

Hong Yi Huang

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School of Mathematics, University of Bristol, Bristol BS8 1UG, UK

Research interests

- Group theory (finite and algebraic)
- Algebraic combinatorics
- Representation theory

Education

School of Mathematics, University of Bristol (UoB)

United Kingdom

Jan 2021 –

- PhD in Mathematics
- Supervisor: Professor Tim Burness
- Scholarship: China Scholarship Council

Department of Mathematics, Southern University of Science and Technology (SUSTech)

China

Sept 2016 – July 2020

- Bachelor of Science
- Supervisor: Professor Cai Heng Li
- Thesis: On valency problems of Saxl graphs of almost simple primitive groups with soluble stabiliser

Distinctions

MathSciNet Reviewer, Mathematical Reviews, American Mathematical Society	<i>since 2023</i>
Member, Combinatorial Mathematics Society of Australasia	<i>2022</i>
China Scholarship Council, UoB	<i>2021–25</i>
Outstanding undergraduate thesis, SUSTech	<i>2020</i>
First-class scholarship, SUSTech	<i>2017–18</i>
First prize, Chinese Mathematics Competition (Guangdong)	<i>2017</i>

Conferences and workshops

New perspectives in Computational Group Theory, University of Warwick	<i>June 2024</i>
16th National Conference on Algebra, Quanzhou, China	<i>Nov 2023</i>
4th International Conference on Groups, Graphs and Combinatorics, SUSTech	<i>Nov 2023</i>
International Conference on Combinatorics and Finite Geometry, SUSTech	<i>Sept 2023</i>
CMI-HIMR Summer School: Probabilistic Group Theory, UoB	<i>June 2023</i>
Fry Conference Series: New Perspectives in Pure Mathematics, UoB	<i>Mar 2023</i>
Young Group Theorists Workshop, SwissMAP, Les Diablerets	<i>Sept 2022</i>
Groups St Andrews, Newcastle University	<i>Aug 2022</i>
Simple groups, Representations and Applications, Isaac Newton Institute, University of Cambridge	<i>July 2022</i>
Groups and Graphs, Jiangxi University of Science and Technology (online)	<i>July 2022</i>
23rd Postgraduate Group Theory Conference, London	<i>July 2022</i>

43rd Australasian Combinatorics Conference, Melbourne (online)	Dec 2021
Groups, Graphs and Combinatorics, SUSTech (online)	Nov 2021
LMS Graduate Student Meeting, London Mathematical Society (online)	Nov 2021
Workshop on Group Actions and Transitive Graphs, Kunming	Jan 2021
Workshop on Combinatorics and Graph Theory, SUSTech	Oct 2020
International Conference on Algebraic Combinatorics, Jiaozuo	Sept 2019
The Third International Conference on Group Actions and Transitive Graphs, SUSTech	Oct 2018

Journal publications and preprints

- [5] Finite permutation groups of rank 3
joint with C.H. Li and Y.Z. Zhu
22 pages, submitted, arXiv:2311.04057
- [4] Base sizes of primitive groups of diagonal type
Forum of Mathematics, Sigma, to appear
- [3] On base sizes for primitive groups of product type
joint with T.C. Burness
Journal of Pure and Applied Algebra 227 (2023), Paper No. 107228, 43 pp
- [2] On the Saxl graphs of primitive groups with soluble stabilisers
joint with T.C. Burness
Algebraic Combinatorics 5 (2022), 1053–1087
- [1] On valency problems of Saxl graphs
joint with J. Chen
Journal of Group Theory 25 (2022), 543–577

Selected talks

2024

Bases for permutation groups, Algebra Seminar, University of Warwick 29 Jan

2023

Bases for permutation groups, Algebra Seminar, University of Birmingham 30 Nov

Bases for permutation groups, 4th International Conference on Groups, Graphs and Combinatorics 11 Nov

Symmetry breaking on graphs and groups, Seminars on Discrete Mathematics, Xiamen University 26 Sept

Permutation groups: bases and Saxl graphs, Capital Normal University 16 Sept

Bases for permutation groups, SUSTech 7 Sept

Bases for permutation groups, Junior London Algebra Colloquium, Imperial College London 23 Mar

Symmetry breaking on primitive groups, Seminars on Groups and Graphs, SUSTech 4 Mar

2022

Base-two primitive permutation groups, Young Group Theorists Workshop, SwissMAP, Les Diablerets 5 Sept

Bases, distinguishing partitions and probabilistic methods, University of Melbourne 18 Aug

Base-two primitive permutation groups, Groups St Andrews, Newcastle 4 Aug

Base-two primitive permutation groups and their Saxl graphs, Groups and Graphs 24 July

Base-two primitive permutation groups, 23rd Postgraduate Group Theory Conference 8 July

Bases for primitive permutation groups, Group Theory Seminar, SUSTech 24 May

Regular orbits of primitive groups on power sets, Group Theory Seminar, SUSTech 19 Feb

2021

<i>Base-two primitive permutation groups and their Saxl graphs</i> , 43rd Australasian Combinatorics Conference	13 Dec
<i>Regular suborbits of finite primitive groups</i> , Groups, Graphs and Combinatorics	14 Nov
<i>Base-two primitive permutation groups and their Saxl graphs</i> , LMS Graduate Student Meeting	8 Nov
<i>The distinguishing number of permutation groups</i> , Group Theory Seminar, SUSTech	9 Oct
<i>Groups, graphs and transitivity</i> , Junior Algebra Colloquium, UoB	21 May
<i>The probabilistic method in group theory</i> , Discrete Mathematics Seminar, SUSTech	22 Apr
<i>On valency problems of Saxl graphs</i> , Workshop on Group Actions and Transitive Graphs	2 Jan

2020

<i>On valency problems of Saxl graphs</i> , Discrete Mathematics Seminar, SUSTech	26 Nov
<i>On valency problems of Saxl graphs</i> , SUSTech	17 Nov

Conference & seminar organisations

4th International Conference on Groups, Graphs and Combinatorics, SUSTech	Nov 2023
Seminars on Groups and Graphs, SUSTech (online), https://www.gtseminar.xyz/	2021–23

Teaching

Tutorial leader, School of Mathematics, UoB

- 2023–2024 TB2: MATH10010 Introduction to Group Theory
- 2021–2022 TB1: MATH10010 Introduction to Proofs

Teaching assistant, Department of Mathematics, SUSTech

- 2019–2020 Spring: MA109 Advanced Linear Algebra
- 2019–2020 Fall: MA107 Advanced Linear Algebra I
- 2018–2019 Spring: MA104b Linear Algebra II

Homework marker, Department of Mathematics, SUSTech

- 2020–2021 Spring: MA321 Group Representation Theory, and MA219-16 Elementary Number Theory
- 2019–2020 Fall: MA321 Group Representation Theory, and MA219 Abstract Algebra (H)
- 2018–2019 Spring: MAT8010 Combinatorics (PG)
- 2017–2018 Fall: MA219-16 Elementary Number Theory, and MA213-16 Mathematical Analysis

Research visits

2023: SUSTech (1 month); Capital Normal University (1 week); Xiamen University (1 week)

2021: SUSTech (2 months)

2020: SUSTech (6 months)