

# ISAAC SUNDBERG

email: [icraig@brynmawr.edu](mailto:icraig@brynmawr.edu)

webpage: [imsundberg.github.io](https://imsundberg.github.io)

updated Mar 2022

## Academic Positions

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**Postdoctoral fellow** | 2022-2024 | Max-Planck-Institut für Mathematik, Bonn, Germany

## Education

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**Ph.D. Mathematics** | Expected 2022 | Bryn Mawr College, Bryn Mawr, Pennsylvania, USA  
*The Khovanov homology of slice disks*, advised by Paul Melvin

**M.A. Mathematics** | 2018 | Bryn Mawr College, Bryn Mawr, Pennsylvania, USA

**B.S. Mathematics** | 2016 | University of Wisconsin La Crosse, La Crosse, Wisconsin, USA

## Research Interests

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Low-dimensional topology: exotic phenomena in 4-dimensions; isotopy of surfaces in 4-manifolds; Khovanov homology and other link homology theories; knots and links.

## Publications & preprints

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*Khovanov homology and exotic surfaces in the 4-ball*, with Kyle Hayden, arXiv:2108.04810 (2021), submitted

*Relative Khovanov-Jacobsson classes*, with Jonah Swann, Algebr. & Geom. Topol., to appear (2021)

*Multiplication operators on weighted Banach spaces of a tree*, with Robert F. Allen, Bulletin of the Korean Mathematical Society, 54:3 (2017), 747-761

## Research Talks

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Princeton Topology Seminar	Apr 2022
Duke Geometry & Topology Seminar	Jan 2022
University of Oregon Topology Seminar	Nov 2022
MIT Geometry & Topology Seminar	Sep 2021
Columbia Geometric Topology Seminar	Sep 2021
Philadelphia Area Contact Topology (PACT) Seminar	Sept-Oct 2021
Nearly Carbon Neutral Geometric Topology Conference, virtual	Jun 2021
AIM Research Community in 4-dimensional Topology, virtual	Apr 2021
Graduate Student Topology and Geometry Conference (GSTGC), UI Urbana-Champaign	Mar 2019
EPaDel MAA Section Meeting, King's College	Mar 2019
UWL Mathematics & Statistics Club, UW La Crosse	Nov 2018
EPaDel MAA Section Meeting, Temple University	Mar 2018
AMS Session on Undergraduate Research, JMM Seattle	Jan 2016

## Conferences & Workshops

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Tech Topology Summer School on 4-manifolds, Online	Jul 2021
Nearly Carbon Neutral Geometric Topology Conference, Online	Jun 2021
Nearly Carbon Neutral Geometric Topology Conference, Online	Jun 2020

Graduate Student Conference in Algebra, Geometry, & Topology, Temple University	Jun 2019
Graduate Student Topology and Geometry Conference, UI Urbana-Champaign	Mar 2019
EPaDel MAA Section Meeting, King's College	Mar 2019
Graduate Student Conference in Algebra, Geometry, & Topology, Temple University	Jun 2018
MSRI Summer Graduate School on H-Principles, Tambara Institute, University of Tokyo	Jun-Jul 2018
Summer Geometry/Topology RTG mini-conference, Princeton University	Jun 2018
Topology Student Workshop, Georgia Institute of Technology	Jun 2018
EPaDel MAA Section Meeting, Temple University	Mar 2018
Joint Mathematics Meeting, Seattle, WA	Jan 2016

## Teaching Positions

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<b>Instructor of Record</b> , Department of Mathematics, Bryn Mawr College <i>Courses:</i> Calculus I	Spring 2020
<b>Instructor</b> , Department of Mathematics, Bryn Mawr College <i>Courses:</i> Transitions to Higher Mathematics	2021, 2022
<b>Teaching Assistant</b> , Department of Mathematics, Bryn Mawr College <i>Courses:</i> Abstract Algebra I & II, History of Math, Theory of Probability, Transitions, Topology	2016-2021
<b>Substitute Lecturer</b> , Department of Mathematics, Bryn Mawr College <i>Courses:</i> Abstract Algebra, Graduate Algebraic Topology, History of Math, Graduate Topology	2017-2022
<b>Tutor in Mathematics</b> , Murphy Learning Center, UW La Crosse <i>Courses:</i> College Algebra, Pre-calculus and Trigonometry, Calculus I-III, Differential Equations	2013-2016

## Service

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### Professional Service

<b>Referee</b> , Transactions of the American Mathematical Society	2021-2022
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### Bryn Mawr College

<b>Graduate representative</b> , Prelim Restructuring Committee, Department of Mathematics	2021-2022
<b>Co-founder &amp; co-organizer</b> , Graduate Research Seminar	2019-2022
<b>Departmental representative</b> , Graduate Student Association	2019-2020
<b>Co-founder &amp; co-organizer</b> , Directed Reading Program	2019-2020
<b>President</b> , AMS Graduate Student Chapter, Department of Mathematics	2018-2020
<b>Chair</b> , Diversity, equity, & inclusion committee, Graduate Student Association	2017-2019
<b>Organizer</b> , Professional Development Seminar	2018-2019
<b>Co-chair</b> , Graduate Student Association	2017-2019
<b>Representative to Graduate Council</b> , Graduate Student Association	2017-2019

### University of Wisconsin La Crosse

<b>President</b> , Mathematics & Statistics Club	2015-2016
<b>Tutor and staff</b> , FastTrack Remedial Mathematics Camp	2015
<b>Teaching assistant and staff</b> , Girls in Science Day Camp	2015

## Awards & Honors

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Doris Sill Carland Award for Excellence in Teaching, Bryn Mawr College	2021
Research Assistantship, Bryn Mawr College	Fall 2020, Fall 2021
Bryn Mawr Community Building Honor Roll, Bryn Mawr College	2019

Convocation Speaker Representing the Graduate Student Association, Bryn Mawr College	2018
McPherson Graduate Award for Excellence, Bryn Mawr College	2018
Department of Mathematics Outstanding Service Award, UW La Crosse	2016
SIAM Outstanding Efforts & Accomplishments in the Chapter, UW La Crosse	2016

## References

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**Kyle Hayden**, Columbia University

**Mikhail Khovanov**, Columbia University

**Adam S. Levine**, Duke University

**Lisa Traynor**, Bryn Mawr College