Siân Fryer

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RESEARCH INTERESTS

Non-commutative algebra, in particular quantum algebras and their semi-classical limits, H-prime stratification, prime and primitive spectra.
Related areas in combinatorics and cluster algebras, including totally non-negative matrices and the Grassmannian, Le/Cauchon diagrams, cluster algebra structures on the coordinate rings of these varieties.

ACADEMIC POSITIONS

University of Leeds, 2014 - present
EPSRC Doctoral Prize Fellow

EDUCATION

University of Manchester, 2010-2014
PhD in Pure Mathematics
Thesis: *The q-Division Ring, Quantum Matrices and Semi-classical Limits*
Supervisor: Professor Toby Stafford

University of Nottingham, 2005-2009
MMath in Pure Mathematics, 1st Class Hons.
Masters Dissertation: *Involutions on Composition Algebras*
Supervisor: Dr Susanne Pumplün

PAPERS AND PRE-PRINTS

Separating Ore sets for Prime Ideals of Quantum Algebras (with Milen Yakimov), `arXiv:1602.05052`

From Restricted Permutations to Grassmann Necklaces and Back Again, `arXiv:1511.06664`

The Prime Spectrum of Quantum SL_3 and the Poisson-prime Spectrum of its Semi-classical Limit, *in submission*, `arXiv:1505.06627`

The q-Division Ring and its Fixed Rings, *J. Algebra 402 (2014), 358-378*

INVITED TALKS

AMS-EMS-SPM International Meeting in Porto, *Special Session on "Combinatorics and Geometry of Quantum Algebras", June 13th 2015*

ARTIN meeting at University of Glasgow, *November 7th 2014*

LMS Women in Mathematics Day, *April 25th 2014*

ARTIN Young Researchers meeting at University of Newcastle, *March 28th 2014*

TEACHING

Lecture Course: Groups and Symmetry, 3rd year Mathematics students (Autumn 2015)
Tutorials: Class sizes of 12-50 students.
- Algebra and Calculus for Foundation Year (Spring 2011)

- Pure Mathematics and Logic for Foundation Year (Autumn 2012)
- Mathematics for Computer Scientists (Autumn 2011, Spring 2012)
- Mathematics for Engineers (Autumn 2012)
- Matlab and Groupwork (Autumn 2012)
- Sets, Numbers and Functions, (Autumn 2012, Autumn 2013)
- Linear Algebra, (Spring 2013)
- Commutative Algebra (Spring 2013)
- Linear Algebra for Joint Honours Students (Autumn 2014)

One-to-one tutoring with 16 year old school students, in preparation for their GCSE maths exam (Summer 2012)

OUTREACH   Volunteer at Manchester Science Festival
- Domino computer (2012)
- MegaMenger fractal build (2014)

Volunteer at Jodrell Bank's Science Arena: Live From Jodrell Bank 2013, Girl Geeks stall

YouTube video on methods of approximating π, produced by mathematics website The Aperiodical for Pi Day 2015 (3/14/15)

Presented posters explaining division ring research to diverse general-interest audiences:
- WorldCon 2014 (Science-fiction convention)
- SET for Britain 2015 (Members of Parliament)

OTHER   Conference Organizer: ARTIN Young Researchers Meeting, March 6-7th 2015

Organising Committee: School of Mathematics Building Reopening Celebration 2015

Athena Swan Committee Member: School of Mathematics postdoc representative, January 2015 - present

School of Mathematics Postdoc Forum Organiser: December 2014 - present

REFERENCES   **Stéphane Launois** (University of Kent)
Robert Marsh (University of Leeds)
Alison Parker (University of Leeds, teaching reference)
Toby Stafford (University of Manchester)