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 *Jan 2021 –*
- Supervisor: Professor Tim Burness
- Scholarship: China Scholarship Council

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

- Bachelor of Science *Sept 2016 – July 2020*
- Supervisor: Professor Cai Heng Li
- Thesis: On valency problems of Saxl graphs of almost simple primitive groups with soluble stabiliser

Distinctions

China Scholarship Council, UoB *2021–25*
Outstanding undergraduate thesis, SUSTech *2020*
First-class scholarship, SUSTech *2017–18*
First prize, Chinese Mathematics Competition (Guangdong) *2017*

Conferences and workshops

Young Group Theorists Workshop, SwissMAP, Les Diablerets, Switzerland *Sept 2022*
Groups St Andrews, Newcastle *Aug 2022*
Simple groups, representations and applications, Isaac Newton Institute, University of Cambridge *July 2022*
Groups and Graphs, Jiangxi University of Science and Technology (online) *July 2022*
23rd Postgraduate Group Theory Conference, London *July 2022*
43rd Australasian Combinatorics Conference, Melbourne (online) *Dec 2021*
Groups, Graphs and Combinatorics, Shenzhen (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, Shenzhen *Oct 2020*
International Conference on Algebraic Combinatorics, Jiaozuo *Sept 2019*
The Third International Conference on Group Actions and Transitive Graphs, Shenzhen *Oct 2018*

Journal publications and preprints

[3] On base sizes for primitive groups of product type
joint with T.C. Burness
Journal of Pure and Applied Algebra 227 (2023), 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

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

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

2020

On valency problems of Saxl graphs. Discrete Mathematics Seminar, SUSTech *26 Nov*
On valency problems of Saxl graphs. SUSTech *17 Nov*

Seminar organisations

Group Theory Seminar, SUSTech (online), `https://www.gtseminar.xyz/` *2021–23*

Teaching

Tutorial leader, School of Mathematics, UoB

- 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

2021: SUSTech, China (2 months)
2020: SUSTech, China (6 months)