

# Marina Anagnostopoulou-Merkouri

marina.anagnostopoulou-merkouri@bristol.ac.uk

<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

---

[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**

---

**[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**

---

**University of Bristol**

*September 2023 - Present*

-Linear algebra tutor

*September 2023 - May 2024*

-Perspectives in Mathematics demonstrator

*December 2023*

**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**

---

**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**

---

**Maths Base Helper***September 2020 - May 2023*

- Helping first and second year St Andrews students with questions.

**School of Mathematics and Statistics Ambassador***October 2021 - April 2023*

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

**Zero Gravity mentor***July 2022 - May 2023*

-Mentoring 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*