

# Hong Yi Huang

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

## Research interests

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

## Education

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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

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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

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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

## Selected talks

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2022

*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, SUSTech	14 Nov
<i>Base-two primitive permutation groups and their Saxl graphs.</i>	LMS Graduate Student Meeting	8 Nov
<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>Simple groups, fixed point ratios and applications II,</i>	Seminar on Classical Groups, SUSTech	8 Apr
<i>Simple groups, fixed point ratios and applications I,</i>	Seminar on Classical Groups, SUSTech	11 Mar
<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

## Journal publications and preprints

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- [3] On base sizes for primitive groups of product type  
joint with T.C. Burness  
41 pages, submitted, arXiv:2202.02816
- [2] On the Saxl graphs of primitive groups with soluble stabilisers  
joint with T.C. Burness  
32 pages, submitted, arXiv:2105.11861
- [1] On valency problems of Saxl graphs  
joint with J. Chen  
35 pages, **Journal of Group Theory**, to appear  
doi: 10.1515/jgth-2021-0123

## Teaching

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### 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

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2021: SUSTech, China (2 months)

2020: SUSTech, China (6 months)