Oisín Flynn-Connolly

Curriculum Vitae

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Education

10/2021–10/2024 **PhD in mathematics**, *Université Sorbonne Paris-Nord, Paris*, Thesis "Higher commutativity in algebra and algebraic topology" supervised by Grégory Ginot, Included a two-month stay with Fernando Muro in Seville (02/2024-03/2024)

09/2019–06/2020 **M2 "Arithmétique, Analyse, Géométrie"**, *Université Paris-Saclay*, Mention bien, Thesis: "Homotopy theory of the little n-discs operad" supervised by Felix Wierstra and Grégory Ginot

09/2015–06/2019 **B.A. (Honors) in mathematics**, *Trinity College Dublin*, First class honours. Gold medallist., Thesis: "Universal enveloping pre-Lie algebras" supervised by Vladimir Dotsenko

Awards

2021 Marie Skłodowska-Curie Action *Cofund* PhD research fellowship

2019 Trinity College Dublin gold medal for academic performance in final exams.

2017 Trinity Foundation Scholarship ('schols')

2017 First place team, second place individual, Irish Intervarsity Mathematical Competition

2014 & 2015 Represented Ireland at the International Mathematical Olympiad

Publications

2023 Dotsenko, V., Flynn-Connolly, O.: Three Schur functors related to pre-Lie algebras, *Math. Proc. Camb. Phil. Soc.*

Preprints

- Flynn-Connolly, O., Moreno-Fernández, J., Wierstra, F.: A recognition principle for iterated suspensions as coalgebras over the little cubes operad, *submitted*
- Flynn-Connolly, O., Moreno-Fernández, J.: Higher order Massey products for algebras over algebraic operads, *submitted*
- Flynn-Connolly, O.: An obstruction theory for strictly commutative algebras in positive characteristic, ArXiv preprint 2404.16681

In Preparation

- Flynn-Connolly, O.: A higher Hochschild-Konstant-Rosenberg Theorem and the Deligne conjecture

– Flynn-Connolly, O.: Homotopically, E_∞ algebras do not generalise commutative dg-algebras
– Flynn-Connolly, O.: A p-adic de Rham complex

Ongoing Collaborations

– Flynn-Connolly, O., Moreno-Fernández, J., Wierstra, F.: Homotopy operations from the little n-cubes operad

Teaching

Spring 2022 **Calculus II**, *Université Sorbonne Paris Nord*
Spring 2022 **Euclidean and non-Euclidean geometry**, *Université Sorbonne Paris Nord*
Autumn 2018 & Spring 2019 **Maths for STEM: Trinity Access Program**, *Trinity College Dublin*

Upcoming Research Talks

Sep 2024 *TBA*, seminar of Université de Toulouse
Aug 2024 *Higher invariants in homotopy theory*, 37th Annual Meeting of the Irish Mathematical Society, Queen's University Belfast

Invited Research Talks

Oct 2023 *The geometry of iterated suspensions*, seminar of Université Sorbonne Paris Nord
Nov 2023 *p-adic homotopy theory*, seminar of Universidad de Malaga
Nov 2023 *The geometry of iterated suspensions*, seminar of Université de Lille
Jan 2024 *Strictly commutative algebra in positive characteristic*, seminar of Stockholm University
Feb 2024 *Strictly commutative algebra in positive characteristic*, seminar of Seville University

Poster Presentations

July 2023 *Corecognition for iterated suspensions*, Young Topologists Meeting, Lausanne
Sep 2023 *Corecognition for iterated suspensions*, Meeting of the Irish Mathematical Society

Popularization Talks

Apr 2024 *Groebner bases and automated theorem proving*, PhD student seminar of USPN
Nov 2022 *Introduction to infinity-categories*, topology PhD student seminar of USPN

Relevant Work Experience

06/2018–07/2018 **Research Intern**, *Project "Random matrices, genus expansions and the symmetric group"*, Worked with Prof. Neil O'Connell
06/2017–07/2017 **Research Intern**, *Project "The category of quasi-parabolic vector bundles"*, Worked with Prof. Sergey Mozgovoy

2016–2019 **Trainer**, *Olympiad camps*

09/2016–06/2018 **Secretary**, *Dublin University Mathematical Society*

09/2017–06/2018 **Teaching Assistant**, *School of Mathematics, Trinity College Dublin*

09/2020–01/2022 **Tutor for Irish secondary school students**, *Trinity Academy*

Language Skills

English Mother tongue

French Professional capacity (have lectured and taught through it)

Programming Skills

Typesetting LaTeX , HTML (intermediate), CSS (beginner)

Scientific Computation Python, Sage (intermediate), Haskell, C, C++ (beginner)