

FAN YE

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EDUCATION

Ph.D., University of Cambridge 10/2019-06/2022
Department of Pure Mathematics and Mathematical Statistics (DPMMS)
Supervisor: Jacob Rasmussen
B.S., Peking University 09/2015-06/2019
School of Mathematical Sciences (SMS)

EXPERIENCE

Visitor, Peking University 09/2020-04/2022
Beijing International Center for Mathematical Research (BICMR)
Special Student Program, Massachusetts Institute of Technology 01/2018-12/2018
Department of Mathematics (Course 18)

RESEARCH INTERESTS

Low-dimensional topology, especially knot theory, gauge theory and Floer homology

PUBLICATIONS AND PREPRINTS

Small Dehn surgery and $SU(2)$
Joint with John A. Baldwin, Zhenkun Li, and Steven Sivek, submitted, arXiv:2110.02874

$SU(2)$ representations and a large surgery formula
Joint with Zhenkun Li, submitted, arXiv:2107.11005

An enhanced Euler characteristic of sutured instanton homology
Joint with Zhenkun Li, submitted, arXiv:2107.10490

Instanton Floer homology, sutures, and Euler characteristics
Joint with Zhenkun Li, submitted, arXiv:2101.05169

Sutured instanton homology and Heegaard diagrams
Joint with John A. Baldwin and Zhenkun Li, submitted, arXiv:2011.09424

Instanton Floer homology, sutures, and Heegaard diagrams
Joint with Zhenkun Li, Journal of Topology 15 (1): 39-107 (2022), arXiv:2010.07836

Constrained knots in lens spaces
Accepted by Algebraic & Geometric Topology, arXiv:2007.04237

CONFERENCES AND TALKS

Seminar talk, University of Warsaw 12/2021
Seminar talk, Gauge Theory Virtual 11/2021
Seminar talk, MIT 11/2021
Seminar talk, Caltech 10/2021
Seminar talk, Peking University 10/2021
Seminar talk, Princeton 09/2021
Summer School on 4-manifolds, Georgia Tech 07/2021

Group report, Summer Trisectors Workshop	<i>06/2021</i>
Conference talk, The Nearly Carbon Neutral Geometric Topology Conference (NCNGT2021)	<i>06/2021</i>
Seminar talk, Peking University	<i>06/2021</i>
Seminar talk, Stanford	<i>03/2021</i>
Seminar talk, Peking University	<i>03/2021</i>

TEACHING AND SERVICE

Minicourses, BICMR	<i>10/2021</i>
Drop-in sessions (office hours) for differential geometry, Cambridge	<i>10/2019-12/2019</i>
Referee for Quantum Topology	

AWARDS AND HONORS

Smith-Rayleigh and Knight-Rayleigh Prize, Group 2	<i>2021</i>
Outstanding Graduates in Peking University	<i>2019</i>
Bronze Medal in Alibaba Global Mathematics Competition	<i>2018</i>
May Fourth Scholarship from Peking University	<i>2017</i>
Winning Prize in S. T. Yau College Student Mathematics Contests	<i>2017</i>
Honorable Mention in Mathematical Contest In Modeling	<i>2017</i>
Accessit in China Undergraduate Mathematical Contest in Modeling	<i>2016</i>
Merit Student at Peking University	<i>2016</i>