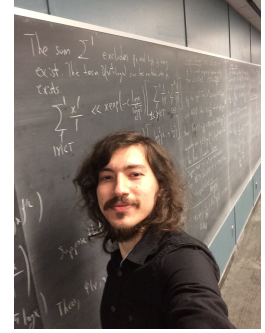


# Ertan Elma

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## EDUCATION

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<b>University of Waterloo</b> Ph.D. in Pure Mathematics, Supervisors: Yu-Ru Liu and Wentang Kuo – Ph.D. Thesis: Some Problems in Multiplicative and Additive Number Theory	Waterloo, Canada 2015–2020
<b>Boğaziçi University</b> M.Sc. in Mathematics, Supervisor: Cem Yalçın Yıldırım – M. Sc. Thesis: Average Values of the Functional Equation Factors at the Zeros of Derivatives of Dirichlet $L$ -functions	İstanbul, Turkey 2012–2015
<b>Boğaziçi University</b> B.S. in Mathematics	İstanbul, Turkey 2007–2012

## ACADEMIC EMPLOYMENT

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<b>University of Lethbridge</b> Postdoctoral Fellow, Sessional Instructor	Lethbridge, Canada 2022–2024
<b>University of Waterloo</b> Teaching Assistant, Sessional Instructor	Waterloo, Canada 2015–2020
<b>Boğaziçi University</b> Teaching Assistant	İstanbul, Turkey 2012–2015

## AWARDS AND GRANTS

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- Lethbridge Number Theory and Combinatorics Seminars Grant, \$4500, PIMS, 2023-2024
- Postdoctoral Fellow Dissemination Grant, \$1000, University of Lethbridge, 2023
- International Graduate Student Support, \$30000 per year, University of Waterloo, 2015-2020
- Bursary for the Top 0.5% Undergraduate Science Students, TÜBİTAK (The Scientific and Technological Research Council of Turkey), 2007-2012
- Bursary for Graduate Science Students, TÜBİTAK (The Scientific and Technological Research Council of Turkey), 2012-2014
- Valedictorian Prize, Sakıp Sabancı Anatolian High School, 2007

## RESEARCH INTERESTS

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- Analytic and Elementary Number Theory
- $L$ -functions
- Sieve Methods and Their Applications
- Exponential Sums and the Circle Method
- Probabilistic Results in Number Theory
- Number Theory in Function Fields

## PUBLICATIONS

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7. [A discrete mean value of the Riemann zeta function](#) (joint with Kübra Benli and Nathan Ng), *submitted*, 42 pp.
6. [A Dirichlet series related to the error term in the Prime Number Theorem](#), *accepted by the International Journal of Number Theory*, (2024), 10 pp.
5. [On the number of irreducible factors with a given multiplicity in function fields](#) (joint with Sourabhashis Das, Wentang Kuo and Yu-Ru Liu), *Finite Fields Appl.*, 92 (2023), Paper No. 102281, 22 pp.
4. [Number of prime factors with a given multiplicity](#) (joint with Yu-Ru Liu), *Canad. Math. Bull.* 65 (2022), no. 1, 253-269.
3. [On discrete mean values of Dirichlet  \$L\$ -functions](#), *Czechoslovak Math. J.* 71 (146) (2021), no. 4, 1035–1048.
2. [On a problem related to discrete mean values of Dirichlet  \$L\$ -functions](#), *J. Number Theory* 217 (2020), 36-43.
1. [Mean values of the functional equation factors at the zeros of derivatives of the Riemann zeta function and Dirichlet  \$L\$ -functions](#) (joint with Kübra Benli and Cem Yalçın Yıldırım), *Analytic Number Theory, Modular Forms and  $q$ -Hypergeometric Series*, Springer Proc. Math. Stat., vol. 221, Springer, Cham, (2017), 59-67.

## PREPRINTS

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1. [Explicit zero-free regions for Dirichlet  \$L\$ -functions](#) (joint with Kübra Benli and Habiba Kadiri), *preprint*, 30 pp.

## ONGOING RESEARCH

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3. [Density of the number of prime factors with a given multiplicity](#) (joint with Greg Martin), *ongoing*, 6 pp.
2. [On the fourth moment of the derivative of the Riemann zeta function](#) (joint with Kübra Benli, Fatma Çiçek, Alia Hamieh, Nathan Ng), *ongoing*, 70 pp.
1. [On the second Hardy-Littlewood conjecture](#) (joint with Bittu, Nicolo Fellini, Akshaa Vatwani, Do Nhat Tan Vo), *ongoing*, 10 pp.

## ORGANIZATIONAL ACTIVITIES

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- Co-organizer of the NTC (Number Theory and Combinatorics) Seminars
  - University of Lethbridge, 2023-2024
  - Applied for and received PIMS research funding, \$4500
  - Invited and hosted external guest speakers
  - 8 talks as of November 2023
  - Recordings: [mathtube.org](https://www.mathtube.org)
  - Website: [NTC Seminars at Lethbridge](#)
- Co-leader of a research project in the summer school Inclusive Paths in Explicit Number Theory
  - University of British Columbia Okanagan Campus, Kelowna, July, 2023
  - Project Title: The Second Hardy-Littlewood Conjecture
  - Project Leader: Akshaa Vatwani
  - Collaborators: Bittu, Nicolo Fellini, Do Nhat Tan Vo
- Co-organizer of the PIMS CRG (Collaborative Research Groups)  $L$ -functions in Analytic Number Theory Seminars
  - University of Lethbridge, 2022-2024
  - 27 talks as of November 2023
  - Recordings: [mathtube.org](https://www.mathtube.org)
  - Website: [PIMS CRG  \$L\$ -functions](#)
- Organizer and the speaker of the Sieve Methods Learning Seminars
  - University of Waterloo, 2017-2018
  - 15 talks, 2-3 hours per talk
  - Number of attendees: 5-10 undergraduate/graduate students and postdocs
  - Based on the book “An Introduction to Sieve Methods and Their Applications” by Alina Carmen Cojocaru and M. Ram Murty
  - Chapters covered: Some Basic Notions, Some Elementary Sieves, The Normal Order Method, The Turán Sieve, The Sieve of Erathosthenes, Brun’s Sieve, Selberg’s Sieve, The Large Sieve, The Bombieri-Vinogradov Theorem

## SCHOLARLY DUTIES

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- Referee for the Canadian Journal of Mathematics, 2022
- Reviewer for the AMS Mathematical Reviews, 2021-

## INVITED TALKS

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- Number of prime factors with a given multiplicity  
Canadian Mathematical Society Winter Meeting, Montreal, 2023
- A Dirichlet series related to the error term in the Prime Number Theorem  
The 20th Annual Alberta Mathematics Dialogue, Mount Royal University, 2023
- A discrete mean value of the Riemann zeta function and its derivatives  
Alberta Number Theory Days XIV, Banff International Research Station, 2023  
[Link for the recording](#)
- Some identities concerning Dirichlet  $L$ -functions  
Number Theory and Combinatorics Seminars, University of Lethbridge, 2022

- Discrete mean values of Dirichlet  $L$ -functions  
Number Theory Seminars, Queen's University, 2020
- Discrete mean values of Dirichlet  $L$ -functions  
Number Theory Seminars, University of Waterloo, 2019
- Pólya-Vinogradov inequality  
Pure Mathematics Student Colloquium, University of Waterloo, 2018  
[Link for the recording](#)

## CONTRIBUTED TALKS

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- Discrete mean values of Dirichlet  $L$ -functions  
Journées Arithmétiques XXXI, Istanbul University, 2019
- Perron's formula  
Joint Student Colloquium, University of Waterloo, 2017
- On a sum concerning the zeros of the  $k^{\text{th}}$  derivative of Dirichlet  $L$ -functions  
International Conference on Algebra and Number Theory, Samsun, 2014

## TEACHING EXPERIENCE

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- Instructor and Tutorial Coordinator if available  
University of Lethbridge  
MATH 2570, Calculus III, Fall 2023  
MATH 2560, Calculus II, Spring 2023  
MATH 1565, Accelerated Calculus, Fall 2022  
University of Waterloo  
MATH 128, Calculus II for the Sciences, Winter 2018  
PMATH 340, Elementary Number Theory, University of Waterloo, Fall 2018
- Assistant Instructor  
University of Lethbridge  
PIMS Graduate Course, Analytic Number Theory I, Fall 2022
- Teaching Assistant running in-class tutorials if available  
University of Waterloo, 2015-2020  
PMATH 740/440, Analytic Number Theory  
PMATH 351, Real Analysis  
PMATH 340, Elementary Number Theory ( $\times 2$ )  
MATH 145, Advanced Algebra  
MATH 137, Calculus I for Honours Mathematics  
MATH 136, Linear Algebra I for Honours Mathematics  
MATH 118, Calculus II for Engineering  
MATH 116, Calculus I for Engineering  
MATH 115, Linear Algebra for Engineering ( $\times 2$ )  
Boğaziçi University, 2012-2015  
MATH 431, Complex Analysis I  
MATH 327, Elementary Number Theory ( $\times 3$ )

MATH 231, Introduction to Complex Analysis  
MATH 132, Calculus for Mathematics Students II  
MATH 131, Calculus for Mathematics Students I  
MATH 102, Calculus II ( $\times 2$ )  
MATH 101, Calculus I ( $\times 2$ )

## CONFERENCES AND WORKSHOPS ATTENDED

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- Inclusive Paths in Explicit Number Theory Summer School, University of British Columbia Okanagan Campus, Kelowna, 2023
- The 20th Annual Alberta Mathematics Dialogue, Mount Royal University, Calgary, 2023
- Alberta Number Theory Days XIV, Banff International Research Station, Banff, 2023
- PIMS CRG  $L$ -functions in Analytic Number Theory, Launch Event, Banff International Research Station, Banff, 2022
- PIMS CRG Workshop on Moments of  $L$ -functions, University of Northern British Columbia, Prince George, attended online, 2022
- Virtual CMS Winter Meeting, Online, 2020
- AMS Fall Eastern Sectional Meetings, Online, 2020
- CMS Winter Meeting, Toronto, 2019
- Journées Arithmétiques XXXI, İstanbul University, İstanbul, 2019
- 15<sup>th</sup> Meeting of the Canadian Number Theory Association, Québec City, 2018
- CMS Winter Meeting, Waterloo, 2017
- Efficient Congruencing, The Fields Institute, Toronto, 2017
- Gainesville International Number Theory Conference, Gainesville, 2016
- 14<sup>th</sup> Meeting of the Canadian Number Theory Association, Calgary, 2016
- CMS Winter Meeting, Niagara Falls, 2016
- CMS Summer Meeting, Edmonton, 2016
- CMS Winter Meeting, Montréal, 2015
- International Conference on Algebra and Number Theory, Samsun, 2014

## LANGUAGES

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- Turkish, native
- English, fluent
- French, intermediate
- German, beginner

## ARTISTIC INTERESTS

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- Music production
- Songwriting and composition
- 3D animations and visual effects
- Filmmaking