Lausanne, Switzerland.
	▮	*Analysis 1,* Bachelor 1, EPFL, Lausanne, Switzerland.
2020	▮	*Group theory,* Bachelor 2, EPFL, Lausanne, Switzerland.

Mobility

| 10/2022 | ▮ | Thematic program "Quantum symmetries". CRM, Montréal, Canada.
Duration: 4 weeks. |
| 03/2022 – 04/2022 | ▮ | Thematic program "Vertex and Chiral Algebras". IMPA, Rio de Janeiro, Brasil.
Duration: 6 weeks. |

Mathematical interests

| **Representation theory** | ▮ | Simple Lie algebras, vertex algebras, W-algebras, homological algebra, quantisation. |
| **Algebraic geometry** | ▮ | Poisson geometry, algebraic groups, geometric invariant theory, Slodowy slices, nilpotent orbits. |

Miscellaneous Experience

Event organisation

| 09/2023 – 01/2025 | ▮ | **RéGA,** IHP, Paris, France.
Seminar for young researchers in algebraic geometry. |
| 09/2022 – 10/2023 | ▮ | **Popularisation seminar,** IMO, Orsay, France.
Ph.D. student seminar. |

Miscellaneous Experience (continued)

Popularisation

08/2024   **APEX-Maths,** Resita, Romania.
3-week program to initiate high school students to mathematical research.

July, 2021 – 2024   **Astromaths,** Ardèche, France.
2-week science camp in mathematics and astronomy for high school students.