



**TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO  
CODE 6152**

**ID**

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Mathematics of the University of Milano**

Scientist- in - charge: **Prof. Andreatta Fabrizio**

**Gautier Ponsinet**

## **CURRICULUM VITAE**

### PERSONAL INFORMATION

|         |          |
|---------|----------|
| Surname | Ponsinet |
| Name    | Gautier  |

### PRESENT OCCUPATION

|                      |                          |
|----------------------|--------------------------|
| Appointment          | Structure                |
| Post-doctoral fellow | University of Heidelberg |

### EDUCATION AND TRAINING

| Degree                            | Course of studies   | University   | year of achievement of the degree |
|-----------------------------------|---|--|-----------------------------------|
| Degree                            |   |  |                                   |
| Specialization                    |   |  |                                   |
| PhD                               | Mathematics   | Laval University (Canada)  | 2018                              |
| Master                            | Mathematics   | Paris VI (France)  | 2014                              |
| Degree of medical specialization  |   |  |                                   |
| Degree of European specialization |   |  |                                   |
| Other                             | Double Bachelor (Licence):<br>Mathematics /<br>Computer Science | Université de Versailles Saint-Quentin-en-Yvelines,<br>Versailles,<br>France | 2011                              |



## REGISTRATION IN PROFESSIONAL ASSOCIATIONS

| Date registration | of | Association | City |
|-------------------|----|-------------|------|
|                   |    |             |      |

## FOREIGN LANGUAGES

| Languages | level of knowledge |
|-----------|--------------------|
| English   | fluent             |
| French    | native language    |
| Greek     | Beginner           |
| Italian   | Beginner           |

## AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

| Year | Description of award |
|------|----------------------|
|      |                      |

## TRAINING OR RESEARCH ACTIVITY

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| Fields of research: algebraic number theory, Iwasawa theory, p-adic Hodge theory, Galois representations, Abelian varieties, modular forms, perfectoid fields |
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## PROJECT ACTIVITY

| Year                   | Project  |
|------------------------|--|
| Mar. 2023-Feb. 2024    | Postdoctoral Fellow, University of Heidelberg, Germany, under the supervision of Prof. Otmar Venjakob.<br>As part of the DFG Project GAUS (CRC 326) Geometry and Arithmetic of Uniformized Structures.                     |
| Mar. 2022 - Feb. 2023  | Postdoctoral Fellow, University of Bordeaux, France, under the supervision of Prof. Denis Benois.<br>As part of the GALF Project (ANR-18-CE40-0029 & FNR) Galois representations, automorphic forms and their L-functions. |
| Mar. 2021 - Feb. 2022  | Postdoctoral Fellow, University of Genoa, Italy, under the supervision of Prof. Stefano Vigni.<br>Grant Ing. Giorgio Schirillo from the Istituto Nazionale di Alta Matematica Francesco Severi.                            |
| Sept. 2018 - Dec. 2020 | Postdoctoral Fellow, Max Planck Institute, Bonn, Germany.  |
| Sept. 2020 -           | Postdoctoral Fellow, Centre de Recherches Mathématiques, Montréal, Canada, Special semester Number theory - Cohomology in arithmetic.  |



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| Dec. 2020 | (Due to the corona-virus epidemic, I was not able to go to Montréal but I followed and participated to the semester online.) |
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## PATENTS

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| Patent |
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## CONGRESSES AND SEMINARS

| Date       | Title  | Place   |
|------------|--|---|
| Dec. 2023  | 1st Greek Number Theory Meeting                                    | National and Kapodistrian University of Athens, Greece  |
| Nov. 2023  | ITCAG Workshop: Iwasawa theory and cohomology of arithmetic groups | Bielefeld University, Germany   |
| Mar. 2021  | Number theory online   | Italy, organised by A. Bandini, A. Gambini and A. Zaccagnini, online  |
| Sept. 2020 | Maine-Québec number theory conference                              | Laval University, Québec, Canada, online  |
| July 2018  | Canadian Number Theory Association Conference                      | Laval University, Québec, Canada  |
| Oct. 2017  | Maine-Québec number theory conference                              | University of Maine, Orono, USA   |
| Dec. 2015  | Canadian Mathematical Society Winter meeting                       | Montréal, Canada  |
| Oct. 2015  | Maine-Québec number theory conference, University of Maine         | Orono, USA  |
| Dec. 2022  | Number theory seminar  | Université de Clermont-Ferrand, France  |
| Dec. 2022  | Geometry and Arithmetic of Uniformized Structures Seminar          | Universität Heidelberg, Germany   |
| Oct. 2022  | Number theory seminar  | Université de Bordeaux, France  |
| Feb. 2022  | Webinar in Number Theory France-South Korea                        | organised by Profs. Youngju Choie (POSTECH), Bo-Hae Im (KAIST), Laurent Berger (ENS Lyon), online                                       |
| Feb. 2021  | Number theory seminar  | Université de Bordeaux, France, online  |
| Jan. 2021  | Number theory seminar  | Arizona State University, USA, online   |
| Dec. 2020  | Oberseminar Arithmetische und Algebraische Geometrie               | Ludwig-Maximilians-Universität München, Munich, Germany, organised by Profs. W. Bley, C. Greither, C. Liedtke and A. Rosenschon, online |
| Dec. 2020  | Seminar on Algebra, Geometry and Physics                           | Max Planck Institute, Bonn, Germany, organised by Profs. Yuri Manin and Gaetan Borot, online  |
| Oct. 2020  | Luxembourg Number Theory Seminar                                   | Université du Luxembourg, online  |



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|------------|--|---|
| June 2020  | CRM-CICMA Québec-Vermont Number Theory Seminar | Montréal, Canada, online.<br>Video available on YouTube:<br><a href="https://youtu.be/eRp8nMLLsCA">https://youtu.be/eRp8nMLLsCA</a> |
| Jan. 2020  | Symmetry, Geometry, and Arithmetic Seminar     | Universität Heidelberg, Germany   |
| Dec. 2019  | Number Theory Seminar                          | University of Copenhagen, Denmark   |
| Oct. 2019  | Algebra and Number Theory Seminar              | University College Dublin, Ireland  |
| Nov. 2018  | Seminar on Algebra, Geometry and Physics       | Max Planck Institute, Bonn, Germany, organised by Prof. Yuri Manin  |
| Sept. 2019 | Mini Lecture Series (4h)                       | Korea Institute for Advanced Studies, Seoul, South Korea  |

## PUBLICATIONS

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| Books |
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| Articles in reviews  |
| On Shafarevich–Tate groups and analytic ranks in families of modular forms, II. Coleman families, with Maria Rosaria Pati and Stefano Vigni, <i>Mathematical Research Letters</i><br><a href="https://www.intlpress.com/site/pub/pages/journals/items/mrl/_home/acceptedpapers/index.php">https://www.intlpress.com/site/pub/pages/journals/items/mrl/_home/acceptedpapers/index.php</a> |
| On the Mordell-Weil ranks of supersingular abelian varieties in cyclotomic extensions, with Antonio Lei, <i>Proceedings of the American Mathematical Society, Ser. B, Vol. 7, 2020</i> .<br>(DOI: 10.1090/bproc/43)  |
| On the structure of signed Selmer groups, <i>Mathematische Zeitschrift</i> , Vol. 294, Issue 3-4, April 2020.<br>(DOI: 10.1007/s00209-019-02328-3)   |
| Functional equations for multi-signed Selmer groups, with Antonio Lei, <i>Annales mathématiques du Québec</i> , Vol. 41, Issue 1, April 2017.<br>(DOI: 10.1007/s40316-016-0063-9)  |
| Universal norms and the Fargues-Fontaine curve. Submitted.<br><a href="https://arxiv.org/abs/2010.02292">https://arxiv.org/abs/2010.02292</a>  |
| On the Iwasawa invariants of Kato's zeta elements for modular forms, with Chan-Ho Kim and Jaehoon Lee. Submitted.<br><a href="https://arxiv.org/abs/1909.01764">https://arxiv.org/abs/1909.01764</a>   |

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| Congress proceedings |
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## OTHER INFORMATION

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Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

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Place and date: Heidelberg, 2024-01-12