Chirantan Mukherjee

| CONTACT INFORMATION | Department of Mathematics, Rm. 102
University of Western Ontario
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| INTERESTS | Homotopy theory, and category theory- especially higher category theory |

| EDUCATION | **University of Western Ontario**, Canada |

Ph.D. in Mathematics, Sep. 2022–Anticipated Aug. 2026
- Advisor: Dan Christensen

University of Trento, Italy

M.Sc. in Mathematics, Sep. 2019–Mar. 2022
- Dissertation Topic: Complete Segal Spaces as a model of Higher Categories
- Advisor: Nima Rasekh

Erasmus+ Study in University of Warsaw, Poland.

Institute of Mathematics and Applications, India

B.Sc. in Mathematics and Computing, Aug. 2015–Apr. 2018
- Dissertation Topic: Set Theory and Foundation of Mathematics
- Advisor: Shashi Mohan Srivastava

PUBLICATIONS

Preprint

| Mar. 2022 | Chirantan Mukherjee. *Twisted Arrow Construction for Segal Spaces*. arXiv preprint, 2022. arXiv:2203.01788. |

RESEARCH EXPERIENCE

| 2021–2022 | École Polytechnique Fédérale de Lausanne, Switzerland. |
| 2017–2018 | Indian Statistical Institute, Kolkata, India. |

TALKS AND PRESENTATIONS

Mar. 2023	*Model Structure on Simplicial Categories*, Graduate Student Seminar, University of Western Ontario, Canada.
Jul. 2022	*Complete Segal Spaces as a Model of Higher Categories*, GROOT Summer Seminar 2022, University of Notre Dame, US.
Jun. 2022	*Higher Category Theory*, Indian Statistical Institute, Kolkata, India.
Mar. 2021	*The $Conf_2$ space of rational homology of S^3 and propagators*, University of Warsaw, Poland.
Jan. 2021	*Differentiable manifolds and forms, de Rham cohomology*, University of Warsaw, Poland.
Dec. 2020	*Products and cochains of equivariant cohomology theories*, University of Warsaw, Poland.
Nov. 2020	*Polish spaces*, University of Warsaw, Poland.

GRANTS AND AWARDS

2022–2026	Western Graduate Funding, University of Western Ontario, Canada, $18,196/year.
2021–2022	Thesis Research Abroad, University of Trento, Italy, €2,700.
2020–2021	Erasmus+ Grant, Italian Erasmus+ Agency, Italy, €6,207.

TEACHING EXPERIENCE	**Courses**	
	Winter 2023	Math 1600. *Linear Algebra I*, Teaching Assistant, University of Western Ontario, Canada.
		Managing a class of 41 students helping them solve weekly problems, conducting bi-weekly quizes and grading them.
	Fall 2022	Math 1228. *Methods of Finite Mathematics*, Teaching Assistant, University of Western Ontario, Canada.
		Proctoring and marking tests throughout the term.
	Projects	
	Fall 2022	Sterling Ebel. *The Yoneda Lemma*. Directed Reading Program, University of Western Ontario, Canada.
	Other	
	Winter 2023	*Math-Physics Accelerator Help Centre*
		Duties both in-person and virtual help centre.
	Fall 2022	*Math-Physics Accelerator Help Centre*
		Duties both in-person and virtual help centre.
	Jun. 2017	*Regional Mathematical Olympiad Training Camp*
		Train junior mathematical olympiad 2016 awardees for mathematical olympiad.
	Jun. 2017	*Training Camp for Pathani Samanta Mathematics Scholarship*
		Nurturing of talents in mathematics from rural India.
	May 2016	*Training Camp for Pathani Samanta Mathematics Scholarship*
		Nurturing of talents in mathematics from rural India.
	2015–2018	*Sunday Morning Problem Solving Classes*
		Interactive classes for school children, with emphasis on children from vernacular schools.
RESEARCH SCHOOLS AND INTERNSHIPS ATTENDED	2022	*HoTTEST Summer School 2022*, University of Western Ontario, Canada. Introductions to homotopy type theory and formalization.
	2022	*Higher Category Lecture*, Australian National University, Australia. Instructors: Yuki Maehara.
	2021	*Masterclass on Topological Field Theories and Factorization Homology*, University of Copenhagen, Denmark, €336.07 (University of Copenhagen) + €469.69 (University of Trento). Instructors: Adrien Brochier; Quantum character varieties and TFTs, and Claudia Scheimbauer; Dualizabitility, higher categories and TFTs.
	2021	*EPFL Topology Seminar Spring 2021*, EPFL, Switzerland. Seminar on algebraic topology and category theory.
	2021	*Intensive Research Programme: Higher Homotopical Structures*, CRM, Spain. Development of higher categorical tools for theory and computations in algebraic K-theory and related theories.
	2020	*Scuola Matematica Interuniversitaria*, University of Perugia, Italy Instructors: Barbara Nelli; Differential geometry, and Frédérichch Robert; Functional Analysis.
	2017	*Summer Research Programme*, IMSc, India, ₹11,000. Advisor: Pralay Chatterjee.
	2017	*Project on basic set topology*, ISI, Kolkata, India. Advisor: Goutam Mukherjee.
TECHNICAL SKILLS	Languages:	Agda *(learning)*, C/C++, Java
	Software:	LaTeX, Mathematica
RELEVANT SKILLS	Languages:	English (Fluent), Bengali (Native), Hindi (Native)
	Extra:	Poet (Published a book of poems), Swimmer and Life Guard