# Todd Schmid (he/him/they/them)

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## EMPLOYMENT

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| 07/2023 to present | **Assistant Professor** at SAINT MARY'S COLLEGE OF CALIFORNIA<br>Department of Mathematics and Computer Science<br>Moraga, CA, USA |

## SHORT-TERM POSITIONS

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| 04/2022 to 07/2023 | **Research Assistant** at CORNELL UNIVERSITY<br>Department of Computer Science<br>Ithaca, NY, USA |
| 09/2021 to 02/2022 | **Guest Researcher** at RADBOUD UNIVERSITY<br>Department of Computer Science<br>Nijmegen, The Netherlands |

## EDUCATION

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| 09/2019 to 06/2023 (defended) to 01/2024 (conferred) | UNIVERSITY COLLEGE LONDON<br>Graduate Program: **PhD Computer Science** (4 year program)<br>London, UK |
| 09/2018 to 08/2019 | UNIVERSITY OF TORONTO<br>Graduate Program: **MSc Mathematics** (1 year program)<br>Toronto, ON, Canada |
| 09/2013 to 05/2018 | UNIVERSITY OF VICTORIA<br>Undergraduate Program: **Honours BSc Mathematics**<br>Victoria, BC, Canada |

## TEACHING

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| 02/2024 to present | **Instructor** at SAINT MARY'S COLLEGE OF CALIFORNIA, Moraga, CA, USA<br>- CS485: Introduction to Automata and the Theory of Computation<br>- CS121: Programming I |
| 09/2023 to 12/2023 | **Instructor** at SAINT MARY'S COLLEGE OF CALIFORNIA, Moraga, CA, USA<br>- CS374: Analysis of Algorithms<br>- CS121: Programming I |
| 08/2022 to 11/2022 | **Co-Instructor** at XIDIAN UNIVERSITY, Xi'an, China<br>Theory of Computation: Automata and Coinduction |

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| 02/2022 to 10/2022 | **Co-Instructor** at GEC ACADEMY, Beijing, China<br>Theory of Computation: Automata and Coinduction |
| 01/2020 to 12/2021 | **Teaching Assistant** at UNIVERSITY COLLEGE LONDON, London, UK<br>- COMP0147: Discrete Mathematics for Computer Science<br>- COMP0017: Computability and Complexity Theory |
| 09/2018 to 05/2019 | **Teaching Assistant** at UNIVERSITY OF TORONTO, Toronto, ON, Canada<br>MAT137: Calculus! |
| 09/2015 to 05/2018 | **Teaching Assistant** at UNIVERSITY OF VICTORIA, Victoria, BC, Canada<br>- MATH122: Logic and Foundations<br>- MATH100: Calculus I<br>- MATH120: Precalculus<br>- MATH200: Calculus III |
| 09/2016 to 05/2018 | **Assistance Centre Tutor** at UNIVERSITY OF VICTORIA, Victoria, BC, Canada |

## PUBLICATIONS

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|---|---|
| 2023 | *Fractals from Regular Behaviours*<br>Authors: **Todd Schmid**, Victoria Noquez, and Lawrence Moss<br>Venue: 10th Conference on Algebra and Coalgebra in Computer Science (CALCO'23) Best Paper Award |
| | *A Complete Inference System for Skip-free Guarded Kleene Algebra with Tests*<br>Authors: Tobias Kappé, **Todd Schmid**, and Alexandra Silva<br>Venue: 32nd European Symposium on Programming (ESOP'23) |
| | *Probabilistic Guarded KAT Modulo Bisimilarity: Completeness and Complexity*<br>Authors: Wojciech Rozowski, Tobias Kappé, Dexter Kozen, **Todd Schmid**, and Alexandra Silva<br>Venue: 50th International Colloquium on Automata, Languages, and Programming (ICALP'23) |
| 2022 | *Processes Parametrised by an Algebraic Theory*<br>Authors: **Todd Schmid**, Wojciech Rozowski, Jurriaan Rot, and Alexandra Silva<br>Venue: 49th International Colloquium on Automata, Languages, and Programming (ICALP'22) |
| 2021 | *How to Write a Coequation ((Co)algebraic pearls)*<br>Authors: Fredrik Dahlqvist and **Todd Schmid**<br>Venue: 9th Conference on Algebra and Coalgebra in Computer Science (CALCO'22) |

Venue: On Star Expressions and Coalgebraic Completeness Theorems
Authors: **Todd Schmid**, Jurriaan Rot, and Alexandra Silva
Venue: 37th Conference on Mathematical Foundations of Programming Semantics (MFPS'22)

*Guarded Kleene Algebra with Tests: Coequations, Coinduction, and Completeness*
Authors: **Todd Schmid**, Tobias Kappé, Dexter Kozen, and Alexandra Silva
Venue: 48th International Colloquium on Automata, Languages, and Programming (ICALP'22)

2019

*Concrete barriers to quantifier elimination in finite dimensional $C^*$-algebras*
Authors: Christopher Eagle and **Todd Schmid**
Venue: Mathematical Logic Quarterly, vol. 65

## PREPRINTS

2022

A (Co)algebraic Framework for Ordered Processes
URL: https://arxiv.org/abs/2209.00634

2022

Presenting with Quantitative Inequational Theories
Presented at BLAST 20222, at CHAPMAN UNIVERSITY, Orange, CA, USA
URL: https://arxiv.org/abs/2207.11629

## TALKS

10/2023

*How to Write a Coequation*
Venue: Boston Computation Club, Boston, MA, USA

09/2023

*Generating Melodies and Fractals with Transition Systems*
Venue: Saint Mary's College of California Math Colloquium
Hosted by: SAINT MARY'S COLLEGE OF CALIFORNIA, Moraga, CA, USA

08/2022

*Presenting Quantitative Inequational Theories*
Venue: BLAST 2022
Hosted by: CHAPMAN UNIVERSITY, Orange, CA, USA

07/2022

*Presenting Quantitative Inequational Theories*
Venue: ICALP 2022
Hosted by: UNIVERSITÉ PARIS CITÉ, Paris, France

08/2021

*On Star Expressions and Completeness Theorems*
Venue: MFPS 2021
Hosted by: UNIVERCITY OF SALZBURG, Salzburg, Germany

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| 07/2021 | *Guarded Kleene Algebra with Tests: Coequations, Coinduction, and Completeness*<br>Venue: ICALP 2021<br>Hosted by: University of Glasgow, Glasgow, Scotland, UK |
| 03/2020 | *Guarded Kleene Algebra with Tests: Coequations, Coinduction, and Completeness*<br>Venue: Programming Principles, Logic, and Verification Group Seminar<br>Hosted by: University College London, London, UK |
| 09/2019 | *Sheaves, or How to Glue Stuff Together*<br>Venue: SUMS Student Seminar<br>Hosted by: University of Victoria, Victoria, BC, Canada |
| 08/2019 | *Topos Theory and the Independence of the Continuum Hypothesis*<br>Venue: Toronto Set Theory Seminar<br>Hosted by: Fields Institute, Toronto, ON, Canada |
| 11/2018 | *Why Heyting Algebras are Interesting*<br>Venue: University of Toronto Graduate Student Seminar<br>Hosted by: University of Toronto, Toronto, ON, Canada |
| 07/2017 | *A Tale of Two Models*<br>Venue: Canadian Undergraduate Mathematics Conference<br>Hosted by: UQÀM, Concordia, and Université de Montréal, Montréal, QC, Canada |
| 01/2017 | *A Fixed-Point Theorem from Modal Logic*<br>Venue: Séminaires universitaires en mathématiques à Montréal<br>Hosted by: UQÀM, Concordia, and Université de Montréal, Montréal, QC, Canada |

## Awards and Residencies

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| 07/2024 | *2024 Summer Research in Mathematics program*<br>Simons Laufer Mathematical Sciences Institute |

## Service and Outreach

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| 09/2020<br>to 08/2021 | London Maths Outreach<br>**Director** |
| 05/2017<br>to 04/2018 | Undergraduate Math and Stats Course Union (SUMS)<br>**Co-president** |
| 07/2014<br>to 09/2014 | Canadian Undergraduate Mathematics Conference<br>**Organizer** |