

# Matthew Kroesche

Texas A&M University  
Department of Mathematics

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## Personal Information

Email Address: `mdkroesche@tamu.edu`  
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## Education

**August 2019 - August 2024 (expected):** Ph.D. in Mathematics,  
Texas A&M University, College Station  
Advisor: Dr. Matthew Young

**August 2015 - May 2019:** B.S. in Electrical Engineering and Applied Mathematics,  
Texas A&M University, College Station

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## Research Interests

Analytic number theory,  $L$ -functions, modular forms

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## Teaching Experience

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|------------------------------------|---|
| <b>August 2023 - December 2023</b> | Instructor of Record, MATH 167 - Explorations in Math   |
| <b>June 2023 - August 2023</b>     | TA for Texas A&M Number Theory REU Program  |
| <b>January 2023 - May 2023</b>     | Instructor of Record, MATH 168 - Finite Mathematics   |
| <b>June 2022 - August 2022</b>     | Recitation/Python Lab TA, MATH 151 - Engineering Calculus I<br>Writer for Python lab assignments for all summer sections of MATH 151  |
| <b>January 2022 - May 2022</b>     | Recitation/Python Lab TA, MATH 151 - Engineering Calculus I   |
| <b>August 2021 - December 2021</b> | Recitation/Python Lab TA, MATH 151 - Engineering Calculus I   |
| <b>June 2021 - August 2021</b>     | Recitation/Python Lab TA, MATH 152 - Engineering Calculus II<br>Writer for Python lab assignments for all summer sections of MATH 152 |
| <b>January 2021 - May 2021</b>     | Recitation/Python Lab TA, MATH 152 - Engineering Calculus II  |
| <b>August 2020 - December 2020</b> | Recitation/Python Lab TA, MATH 150 - Precalculus  |
| <b>August 2017 - present</b>       | Instructor, Spider Smart/E <sup>3</sup> Learning Center, College Station  |

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## Conferences Attended

|                                |   |
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| <b>January 2024 (upcoming)</b> | Joint Mathematics Meetings, San Francisco, CA               |
| <b>March 2023</b>              | Southern Regional Number Theory Conference, Baton Rouge, LA |
| <b>January 2023</b>            | Joint Mathematics Meetings, Boston, MA                      |
| <b>March 2022</b>              | Southern Regional Number Theory Conference, Baton Rouge, LA |

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## Talks Given

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|---------------------------------|--|
| <b>January 2024 (upcoming)</b>  | Joint Mathematics Meetings, AMS Contributed Paper Session on Number Theory |
| <b>November 2023 (upcoming)</b> | UT Tyler Number Theory and Combinatorics Seminar, Tyler, TX (via Zoom)     |
| <b>April 2023</b>               | Texas A&M Number Theory Seminar, College Station, TX                       |
| <b>March 2023</b>               | Southern Regional Number Theory Conference, Baton Rouge, LA                |

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## Preprints

### **Low-Lying Zeros of a Thin Family of Automorphic $L$ -Functions in the Level Aspect**

Toward Ph.D. thesis, Texas A&M University

<https://arxiv.org/abs/2308.06359>

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## Outreach and Service

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| <b>October 2023 - present</b>            | Referee for the Journal of Number Theory                                 |
| <b>January 2021 - November 2023</b>      | MATHCOUNTS Question Writing Committee member                             |
| <b>November 2018 - present</b>           | Coach for the Texas Harvard-MIT Math Tournament teams                    |
| <b>June 2016 - present</b>               | Coach for the Texas American Regions Math League teams                   |
| <b>June 2019</b>                         | Counselor, Summer Math Research Training Camp, Texas A&M                 |
| <b>March 2018 - present</b>              | Volunteer (and occasional question writer) at the Texas A&M Integral Bee |
| <b>March 2017 - present</b>              | Volunteer (proctor/grader) at the Texas MATHCOUNTS State meet            |
| <b>October 2015 - October 2018, 2021</b> | Volunteer at the Texas A&M High School Mathematics Contest               |

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## Honors and Achievements

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|----------------------|--|
| <b>2020 - 2023</b>   | N.W. Naugle Fellowship in Mathematics      |
| <b>May 2019</b>      | Graduated Texas A&M <i>summa cum laude</i> |
| <b>December 2018</b> | Putnam examination, top 200                |
| <b>December 2017</b> | Putnam examination, top 500                |
| <b>December 2016</b> | Putnam examination, top 200                |
| <b>December 2015</b> | Putnam examination, top 500                |
| <b>May 2015</b>      | Texas ARML Team High Scorer                |
| <b>April 2015</b>    | USA Mathematical Olympiad qualifier        |
| <b>April 2014</b>    | USA Mathematical Olympiad qualifier        |

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## Skills

Python, C/C++,  $\text{\LaTeX}$