# Pravakar Paul

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## Education

**University of Iowa** *Iowa City, USA*

PhD in Mathematics (Advisor: Benjamin Cooper) May. 2023 - May. 2017 (Expected)

**Indian Statistical Institute** *Bangalore, India*

Master of Mathematics (First Division with Distinction) May. 2017 - May. 2015

**Indian Statistical Institute** *Bangalore, India*

Bachelor of Mathematics (First Division with Distinction) May. 2015 - May. 2012

## Research Interest

My research interest lies in Quantum Topology. I am specifically interested in Khovanov homology and its interaction with other link homology theories. I am also interested in Khovanov Stable homotopy type and related constructions.

## Publications and Preprints

[1] **Pravakar Paul**, "On the Uniqueness of Sarkar-Seed-Szabo Construction ," *Journal of Knot Theory and Its Ramifications(accepted)* [Link]

[2] **Benjamin Cooper**, Pravakar Paul, Nick Seguin, "An incompatibility between spectrification and the Szabo spectral sequence" *(Submitted)* [Link]

## Teaching

**Qualifying Exams Preparation Seminar (Math:5950)**

Summer 2022

**Introduction to Smooth Manifolds (Math:5410)**

Spring 2022

**Fundamental Group and Covering Spaces (Math:5400)**

Fall 2021, Fall 2022

**Quantitative reasoning for Business (Math:1350)**

Fall 2020

**Math Basis for Elementary Geometry (Math:1140)**

Spring 2021

**Mathematics for Biological Sciences (Math:1440)**

Spring 2019

**Logic of Arithmetic (Math:1120)**

Fall 2019

**Calculus and Matrix algebra for Business (Math:1380)**

Fall 2018, Spring 2019

## Awards and Honors

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|---|---|---|
| Spring 2023 | **Fellowship**: ”Ballard and Seashore Dissertation Fellowship” | *University of Iowa* |
| present-Aug. 2017 | **Assistantship**: ”Graduate assistantship/tuition scholar” | *University of Iowa* |
| April. 2022 | **Travel grant (latest)**: “Categorical Methods in Representation Theory and Quantum Topology ” | *University of Virginia* |
| June. 2017-2015 | **Scholarship**: “National Board of Higher Mathematics ” | *Banga-lore,India* |

## Conferences and Seminars attended

**Homotopy Types in Low dimensional topology** *Online*
Fall 2022

**Categorical methods in representation theory and Quantum Topology** *University of Virginia*
April 18-20, 2022

**AIM Link homology Seminar** *Online*
Fall 2021

**Categorification Learning seminar** *Online*
Spring 2020

**Redbud Topology Conference** *University of Arkansas*
March 6-8, 2020

**Redbud Topology Conference** *Oklahoma State University*
November 23, 2019

**Graduate Student Topology and Geometry Conference** *University of Illinois Urbana-Champaign*
March 30-31, 2019

## Talks and Presentations

- **Burnside Category and Khovanov homotopy type**, UIowa Topology Seminar, Fall 2022
- **On the Batson-Seed Spectral sequence**, UIowa Topology Seminar, Spring 2022
- **Birman Exact sequence and its application**, UIowa Topology Seminar, Fall 2021
- **Sheaf Cohomology: Equivalence between Čech and Singular Cohomology**, UIowa Topology Seminar, Spring 2021
- **Properties of Deligne’s Category**, UIowa Topology Seminar, Fall 2020
- **Open Book decomposition**, UIowa Topology Seminar, Spring 2020
- **On the Construction of tau invariant**, UIowa Topology Seminar, Fall 2019
- **On the Khovanov Floer theories**, Redbud Topology Conference, Fall 2020 (Lightning Talk)
- **TQFT and Khovanov homology**, TIFR Student’s Seminar, December 15

## Further Activities

**Topology Reading Seminar** *University of Iowa*
Co-organizer Fall 2022

**Reading Topology Seminar** — *University of Iowa*
Organizer — Spring 2021

**Ross Mathematics Foundation** — *Ohio State University*
Ross Counselor — Summer 2020, Summer 2021

**Directed Reading Program** — *University of Iowa*
Mentored Tobias Alanson — Spring 2020

# References


- Benjamin Cooper
  Professor, University of Iowa, Iowa City, USA
  ben-cooper@uiowa.edu
- Robert Lipshitz
  Professor, University of Oregon, Eugene, USA
  lipshitz@uoregon.edu
- Keiko Kawamuro
  Professor, University of Iowa, Iowa City, USA
  keiko-kawamuro@uiowa.edu
- Walter Seaman
  Professor, University of Iowa, Iowa City, USA
  walter-seaman@uiowa.edu