

**UNIVERSITY OF MILAN**

Public selection for recruiting No.1 tenure track researcher (RTT) for competition sector \_\_\_\_\_ 01/A2 - Geometry and Algebra \_\_\_\_\_, (scientific-disciplinary sector MAT/02 - Algebra) at the Department of Mathematics "Federigo Enriques" \_\_\_, (announcement published in Official Gazette No. G.U. 97 of 22/12/2023) - Competition code 5468

## Luca Dall'Ava

### CURRICULUM VITAE

**PERSONAL DATA (DO NOT INCLUDE YOUR PERSONAL ADDRESS AND LANDLINE OR MOBILE PHONE NUMBER)**

SURNAME	Dall'Ava
NAME	Luca
DATE OF BIRTH	03,05,1993

**QUALIFICATIONS****DEGREE**

*(Specify full degree name, University, date, etc.)*

PhD in Mathematics , (Doktor der Naturwissenschaften "Dr. rer. nat."), University of Duisburg-Essen, Faculty of Mathematics, 30 September 2021

**DOCTORAL DEGREE OR EQUIVALENT QUALIFICATION EARNED IN ITALY OR ABROAD / MEDICAL SPECIALISATION DIPLOMA OR EQUIVALENT QUALIFICATION, FOR THE RELEVANT SECTORS, EARNED IN ITALY OR ABROAD**

*(Specify qualification full name, institution, date, etc.)*

PhD in Mathematics , (Doktor der Naturwissenschaften "Dr. rer. nat."), University of Duisburg-Essen, Faculty of Mathematics, 30 September 2021

**RESEARCH CONTRACTS, RESEARCH FELLOWSHIP CONTRACTS, POSTDOCTORAL SCHOLARSHIPS OR SIMILAR CONTRACTS**

*(Specify, for each contract, university/institution, starting and termination date, etc.)*

AY 2022/2023, 2023/2024 - Postdoctoral Research Assistant at Università degli Studi di Milano, Oct. 2022 - present. Expected termination date, after renewal of the contract: Oct. 2025.

AY 2021/2022 - Postdoctoral Research Assistant at Università degli Studi di Padova, Dec. 2021 - Sept. 2022.

**TEACHING ACTIVITIES AT ITALIAN OR FOREIGN UNIVERSITIES**

*(Specify academic year, university, degree course, number of hours etc.)*

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2021/2022 SS: With Maria Rosaria Pati, Ph.D. course "Basics on Hida Theory" at Università degli Studi di Padova. 4 out of 8 hours.

2020/2021 SS: Teaching assistant for Master course Modular Forms 2 at Universität Duisburg-Essen. 30 hours.

2020/2021 WS: Teaching assistant for Master course Modular Forms 1 at Universität Duisburg-Essen. 30 hours.

2018/2019 WS: Teaching assistant for Master course Modular Forms 1 at Universität Duisburg-Essen. 30 hours.

## SPEAKING AT NATIONAL AND INTERNATIONAL CONFERENCES AND CONVENTIONS

(Specify conference/convention title, date, etc.)

- 19/12/2023 *Number Theory Seminar*, University of Genoa: Balanced triple product p-adic L-functions and classical weight one forms.
- 12/12/2023 *Poster presentation for RTG Meeting*, University of Duisburg-Essen: Triple product p-adic L-functions and weight 1 modular forms.
- 25/05/2023 *Number Theory Seminar*, University of Oxford (UK): Balanced triple product p-adic L-functions and classical weight one forms.
- 4/11/2022 *Arithmetic Geometry Seminar*, Università degli Studi di Milano, *Hida theory for Special quaternionic orders*.
- 22/09/2002 *Séminaire d'arithmétique à Lyon*, *Unité de Mathématiques Pures et Appliquées* of the *École normale supérieure de Lyon*, *Hida theory for Pizer's quaternionic orders*.
- 22/07/2021 *RTG Seminar*, University of Duisburg-Essen, *Hida theory for Pizer's quaternionic orders*.

## SCIENTIFIC PRODUCTION

### SCIENTIFIC PUBLICATIONS

(For each publication, specify the following: authors' names, full title, publisher, date and place of publication, ISBN/ISSN/DOI or equivalent code)

Peer-reviewed papers:

Dall'Ava, L., Approximations of the balanced triple product p-adic L-function, *J. Number Theory*, vol. 246, 2023, pp. 189-226, doi:10.1016/j.jnt.2022

Dall'Ava, L., Hida theory for special orders, *Int. J. Number Theory*, vol. 19, no. 2, 2023, pp. 347-73, doi:10.1142/S1793042123500

PhD Thesis:

Dall'Ava, L., 2021. Quaternionic Hida families and the triple product p-adic L-function. PhD Thesis, <https://doi.org/10.17185/dupublico/74866>

### OTHER INFORMATION

Good knowledge of the computer algebra softwares Magma, PARI/GP and SageMath. Moderate skills of programming in C and Python.

Personal Website: <https://sites.google.com/view/luca-dallava/home-page>

**2023/2024:**

- I am co-organizing the *Arithmetic Geometry Seminar* at Università degli Studi di Milano.
- I am co-organizing with Rodolfo Venerucci a Working seminar about *Lue Pan's work on locally analytic vectors*.
- I am co-organizing, together with Carlo Mazza and Alberto Vezzani, the *ALGANT Pizza Seminar* at Università degli Studi di Milano, a seminar aimed at ALGANT master students, third year bachelor students and young PhDs.

**2022/2023:**

- I co-organized the *Arithmetic Geometry Seminar* at Università degli Studi di Milano

**2021/2022: I co-organized, together with Matteo Longo, two seminars:**

- A working seminar about Dasgupta and Kakde's work on Hilbert's 12th Problem and Stark-Heegner points.
- A series of number theory seminars, mostly on Zoom, held by young researchers.

**TRAINING OR RESEARCH ACTIVITY**

My research interests lie in the broad area of special values of p-adic and complex L-functions associated with automorphic representations, mainly triple product L-functions. I am particularly interested in the arithmetic aspect of modular forms, and automorphic forms on quaternion algebras, both from a theoretical and a computational point of view. Recently, I became more interested in the geometry of the eigenvarieties and Drinfeld modular forms together with their relation with quaternion algebras. In my Ph.D. thesis, I extend the theory of Hida families to quaternionic modular forms with level structure given by the special orders defined by Pizer and Hijikata-Pizer-Shemanske; more concretely, I prove a control theorem in the spirit of Hida. I also provide an algorithm for approximating the limit value at  $(2,1,1)$  of the balanced triple product p-adic L-function.

Date

21/01/2024

Place

Milano