Dr. Guang Rao

CONTACT INFORMATION	Blk A, #05 – 04, 103 Clementi Road, Singapore 129788	+65 8022 4286 +86 139 2884 2441 generalrao@hotmail.com

RESEARCH INTERESTS

Group theory, Graph theory, Combinatorics, Finite geometry, Representation theory

EDUCATION

The University of Western Australia, Crawley, WA, Australia

    Ph.D., 2011–2015

    Master of Mathematical and Statistical Science, 2009–2011

South China Agricultural University, Guangzhou, China

    Bachelor of Mathematics and Applied Mathematics, 2004–2008

EMPLOYMENT HISTORY

Lecturer National University of Singapore	Aug. 2022 to present
Senior Research Fellow Nanyang Technological University	Dec. 2021 – July 2022
Assistant Professor (Teaching) The Chinese University of Hong Kong (SZ)	Sep. 2015 – July 2022

COURSES TAUGHT

Calculus I, Calculus II, Introduction to Matrix Methods, Linear Algebra, Discrete Mathematics, Mathematical Methods in Real World, Abstract Algebra I, Probability, Geometry and the Emergence of Perspective, Proof, Modelling and Optimization, Graph theory, Ordinary and Partial Differential Equations, Complex Analysis.

GRANTS

Yale-NUS Seed Grant 2023 (S$100,000)	Oct. 2023 – June 2025

- Topic: *Determining a vertex-transitive graph as a Cayley graph*

Special Pocket Research Grant 2023	Sep. 2023 – Mar. 2024

- Topic: *On First Player Advantage of a Class of Board Games*

Travel and Research Grant (S$10,000)	July 2023 – June 2025
Research Tutorial Grant 2022	Apr. – July 2023

- Topic: *The Core of Cubelike Graphs*

Special Pocket Research Grant 2022	Sep. 2022 – Mar. 2023

- Topic: *On the Number of Maximum Matchings of a Class of Symmetric Graphs on Coxeter Groups*

JOURNAL PUBLICATIONS

C. H. Li, **G. Rao** and S. J. Song, "Self-complementary vertex-transitive graphs of prime-cube order", in preparation.

C. H. Li, **G. Rao** and S. J. Song, "New constructions of self-complementary Cayley graphs", *J. Austral. Math. Soc.*, **111**, 372-385, 2021.

G. Rao, "Self-complementary vertex-transitive graphs", *Bull. Austral. Math. Soc.*, **94**, 165-166, 2016.

C. H. Li, **G. Rao** and S. J. Song, "On finite self-complementary metacirculants", *J. Algebraic Combin.*, **40** (4), 1135-1144, 2014.

C. H. Li and **G. Rao**, "Self-complementary vertex-transitive graphs of order a product of two primes", *Bull. Austral. Math. Soc.* **89** (2), 322-330, 2014.

MANAGEMENT EXPERIENCE	**Member of School Board**	Jan. 2018 – Dec. 2021
	Co-Chair of TA Committee	Nov. 2017 – Dec. 2021
	Member of Diligentia College	Oct. 2016 – Dec. 2021
	Disciplinary Committee Member	Oct. 2016 – Dec. 2021

AWARDS

Shenzhen Experts Dec. 13, 2017
- Shenzhen experts are selected by the Organization of Shenzhen experts, who provide technical support to the government of Shenzhen for city developments.

Shenlong Talents Plan Awards Sep. 2017
- Shenlong Talents Plan Awards are offered by Longgang district in Shenzhen to reward high-calibra talents' contribution in the district.

Shenzhen Peacock Plan Awards June 2016
- Shenzhen Peacock Plan Awards is a recruitment project implemented by the Shenzhen Municipal Government in 2011 to bring in high-tech talent and research teams.

Graduate Research School Travel Awards Apr. 23, 2014
Graduate Research School
The University of Western Australia

PhD Completion Scholarships 2014
Graduate Research School
The University of Western Australia

Faculty International Postgraduate Scholarships July 2009 – July 2011
School of Mathematics and Statistics
The University of Western Australia

STUDENT SUPERVISIONS

- *On First Player Advantage of a Class of Board Games* (Arun Gandhi Shyam Krishna) — Sep.– Dec. 2023
- *Caley Sum Graphs* (Julene Ngew) — Aug. 2023 – Apr. 2024
- *Core of Cubelike Graphs* (Michelle Ong Shu Tian) — Aug. 2023 – Apr. 2024
- *A Different Approach to Determinants* (Jingyi Hou) — May – July 2023
- *Maximum Matchings of Cayley Graphs on Symmetric Groups* (Sevval Begum Bayram, Nahian Chowdhury) — Dec. 2022 – July 2023
- First Prize in the 12th Mathematics competition of Chinese College Students, Guangdong Province (Xiangqi He) — 26 Dec. 2022
- *Self-Complementary Metacirculants*, (Kaichuan Qi) — Jan. 2019 – Jan. 2020
- Meritorious Winner of 2019 Interdisciplinary Contest In Modeling (Guochao Xie, Yongqi Zhang, Lan Wu) — Apr. 2019

OTHERS

- Judge of National Robotics Competition (NRC 2023) — 23 Aug. 2023
- Judge of Singapore Science and Engineering Fair (SSEF 2023) — 8 Mar. 2023
- Judge of Singapore Science and Engineering Fair (SSEF 2022) — 30 Mar. 2022

COMPUTER SKILLS

- Proficiency in LaTeX, GAP, Sage
- Familiarity in Python, C language
- Basic knowledge of SPSS, Linux

CONFERENCES AND PRESENTATIONS

- Attended The 34th International Colloquium on, Group Theoretical Methods in Physics, Strasbourg, France   July 18–22, 2022

- Attended 3rd Group Action and Transitive Graphs, Shenzhen, China   Oct. 11–14, 2018

- Attended 4th Retreat of CMSC (the Mathematics of Symmetry and Computation), Yanchep, WA, Australia   Feb. 10–12, 2015

- Attended AMSI Summer School 2015, Newcastle, Australia   Jan. 5–29, 2015

- Gave a talk in 5th Workshop SIGMAP (Symmetries In Graph, Maps And Polytopes), ELIM Conference Centre, West Malvern, U.K.   July 7–11, 2014

- Attended 3rd Retreat of CMSC (the Mathematics of Symmetry and Computation), Swanleigh, WA, Australia   Feb. 11–13, 2014

- Gave a talk in 37ACCMCC (37th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing), Perth, Australia   Dec. 9–13, 2013

- Attended Representation Theory in Geometry, Topology and Combinatorics, Melbourne, Australia   Oct. 28–Nov. 1, 2013

- Attended 2nd Retreat of CMSC (the Mathematics of Symmetry and Computation), Swanleigh, WA, Australia   June 3–5, 2013

- Gave a talk in Groups and Combinatorics Seminar in the University of Western Australia, Perth, Australia   June 6, 2012

- Attended 1st Retreat of CMSC (the Mathematics of Symmetry and Computation), Yanchep, WA, Australia   Apr. 11–14, 2012

- Attended AMSI Summer School 2010, Melbourne, Australia   Jan. 11–Feb. 5, 2010

MEMBERSHIPS

- Reviewer for *International Journal of Theoretical and Applied Mathematics*   Oct. 20, 2020
- Member of editorial board for *International Journal of Discrete Mathematics*   May 25, 2018
- Reviewer for *Discrete Mathematics*   Mar. 2018
- Reviewer for Mathematical Reviews   since 2015
- Member of CMSA (Combinatorial Mathematics Society of Australasia)   since 2014
- Student Member of AustMS (Australian Mathematical Society)   since 2013
- Student Member of SIAM (Society for Industrial and Applied Mathematics)   since 2011