

# Mohammad Hamdar

## PERSONAL INFORMATION

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**Nationality:** Lebanese

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**Website:** <https://mohammadhamdar.github.io/>

**Phone:** +1 514-574-8695

## EDUCATION

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**Concordia University (as part of [CICMA](#))**

*PhD in Mathematics*

Advisor: [Chantal David](#)

Montreal, Quebec

*Aug 2023 – Present*

**American University of Beirut**

*Master of Science in Mathematics*

Thesis: The Riemann Hypothesis for Period Polynomials of Modular and Hilbert Modular Forms

Advisor: [Wissam Raji](#)

Riad El Solh, Beirut

*Aug 2019 – May 2021*

**Lebanese University**

*Bachelor of Science in Mathematics*

Hadat, Beirut

*Oct 2016 – June 2019*

## EXPERIENCE

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**Research Assistant**

*Department of Mathematics, American University of Beirut*

Worked with [Prof. Kamal Khuri-Makdisi](#) on Modular symbols and Eisenstein series.

Riad El Solh, Beirut

*Aug 2022 – July 2023*

**Research Assistant**

*Olayan School of Business, American University of Beirut*

Worked with [Prof. Victor Araman](#) in Stochastic Modeling. In particular, we solved the problem of sequentially testing of a Poisson process under a discounted Bayes risk.

Riad El Solh, Beirut

*Aug 2021 – Feb 2022*

**Graduate Teaching Assistant**

*American University of Beirut*

Riad El Solh, Beirut

*Aug 2019 – May 2021*

## PUBLICATIONS

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- *Number of Rational Points of the Curve  $y^{q^n} - y = \gamma x^{p^h+1} - \alpha$  over  $\mathbb{F}_{q^m}$*  (with Farzin Azar, Hasan Bilgili, Beyza Cepni, and Serkan Yilmaz), Report from the research group of the 2022 SuSAAN summer school
- *The Riemann Hypothesis for Period Polynomials of Modular and Hilbert Modular Forms*, Master Thesis, American University of Beirut ScholarWorks (2021)

## Other

- *An Econometric Approach to Assess the Impact of Negative Interest Rate Policy (NIRP) on Real Estate Price Inflation in the Eurozone* (with Bassam Hamdar and Yaman Skheita), Economics. Vol. 11, No. 1 (2022)
- *Economic and Technical Modeling of the Lebanese Crypto Currency: Implication for a Digital-Lira (DL)* (with Bassam Hamdar and Tarek Saad), International Journal of Business Administration, vol. 12, no. 2 (2021)

- *Economic Analysis of the Negative Interest Rate Policy (NIRP) on Asset Price Inflation: The Case of the Eurozone* (with Bassam Hamdar and Yamen Skheita), International Journal of Economics, Commerce and Management, vol. VIII, issue 10 (2020)

## SCHOLARSHIPS AND AWARDS

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- \* Power Corporation of Canada Graduate Fellowship (5000\$)
- \* Awarded an ISM scholarship (in the amount of 8000\$) for the 2023-2024 academic year from the Institut des sciences mathématiques in Montreal, Quebec
- \* Concordia University's Faculty of Arts and Science Graduate Fellowship, 2023-2027
- \* Concordia's International Tuition Award of Excellence
- \* Awarded the joint CIRM-CIMPA fellowship to attend the Thematic Month: 'Arithmetic and Information Theory' at the Centre International de Rencontres Mathématiques (CIRM), Jan-Mar 2023
- \* Full scholarship from the American University of Beirut to complete my Master of Science in Mathematics, 2019-2021

## SERVICE AND PROFESSIONAL ACTIVITIES

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<b>AUB-CIMPA Complex Analysis School</b> <i>American University of Beirut</i> Six mini-courses on topics in Several Complex Variables and Geometry with exercises	<i>5-16 June 2023</i>
<b>SAGA School</b> <i>CIRM</i> Four mini-courses on topics in Arithmetic Geometry with problem sessions	<i>30 Jan- 3 Feb 2023</i>
<b>Preliminary Arizona Winter School</b> <i>Virtual Program</i> Lecture series on "Heights in Diophantine Geometry" with problem sets	<i>Oct-Nov 2022</i>
<b>Number Theory Research Unit</b> <i>American University of Beirut</i> Mini-course on "The Riemann Zeta Function: Conjectures and Computations"	<i>Oct 2022</i>
<b>SuSAAN Summer School</b> <i>Nesin Mathematics Village</i> Research group+Course on Algorithmic Number Theory with exercise sessions using PARI/GP	<i>June 2022</i>
<b>CAMS Thematic Program On Stochastic Modeling</b> <i>American University of Beirut</i> Four short courses and seminars on Pricing and Revenue Management	<i>Nov 2021-Feb 2022</i>
<b>Lebanese National Science Fair</b> <i>American University of Beirut</i> Judge in the 26th Annual Science, Math and Technology Fair of Lebanon	<i>Mar 2021</i>

## CONFERENCES ATTENDED

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- *COUNT: Computations and their Uses in Number Theory*, CIRM, Luminy-France, 27 Feb-3 Mar 2023
- *ALCOCRYPT: ALgebraic and combinatorial methods for COding and CRYPTography*, CIRM, Luminy-France, 20-24 Feb 2023
- *COGNAC: Conference On alGebraic varieties over fiNite fields and Algebraic geometry Codes*, CIRM, Luminy-France, 13-17 Feb 2023
- *SAGA: Symposium on Arithmetic Geometry and its Applications*, CIRM, Luminy-France, 6-10 Feb 2023
- *LICMA'17: Lebanese International Conference on Mathematics and Applications*, Lebanese University, Beirut-Lebanon, May 2017

## TEACHING

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### Teaching Assistant

*American University of Beirut*

Riad El Solh, Beirut

*Aug 2019 – May 2021*

- Grader for the courses:
  - \* Math 209: Linear Algebra (Spring 2020)
  - \* Math 210: Introduction to Analysis (Fall 2019 and Spring 2021)
  - \* Math 304: Graduate Complex Analysis (Fall 2020)

### Online Math Instructor

*Upswing*

Austin, Texas

*Sep 2022 – August 2023*

Subjects: Calculus (I, II, and III), Algebra, Differential Equations, Probability

### Math Tutor

*Private+AUB Math Clinic*

*2016 – 2022*

Subjects: Calculus, Linear Algebra, Differential Equations, Real Analysis, Abstract Algebra, Complex Analysis, and Number Theory

## TALKS

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- *Counting Rational Points on Supersingular Curves*, Nesin Mathematics Village, June 17, 2022
- *The Riemann Hypothesis for Period Polynomials of Classical and Hilbert Modular Forms*, American University of Beirut, April 27, 2021

## SKILLS

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**Languages:** Arabic (Native), English (Proficient), French (Basic).

**Computer Skills:** PARI/GP and  $\text{\LaTeX}$ .