

# Marina Anagnostopoulou-Merkouri

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<https://marinaanagno.github.io>

## EDUCATION

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- PhD in Mathematics** 2023 - Present  
*University of Bristol*  
*Supervisor: Prof. Tim Burness*
- Master in Pure Mathematics (First Class)** 2019 - 2023  
*University of St Andrews*  
*Final year project on the O’Nan-Scott theorem and base sizes of permutation groups supervised by Prof. Colva Roney-Dougal.*

## PUBLICATIONS

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- [6] **Permutation groups, partition lattices and block structures**  
joint with R.A. Bailey and Peter J. Cameron  
49 pages, submitted.
- [5] **Computing finite index congruences of finitely presented semigroups and monoids**  
joint with Reinis Cirpons, James D. Mitchell, and Maria Tsalakou  
50 pages, submitted.
- [4] **On the regularity number of a finite group and other base-related invariants**  
joint with Timothy C. Burness  
**Journal of the London Mathematical Society**  
52 pages, to appear.
- [3] **Pre-primitive permutation groups**  
joint with Peter J. Cameron and Enoch Suleiman  
**Journal of Algebra** 636 (Dec. 2023), pp. 695–715.
- [2] **Association Schemes with given stratum dimensions: on a paper of Peter M. Neumann**  
joint with Peter J. Cameron  
**Algebraic Combinatorics** Volume 6 (2023) no. 5, pp. 1189-1210.
- [1] **Properties of congruence lattices of graph inverse semigroups**  
joint with Zachary Mesyan and James D. Mitchell  
**International Journal of Algebra and Computation** Vol. 34, No. 03, pp. 371-396 (2024)

## SOFTWARE

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### **Digraphs GAP package**

-Improved efficiency for methods used for canonical labelling and graph isomorphism.  
-Implemented graph theory algorithms such as the almost linear Tarjan and Lengauer algorithm for computing dominators, and algorithms for reachability.

### **Semigroups GAP package**

-Constructed new algorithms for semigroup congruences and congruence lattices and implemented them.

## TALKS

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- [12] **Junior London Algebra Colloquium** *October 2024*  
*The regularity number of a finite group*  
Imperial College London
- [11] **Topics in Group Theory - Andrea Lucchini's birthday conference** *September 2024*  
*The regularity number of a finite group*  
Università degli Studi di Padova
- [10] **Heilbronn HDP event** *September 2024*  
*The regularity number of a finite group*  
University of Bristol
- [9] **Postgraduate Group Theory Conference** *July 2024*  
*The regularity number of a finite group*  
University of Birmingham
- [8] **Groups in Florence IV** *July 2024*  
*The regularity number of a finite group*  
Università degli Studi di Firenze
- [7] **Bristol Junior Geometry Seminar (BRIJGES)** *February 2024*  
*The regularity number of a finite group*  
University of Bristol
- [6] **Bristol postgraduate seminar** *November 2023*  
*Permutation groups and Galois' confusion*  
University of Bristol
- [5] **Seminars on groups and graphs, SUSTech** *October 2023*  
*New properties of permutation groups*  
Southern University of Science and Technology (SUSTech), Shenzhen, China (Online)
- [4] **York semigroups seminar** *March 2023*  
*Congruence lattices of graph inverse semigroups*  
University of York
- [3] **Tomorrow's Mathematicians Today** *March 2023*  
*Pre-primitive permutation groups*  
University of Greenwich (Online)

- [2] **St Andrews Maths Society** *November 2022*  
*Strongly regular graphs with given stratum dimensions*  
 University of St Andrews
- [1] **Tomorrow's Mathematicians Today** *February 2022*  
*Congruence lattices of finite graph inverse semigroups*  
 University of Greenwich (Online)

## TEACHING

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- University of Bristol** *September 2023 - Present*  
 -Introduction to Pure Mathematics tutor *September 2024 - December 2024*  
 -Linear algebra tutor *September 2023 - May 2024*  
 -Perspectives in Mathematics demonstrator *December 2023, November 2024*
- Private tutoring** *November 2022 - April 2023*  
 -Prepared notes and delivered tutorials for GCSE, A-level students, and IB students.
- MyTutor** *December 2020 - September 2022*  
 -Prepared notes and delivered tutorials for GCSE and A-level students.
- Coronavirus Tutoring Initiative** *April 2020 - October 2020*  
 -Prepared notes and delivered tutorials for GCSE and A-level students.

## FUNDING AWARDED

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- St Andrews Research Internship Scheme** 2022  
 - Funding granted for doing research on permutation group theory.
- University of St Andrews Careers Centre Employability Bursary** 2022  
 - Funding granted to extend my summer research internship and undertake a second project on group theory.
- LMS Undergraduate Research Bursary** 2022  
 - Funding granted for a summer research project on association schemes.
- St Andrews Research Internship Scheme** 2022  
 - Funding granted for completing a research project on computational semigroup theory.

## LANGUAGES

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Greek (Native), English (C2), French (C2), German (B2).

## OTHER

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- Postgraduate Group Theory Conference 2025 organiser** *August 2024 - Present*
- Bristol Junior Algebra and Combinatorics Seminar organiser** *January 2024 - Present*  
 -New seminar series aimed at PhD students and postdocs in algebra and combinatorics.
- Maths Base Helper** *September 2020 - May 2023*  
 - Helped first and second year St Andrews students with questions.

**School of Mathematics and Statistics Ambassador**

*October 2021 - April 2023*

-Helped at the school of mathematics and statistics visiting day talks, attended by prospective students.

**Zero Gravity mentor**

*July 2022 - May 2023*

-Mentored a final year school pupil from a low-income background that wants to study mathematics in university.

**University of St Andrews Karate Club**

- Captain (04/2021 - 04/2023), Covid Officer (09/2020 - 03/22), Wellbeing Officer (04/2020 - 10/2021, 04/2022 - 04/2023), Safety and Fundraising Officer (04/2020 - 04/2021).

**University of St Andrews Mathematics Society**

- Social Representative.

*April 2021 - March 2022*