

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

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

Jan 2021 –

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

China

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

Sept 2016 – July 2020

Distinctions

Reviewer, Mathematical Reviews, American Mathematical Society

since 2023

Member, Combinatorial Mathematics Society of Australasia

2022

China Scholarship Council, UoB

2021–25

Outstanding undergraduate thesis, SUSTech

2020

First-class scholarship, SUSTech

2017–18

First prize, Chinese Mathematics Competition (Guangdong)

2017

Journal publications and preprints

- [5] H.Y. Huang, C.H. Li and Y.Z. Zhu, *Finite permutation groups of rank 3*, submitted (2023), 22 pp.
arXiv: 2311.04057
- [4] H.Y. Huang, *Base sizes of primitive groups of diagonal type*, **Forum Math. Sigma**, to appear, 43 pp.
arXiv: 2303.14290
- [3] T.C. Burness and H.Y. Huang, *On base sizes for primitive groups of product type*, **J. Pure Appl. Algebra** 227 (2023), Paper No. 107228, 43 pp.
doi: 10.1016/j.jpaa.2022.107228
- [2] T.C. Burness and H.Y. Huang, *On the Saxl graphs of primitive groups with soluble stabilisers*, **Algebr. Comb.** 5 (2022), 1053–1087.
doi: 10.5802/alco.238

- [1] J. Chen and H.Y. Huang, *On valency problems of Saxl graphs*, **J. Group Theory** 25 (2022), 543–577.
doi: 10.1515/jgth-2021-0123

Conference & seminar organisations

Junior Algebra and Combinatorics Seminar, UoB	2024
<ul style="list-style-type: none"> • Founding co-organiser • With Marina Anagnostopoulou-Merkouri and Merlin Haith Rowlett 	
4th International Conference on Groups, Graphs and Combinatorics, SUSTech	Nov 2023
<ul style="list-style-type: none"> • With a group of people led by Cai Heng Li 	
Seminars on Groups and Graphs, SUSTech (online)	2021-24
<ul style="list-style-type: none"> • Founding co-organiser • With Zhaochen Ding, Yilin Xie (2021-23) and Junyan Chen (2024) • Website: https://www.gtseminar.xyz/ 	

Invited talks & seminars

2024	
<i>Bases for permutation groups</i> , Algebra Seminar, UoB	19 Mar
<i>Bases for permutation groups</i> , Algebra Seminar, University of Warwick	29 Jan
2023	
<i>Bases for permutation groups</i> , Algebra Seminar, University of Birmingham	30 Nov
<i>Symmetry breaking on graphs and groups</i> , Seminars on Discrete Mathematics, Xiamen University	26 Sept
<i>Permutation groups: bases and Saxl graphs</i> , Capital Normal University	16 Sept
<i>Bases for permutation groups</i> , SUSTech	7 Sept
<i>Bases for permutation groups</i> , Junior London Algebra Colloquium, Imperial College London	23 Mar
2022	
<i>Bases, distinguishing partitions and probabilistic methods</i> , The University of Melbourne	18 Aug
2021	
<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
2020	
<i>On valency problems of Saxl graphs</i> , Discrete Mathematics Seminar, SUSTech	26 Nov

Other talks

2024	
<i>Permutation groups of rank three</i> , Group Theory in Florence IV, Florence, Italy	July
2023	
<i>Bases for permutation groups</i> , 16th National Conference on Algebra, Quanzhou	18 Nov
<i>Bases for permutation groups</i> , 4th International Conference on Groups, Graphs and Combinatorics	11 Nov
<i>Symmetry breaking on primitive groups</i> , Seminars on Groups and Graphs, SUSTech	4 Mar
2022	
<i>Base-two primitive permutation groups</i> , Young Group Theorists Workshop, SwissMAP, Les Diablerets	5 Sept
<i>Base-two primitive permutation groups</i> , Groups St Andrews, Newcastle, UK	4 Aug
<i>Base-two primitive permutation groups and their Saxl graphs</i> , Groups and Graphs	24 July

<i>Base-two primitive permutation groups</i> , 23rd Postgraduate Group Theory Conference	8 July
<i>Bases for primitive permutation groups</i> , Group Theory Seminar, SUSTech	24 May
<i>Regular orbits of primitive groups on power sets</i> , 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>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> , SUSTech	17 Nov

Conferences

2024

Group Theory in Florence IV, University of Florence	July
New perspectives in Computational Group Theory, University of Warwick	June

2023

16th National Conference on Algebra, Quanzhou, China	Nov
4th International Conference on Groups, Graphs and Combinatorics, SUSTech	Nov
International Conference on Combinatorics and Finite Geometry, SUSTech	Sept
CMI-HIMR Summer School: Probabilistic Group Theory, UoB	June
Fry Conference Series: New Perspectives in Pure Mathematics, UoB	Mar

2022

Young Group Theorists Workshop, SwissMAP, Les Diablerets	Sept
Groups St Andrews, Newcastle University	Aug
Simple groups, Representations and Applications, Isaac Newton Institute, University of Cambridge	July
Groups and Graphs, Jiangxi University of Science and Technology (online)	July
23rd Postgraduate Group Theory Conference, London	July

2021

43rd Australasian Combinatorics Conference, The University of Melbourne (online)	Dec
Groups, Graphs and Combinatorics, SUSTech (online)	Nov
LMS Graduate Student Meeting, London Mathematical Society (online)	Nov
Workshop on Group Actions and Transitive Graphs, Kunming	Jan

Before 2020

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

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)