

Curriculum Vitae Hojin KIM

Postdoctoral researcher at LMNO, University of Caen Normandy

Personal Information

Postdoc researcher at the LMNO, University of Caen Normandy (mentor: Tuan Ngo Dac)

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Nationality South Korean

Education

Ph.D. in Mathematical Sciences

2025, KAIST

Advisor: Bo-Hae Im, Ph.D.

Thesis: On arithmetic properties of period polynomials of modular forms

*AI researcher for alternative civilian service
2 years of leave of absence during Ph.D. course*

*TmaxData & TmaxAI, Seongnam, South Korea
Sep. 2018 – Aug. 2020*

M.S. in Mathematical Sciences

2016, KAIST

Advisor: Suh Hyun Choi, Ph.D.

Thesis: Weil conjectures for elliptic curves

B.S. in Mathematical Sciences

2014, KAIST

Research Interests

Number theory Algebraic structures of the Multiple Zeta Values in positive characteristic; Nature of period polynomials attached to certain modular forms, especially their unimodularity properties

List of All Publications

Journal Publications

- *Zagier-Hoffman's conjectures in positive characteristic* (Bo-Hae Im, **Hojin Kim**, Khac Nhuan Le, Tuan Ngo Dac, Lan Huong Pham), **Forum Math. Pi.** (2024) doi:10.1017/fmp.2024.18
- *On the common zeros of quasi-modular forms for $\Gamma_0^+(N)$ of level $N = 1, 2, 3$* (with Bo-Hae Im, **Hojin Kim** Wonwoong Lee), **Open Math.** 22 (2024), no. 1, 20240065. doi:10.1515/math-2024-0065
- *Note on the Linear Independence of Alternating Multiple Zeta Values in Positive Characteristic* (**Hojin Kim**, Khac Nhuan Le, Tuan Ngo Dac, Lan Huong Pham), **Acta Math. Vietnam.** (2024), 1–37. doi:10.1007/s40306-024-00554-4

- *Riemann hypothesis for period polynomials attached to the derivatives of L -functions of cusp forms for $\Gamma_0(N)$* (Bo-Hae Im, **Hojin Kim**), **J. Math. Anal. Appl.** 509 (2022), no. 2, Paper No. 125971. doi:10.1016/j.jmaa.2021.125971

Preprints

- *Zagier-Hoffman's conjectures in positive characteristic II* (Bo-Hae Im, **Hojin Kim**, Khac Nhuan Le, Tuan Ngo Dac, Lan Huong Pham), submitted, 2024
- *Hopf algebras and alternating multiple zeta values in positive characteristic* (Bo-Hae Im, **Hojin Kim**, Khac Nhuan Le, Tuan Ngo Dac, Lan Huong Pham), submitted, 2023
- *Hopf algebras and multiple zeta values in positive characteristic* (Bo-Hae Im, **Hojin Kim**, Khac Nhuan Le, Tuan Ngo Dac, Lan Huong Pham), submitted, 2023

Talks

August 11, 2025 (Upcoming) A linear independence of the Multiple Zeta Values in positive characteristics.

KAIST Number Theory Seminar, Aug. Daejeon, Korea.

July 15, 2025

A linear independence of the Multiple Zeta Values in positive characteristics.

The 5th Korea-France Conference in Mathematics, July 15–18. Bordeaux, France.

June 30, 2025

A linear independence of the multiple zeta values in positive characteristic.

33èmes Journées Arithmétiques, June 30 – July 4. Esch-sur-Alzette, Luxembourg.

June 20, 2025

A linear independence of the multiple zeta values in positive characteristic.

Rencontres arithmétiques de Caen : aspects p -adiques et modulo p , June 18–20. Caen, France.

May 22, 2025

Algebraic structures of Multiple Zeta Values in positive characteristics.

KIAS Number Theory Seminar, May 22. Online.

November 8, 2024

Hopf algebra structures of Multiple Zeta Values in positive characteristics.

Workshop, *School and Workshop “Selected topics in Arithmetic Algebraic Geometry”*, Oct. 28 – Nov. 8. Hanoi, Vietnam.

October 19, 2022

Riemann hypothesis for period polynomials attached to the derivatives of L -functions of cusp forms for $\Gamma_0(N)$.

Special session on Automorphic Forms and q -Series, *2022 Global KMS International Conference*, Oct. 18–21, Seoul, Korea.

Teaching Experience

Experience of TA for the following courses (underline for the Teaching Assistant Excellence Awards).

Calculus 1 (2015F, 2021S, 2022S, 2023S)

Calculus 2 (2014S, 2016F, 2017F, 2020F, 2021F, 2022F)

Differential Equations and Applications (2016S, 2017S)

Logic and Set Theory (2014F, 2016F)

Introduction to Linear Algebra (2021S)

Linear Algebra (2017S, 2017F, 2020F, 2021F, 2022F)

Introduction to Number Theory (2015S, 2016S, 2022S, 2023S)

Awards and Honors

Teaching Assistant Excellence Award Sept. 2023
Department of Mathematical Sciences, KAIST

Teaching Assistant Excellence Award Aug. 2022
Department of Mathematical Sciences, KAIST

Teaching Assistant Excellence Award July 2021
Department of Mathematical Sciences, KAIST

Bronze Medal, Math Competition for College Students Nov. 2011
Korean Mathematical Society

National Excellence Scholarship (Natural Sciences and Engineering) Feb. 2009 – Feb. 2013
National Government of the Republic of Korea

Languages

I speak Korean (native), English (fluent), French and Spanish (basic).

I can code in Python, Java, Mathematica, SageMath, and L^AT_EX.

Updated on August 8, 2025.