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Paul Beirne

Personal

Date of birth	March 22, 1994
Place of birth	Dublin, Ireland
Citizenship	Irish

Research Interests

Knot theory, number theory and combinatorics

Education

Ph.D.	**Mathematics**, *University College Dublin*, expected summer 2020.
B.Sc. (Hons)	**Mathematics**, *University College Dublin*, 2016.

Awards/Grants

2018-	**Government of Ireland Postgraduate Scholarship**, *Irish Research Council*, Quantum knot invariants and modular forms, € 48000.
2016 - 2018	**Research Demonstratorship**, *University College Dublin*, Quantum knot invariants and modular forms, € 32000.

Publications

2. *On the 2-head of the colored Jones polynomial for pretzel knots*, 17 pages, accepted for publication in Quarterly Journal of Mathematics (Oxford).

1. *q-series and tails of colored Jones polynomials* (with Robert Osburn), Indag. Math. (N.S.) **28**, no. 1, (2017), 247–260.

Talks

6/2019	***Knots, the colored Jones polynomial and stability***, *Analytic and Combinatorial Number Theory: The Legacy of Ramanujan*, Urbana-Champaign, USA.
1/2019	***Knots, the colored Jones polynomial and stability***, *Heilbronn Number Theory Seminar*, Bristol, England.
3/2018	***Knot invariants and modular forms***, *32nd Automorphic Forms Workshop*, Boston, USA.

Recent and Upcoming Conferences

7/2019	**SwissKnots**, Zurich, Switzerland.
6/2019	**Analytic and Combinatorial Number Theory: The Legacy of Ramanujan**, Urbana-Champaign, USA.
3/2018	**32nd Automorphic Forms Workshop**, Boston, USA.
3/2018	**Modular forms and quantum knot invariants**, Banff, Canada.

Tutoring

1/2016 -	**UCD**: 13 courses
	MATH 10040 (Numbers and Functions)
	MATH 10200 (Matrix Algebra)
	MATH 10320 (Mathematical Analysis)
	MATH 10350 (Calculus in the Mathematical and Physical Sciences)
	MATH 20180 (Foundations for Financial Mathematics)
	MATH 30250 (Cryptography: Theory and Practise)
	MST 20070 (Multivariable Calculus with Applications)
	MST 30010 (Group Theory and Applications)
	MST 30030 (Financial Mathematics)
	STAT 10050 (Practical Statistics)
	STAT 10060 (Statistical Modelling)
	STAT 20060 (Statistics and Probability for Engineers)
	STAT 30240 (Linear Models 1)

Outreach

11/2016-	**Demonstrator** at UCD Outreach Lab
2018	**Director** at UCD Math Sparks program
2015	**Facilitator** at UCD Math Sparks program