# Joseph MULLER

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Born: August 12, 1996—Strasbourg, France.
Nationality: French.

## Current position

*PhD student*, 3rd year, Université Sorbonne Paris Nord, Villetaneuse.
Under the supervision of Pascal Boyer (Université Sorbonne Paris Nord).

## Areas of interest

Number theory, arithmetic geometry, cohomology of Shimura varieties.

## Education

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| 2021 | Master Degree in Mathematics, ENS Lyon, France. |
| 2020 | Exchange student in the Graduate School of Mathematical Sciences, University of Tokyo. |
| 2019 | Higher education teacher training in mathematics (Agrégation de mathématiques). Passed, rank 8. |
| 2017 | Bachelor Degree, ENS Lyon, France. |

## Publications & talks

### PUBLISHED PAPERS

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| 2022 | J. Muller. "Cohomology of the Bruhat-Tits strata in the unramified unitary Rapoport-Zink space of signature $(1, n-1)$", Nagoya Mathematical Journal, 1-28. doi:10.1017/nmj.2022.39. |

### PREPRINTS

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| 2022 | J. Muller. "On the cohomology of the ramified PEL unitary Rapoport-Zink space of signature $(1, n-1)$". arXiv:2212.09922. |
| 2022 | J. Muller. "Cohomology of the basic unramified PEL unitary Rapoport-Zink space of signature $(1, n-1)$". arXiv:2201.10229, submitted. |

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| 2022 | On the cohomology of the unramified PEL unitary Rapoport-Zink space of signature $(1, n-1)$. *RIMS Conference, Algebraic Number Theory and Related Topics 2022, Kyoto.* |
| 2022 | On the cohomology of the unramified PEL unitary Rapoport-Zink space of signature $(1, n-1)$. *MS Seminar, Kavli IPMU, the University of Tokyo.* |
| 2022 | On the cohomology of the unramified PEL unitary Rapoport-Zink space of signature $(1, n-1)$. *Number theory seminar, Department of Mathematics, Kyoto University.* |
| 2022 | On the cohomology of the unramified PEL unitary Rapoport-Zink space of signature $(1, n-1)$. *21st Sendai-Hiroshima Number Theory Workshop, Tohoku University.* |
| 2022 | Cohomology of the unramified PEL unitary Rapoport-Zink space of signature $(1, n-1)$. *Number theory seminar, Graduate School of Mathematical Sciences, the University of Tokyo.* |
| 2021 | Cohomologie des espaces de Rapoport-Zink PEL unitaires non ramifiés de signature $(1, n-1)$ en niveau maximal. *Séminaire de Géométrie Arithmétique et Motivique, Institut Galilée, Université Sorbonne Paris Nord.* |

## Teaching

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| 2022 | Teaching assistant for the lectures Analyse 1, Algèbre 1 et 6, Intégration et Probabilités, Université Sorbonne Paris Nord. |
| 2021 | Teaching assistant for the lectures Analyse 1, Algèbre 1, Outils Mathématiques 1, Université Sorbonne Paris Nord. |
| 2020 | Teaching assistant for the lectures Analyse 3, Algèbre 3, Mathématiques for the Economics and Business Science department, Université Sorbonne Paris Nord. |

## Miscellaneous

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| 2022 | Solved the 16 problems of Orsay's 2021/22 mathematical marathon. |
| 2021 | Solved the 16 problems of Orsay's 2020/21 mathematical marathon. |
| 2018 | Informal talk on Ramsey theory for undergraduate students as part of an event to promote the diffusion of mathematics, in Lycée du Parc, Lyon. |

Last updated: January 2, 2023