# Matthew Koban
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## Education

**PhD in Mathematics** (University of Toronto)                             2022-Present
Supervisor(s): Dr. Lisa Jeffrey and Dr. Steven Rayan

**MSc in Mathematics** (University of Toronto)                             2020-2021
Supervisor: Lisa Jeffrey
Thesis: *Geometric Quantization and the Hitchin Connection.*

**BSc (Honours) in Mathematics**                                          2017-2020
Supervisor: Dr. Steven Rayan Thesis: *Cohomology of Moduli Spaces of Higgs Bundles and TQFTs.*

## Awards

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| Blyth Fellowship | 2023 |
| Ontario Graduate Scholarship | 2023 |
| NSERC USRA Scholarship | 2020 |
| NSERC USRA Scholarship | 2019 |
| University of Saskatchewan Undergraduate Scholarship | 2019 |

## Teaching Experience

**Teaching Assistant**: Department of Mathematics, University of Toronto
Courses: MAT133 Calculus and Linear Algebra for Commerce; MAT223 Linear Algebra I,
MAT224 Linear Algebra II; MAT 137 - Calculus with proofs

**Teaching Assistant**: Department of Mathematics and Statistics, University of Saskatchewan
Courses: MATH 123 Calculus I for Engineers, MATH 124 Calculus II for Engineers

## Papers

On basic double links of squarefree monomial ideals. Joint with Patricia Klein and Jenna Rajchgot. *Accepted to the Journal of Commutative Algebra on Sept 25. 2023*

## Contributed Talks

**What is a Quiver Variety?**                                             June 2023
- QuanTA Junior Symposium, University of Saskatchewan

**Introduction to Topological Quantum Field Theory**                      December 2020
- Graduate Student Seminar, University of Toronto

**TQFT, Quivers, and Higgs Bundles**                                      November 2020
-Geometry and Mathematical Physics Seminar, University of Saskatchewan

**Introduction To Category Theory**                                       February 2019
-Mathematics and Statistics Student Society, University of Saskatchewan

**Algebraic Aspects of Supersymmetry**                                    November 2018
-Math 401 String Theory Honours Seminar

**Mason- Stothers Theorem** January 2018
-Math 301 Honours Seminar

## Miscellaneous Writings

- *Lie Groups and Curvature of Left-Invariant Metrics* April 2018
  -Prepared as part of the Calabi-Yau seminar, University of Saskatchewan

## Extracurricular

**President**: Mathematics and Statistics Student Society April 2019- 2020