

Marina Anagnostopoulou-Merkouri

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<https://marinaanagno.github.io>

EDUCATION

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

[6] **Permutation groups, partition lattices and block structures**

joint with R.A. Bailey and Peter J. Cameron

49 pages, submitted.

[5] **On the regularity number of a finite group and other base-related invariants**

joint with Timothy C. Burness

52 pages, submitted.

[4] **Computing finite index congruences of finitely presented semigroups and monoids**

joint with Reinis Cirpons, James D. Mitchell, and Maria Tsalakou

50 pages, submitted.

[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

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 graph inverse semigroup congruences and congruence lattices and implemented them.

TALKS

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| [11] Topics in Group Theory - Andrea Lucchini's birthday conference
<i>The regularity number of a finite group</i>
Università degli Studi di Padova | September 2024 |
| [10] Heilbronn HDP event
<i>The regularity number of a finite group</i>
University of Bristol | September 2024 |
| [9] Postgraduate Group Theory Conference
<i>The regularity number of a finite group</i>
University of Birmingham | July 2024 |
| [8] Groups in Florence IV
<i>The regularity number of a finite group</i>
Università degli Studi di Firenze | July 2024 |
| [7] Bristol Junior Geometry Seminar (BRIJGES)
<i>The regularity number of a finite group</i>
University of Bristol | February 2024 |
| [6] Bristol postgraduate seminar
<i>Permutation groups and Galois' confusion</i>
University of Bristol | November 2023 |
| [5] Seminars on groups and graphs, SUSTech
<i>New properties of permutation groups</i>
Southern University of Science and Technology (SUSTech), Shenzhen, China (Online) | October 2023 |
| [4] York semigroups seminar
<i>Congruence lattices of graph inverse semigroups</i>
University of York | March 2023 |
| [3] Tomorrow's Mathematicians Today
<i>Pre-primitive permutation groups</i>
University of Greenwich (Online) | March 2023 |
| [2] St Andrews Maths Society
<i>Strongly regular graphs with given stratum dimensions</i>
University of St Andrews | November 2022 |

[1] **Tomorrow's Mathematicians Today**
Congruence lattices of finite graph inverse semigroups
University of Greenwich (Online)

February 2022

TEACHING

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

FUNDING AWARDED

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

LANGUAGES

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

OTHER

Bristol Junior Algebra and Combinatorics Seminar organiser	<i>January 2024 - Present</i>
-New seminar series aimed at PhD students and postdocs in algebra and combinatorics.	
Maths Base Helper	<i>September 2020 - May 2023</i>
- Helped first and second year St Andrews students with questions.	
School of Mathematics and Statistics Ambassador	<i>October 2021 - April 2023</i>
-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