Marina Anagnostopoulou-Merkouri

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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

[4] **Computing the congruences of a finite semigroup or monoid**
joint with James Mitchell and Maria Tsalakou
30 pages, submitted.
`https://arxiv.org/abs/2302.06295`

[3] **Pre-primitive permutation groups**
joint with Peter J. Cameron and Enoch Suleiman
Journal of Algebra 636 (Dec. 2023), pp. 695–715.
`https://www.sciencedirect.com/science/article/pii/S0021869323004593`

[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.
`https://alco.centre-mersenne.org/articles/10.5802/alco.307/`

[1] **Properties of congruence latttices of graph inverse semigroup**
joint with Zachary Mesyan and James Mitchell
International Journal of Algebra and Computation.
24 pages, to appear
`https://arxiv.org/abs/2108.08277`

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

[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 matematics 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 - Present), Safety and Fundraising Officer (04/2020 - 04/2021).

St Andrews Athletic Union Colours Award
- Award for exceptional service and dedication to the karate club.   *2022*

University of St Andrews Mathematics Society
- Social Representative.   *April 2021 - March 2022*

Trained in piano and singing (mostly classical)