

Heilbronn Fellows Research Papers 2014 – 2021

2020/2021

**** Edward Crane, Gene Kopp.** Rubel's problem: from Hayman's list to the Chabauty method. *London Mathematical Society newsletter, issue 492 (2021)*. Feature article. [View pdf](#).

Chris Budd, **Kieran Calvert**, Sam Johnson, **Sam Tickle**. Assessing risk in the retail environment during the COVID-19 pandemic (2020). [View pdf on arxiv:2011.09277](#)

Robert Kurinczuk, Daniel Skodlerack, Shaun Stevens. Endo-parameters for p -adic classical groups (2020). *Inventiones Mathematicae*. [View pdf on doi:10.1007/s00222-020-00997-0](#)

Alonso Castillo-Ramirez, **Justin McInroy**. Miyamoto groups of code algebras generated by small idempotents (2020). [View pdf on arxiv:2001.08426](#)

**** Benjamin Bedert, George Cooper, Thomas Oliver, Pengcheng Zhang.** Twisting moduli for $GL(2)$ (2020). [View pdf on arxiv:2003.02557](#)

Joel Klassen, Milad Marvian, **Stephen Piddock**, Marios Ioannou, Itay Hen, Barbara Terhal. Hardness and ease of curing the sign problem for two-local qubit Hamiltonians (2020). [View pdf on arxiv:1906.08800](#)

Jason Semeraro. A 2-compact group as a spets (2020). [View pdf on arxiv:1906.00898](#)

Chris Parker, **Jason Semeraro**. Algorithms for fusion systems with applications to p -groups of small order (2020). [View pdf on arxiv:2003.01600](#)

Sam Tickle, Idris Eckley, Paul Fearnhead. A computationally efficient, high-dimensional multiple changepoint procedure with application to global terrorism incidence (2020). [View pdf on arxiv:2011.03599](#)

**** Demi Allen, Sam Chow, Han Yu.** Dyadic approximation in the middle-third cantor set (2020). [View pdf on arxiv:2005.09300](#)

John Cremona, Filip Najman. \mathbb{Q} -curves over odd degree number fields (2020). [View pdf on arxiv:2004.10054](#)

Demi Allen, Edward Crane, Christopher Doris, David Abrahams et al. Guiding principles for unlocking the workforce: What can Mathematics tell us? (2020). Working paper from ICMS/VKEMS Virtual Study Group: Mathematical Principles for Unlocking the Workforce. [View pdf on icms](#)

** **Ben Barber**, Joshua Erde, Peter Keevash, Alexander Roberts. Isoperimetric stability in lattices (2020). [View pdf on arxiv:2007.14457](#)

Ben Barber, Stefan Glock, Daniela Kühn, Alan Lo, Richard Montgomery, Deryk Osthus. Minimalist designs. *Random Structures and Algorithms* 57 (2020) 47-63. [View pdf on arxiv:1808.06956](#)

Chris Birkbeck. On the p -adic Langlands correspondence for algebraic tori. *Journal de Théorie des Nombres de Bordeaux* 32, 1 (2020) 133-158. [View pdf on arxiv:1811.04819](#)

Chris Birkbeck. 2-adic slopes of Hilbert modular forms over $\mathbb{Q}(\sqrt{5})$. *Bulletin of the London Mathematical Society* 52, 4 (2020) 716-729. [View pdf on arxiv:1811.04799](#)

Manjul Bhargava, **John Cremona**, Tom Fisher. The proportion of genus one curves over \mathbb{Q} defined by a binary quartic that everywhere locally have a point (2020). [View pdf on arxiv:2004.12085](#)

** **Jonathan Bober**, Alex Best, Andrew Booker, Edgar Costa, **John Cremona**, Maarten Derickx, David Lowry-Duda, Min Lee, David Roe, Andrew Sutherland, John Voight. Computing classical modular forms (2020). [View pdf on arxiv:2002.04717](#)

** **John Cremona**, Nuno Freitas. Global methods for the symplectic type of congruences between elliptic curves, provisionally (2020). [View pdf on arxiv:1910.12290](#)

Kevin Grace. The templates for some classes of quaternary matroids (2020). [View pdf on arxiv:1902.07136](#)

Scott Harper, Andrea Lucchini. Connectivity of generating graphs of nilpotent groups (2020). [View pdf on arxiv:2002.03330](#)

Case Donovan, **Scott Harper**. Infinite $3/2$ -generated groups (2020). [View pdf on arxiv:1907.05498](#)

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Benjamin Barrett. Local simple connectedness of boundaries of hyperbolic groups (2020). [View pdf on arxiv:2004.11650](#)

** **Kieran Calvert**. Compact Schur-Weyl duality: real Lie groups and the cyclotomic Brauer algebra (2020). [View pdf on arxiv:2003.09319](#)

Edward Crane. Well-posedness of the mean field forest fire age evolution equation (2020). [View pdf on arxiv:2007.05807](#)

Edward Crane, David Abraham, et.al. Unlocking Higher Education Spaces – What Might Mathematics Tell Us? (2020). Virtual Forum for Knowledge Exchange in the Mathematical Sciences (V-KEMS). [View pdf on newton](#)

** **John Cremona**, Mohammad Sadek. Local and global densities for Weierstrass models of elliptic curves (2020). [View pdf on arxiv:2003.08454](#)

John Cremona, Aurel Page, Andrew Sutherland. Sorting and labelling integral ideals in a number field (2020). [View arxiv:2005.09491](#)

** **Christopher Doris**. Exact p -adic computation in Magma (2020). *Journal of Symbolic Computation*. [View pdf on arxiv:2008.11063](#)

Christopher Doris. Computing the Galois group of a polynomial over a p -adic field. *International Journal of Number Theory* 16, 08 (2020) 1767-1801. [View pdf on arxiv:2003.05834](#)

** **Rhiannon Dougall**, Richard Shar. Anosov flows, growth rates on covers and group extensions of subshifts. *Inventiones Mathematicae* (2020). [View pdf on doi:10.1007/s00222-020-00994-3](#)

** Neil Dummigan, **Dan Fretwell**. Automorphic forms for some even unimodular lattices (2020). [View pdf on arxiv:2003.08703](#)

James Cruise, **Neil Gillespie**, Brendan Reid. Practical quantum computing: The value of local quantum computation (2020). [View pdf on arxiv:2009.08513](#)

Rutger Campbell, **Kevin Grace**, James Oxley, Geoff Whittle. On density-critical matroids. *The Electronic Journal of Combinatorics* 27, 2 (2020). [View pdf on doi:10.37236/8584](#)

** George Drummond, Tara Fife, **Kevin Grace**, James Oxley. Circuit-difference matroids. *The Electronic Journal of Combinatorics* 27,3 (2020). [View pdf on doi:10.37236/9314](#)

Scott Harper. Shintani descent, simple groups and spread (2020). [View pdf on arxiv:2008.02558](#)

** Timothy Burness, Robert Guralnick, **Scott Harper**. The spread of a finite group (2020). [View pdf on arxiv:2006.01421](#)

Scott Harper. The spread of almost simple classical groups (2020).

[View pdf on arxiv:2004.11060](#)

John Bamberg, Stephen Glasby, **Scott Harper**, Cheryl Praeger. Permutations with orders coprime to a given integer. *The Electronic Journal of Combinatorics* 27, 1 (2020).

[View pdf on doi:10.37236/8678](#)

Brian Cook, **Kevin Hughes**, Eyvindur Palsson. Supercritical discrete restriction estimates for forms in many variables (2020). [View pdf on arxiv:2004.02301](#)

**** Robert Kurinczuk**, Jean-François Dat, David Helm, Gil Moss. Moduli of Langlands parameters (2020). [View pdf on arxiv:2009.06708](#)

Robert Kurinczuk, Nadir Matringe. A characterization of the relation between two ℓ -modular correspondences. *Comptes Rendus Mathématique* 358, 2 (2020) 201-209.

[View pdf on arxiv:1911.12891](#)

**** Robert Kurinczuk**, Nadir Matringe. The ℓ -modular local Langlands correspondence and local factors. *Journal of the Institute of Mathematics Jussieu* (2020). [View pdf on arxiv:1805.05888](#)

**** Alex Malcolm**. On the p -width of finite simple groups (2020). [View pdf on arxiv:2003.00755](#)

Justin McInroy. 3-generated axial algebras with a minimal Miyamoto group (2020).

[View pdf on arxiv:2004.11773](#)

Justin McInroy, Sergey Shpectorov. An expansion algorithm for constructing axial algebras. *Journal of Algebra* 550 (2020) 379-409. [View pdf on arxiv:1804.00587](#)

Sean Dewar, Derek Kitson, **Anthony Nixon**. Which graphs are rigid in ℓ_p^d ? (2020).

[View pdf on arxiv:2007.15978](#)

Bill Jackson, **Anthony Nixon**, Shin-Ichi Tanigawa. An improved bound for the rigidity of linearly constrained frameworks (2020). [View pdf on arxiv:2005.11051](#)

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Anthony Nixon. Assur Decompositions of direction-length frameworks (2020).

[View pdf on Lancaster University](#)

Derek Kitson, **Anthony Nixon**, Bernd Schulze. Rigidity of symmetric frameworks in normed spaces. *Linear Algebra and its Applications* 607 (2020) 231-285. [View pdf on arxiv:1808.04484](#)

Katie Clinch, **Anthony Nixon**, Bernd Schulze, Walter Whiteley. Pairing symmetries for Euclidean and spherical frameworks. *Discrete and Computational Geometry* 64 (2020) 483-518.

[View pdf on doi:10.1007/s00454-020-00198-9](https://doi.org/10.1007/s00454-020-00198-9)

Hakan Guler, Bill Jackson, **Anthony Nixon**. Global rigidity of 2D linearly constrained frameworks. *International Mathematics Research Notices* (2020). [View pdf on arxiv:1906.10926](https://arxiv.org/abs/1906.10926)

James Cruickshank, Hakan Guler, Bill Jackson, **Anthony Nixon**. Rigidity of linearly constrained frameworks. *International Mathematics Research Notices* 2020, 12 (2020) 3824-3840.

[View pdf on arxiv:1804.00411](https://arxiv.org/abs/1804.00411)

Anthony Nixon, Stephen Power. Double-distance frameworks and mixed sparsity graphs. *Discrete and Computational Geometry* 63, 2 (2020) 294-318.

[View pdf on doi:10.1007/s00454-019-00164-0](https://doi.org/10.1007/s00454-019-00164-0)

** Colin Ingalls, Adam Logan, **Owen Patashnick**. Explicit coverings of families of elliptic surfaces by squares of curves (2020). [View pdf on arxiv:2009.07807](https://arxiv.org/abs/2009.07807)

** Tom De Medts, **Simon Peacock**, Sergey Shpectorovd, Michiel Van Couwenberghe. Decomposition algebras and axial algebras. *Journal of Algebra* 556 (2020) 287-314.

[View pdf on arxiv:1905.03481](https://arxiv.org/abs/1905.03481)

Stephen Piddock, Johannes Bausch. Universal translationally-invariant Hamiltonians (2020).

[View pdf on arxiv:2001.08050](https://arxiv.org/abs/2001.08050)

** Tamara Kohler, **Stephen Piddock**, Johannes Bausch, Toby Cubitt. Translationally-invariant universal quantum Hamiltonians in 1D (2020). [View pdf on arxiv:2003.13753](https://arxiv.org/abs/2003.13753)

Marios Ioannou, **Stephen Piddock**, Milad Marvian, Joel Klassen, Barbara Terhal. Sign-curing local Hamiltonians: termwise versus global stoquasticity and the use of Clifford transformations (2020). [View pdf on arxiv:2007.11964](https://arxiv.org/abs/2007.11964)

** Radha Kessar, Gunter Malle, **Jason Semeraro**. Weight conjectures for ℓ -compact groups and spetses (2020). [View pdf on arxiv:2008.07213](https://arxiv.org/abs/2008.07213)

Colin McDiarmid, **Fiona Skerman**. Modularity of Erdős-Rényi random graphs. *Random Structures & Algorithms* 57, 1 (2020) 211-243. [View pdf on arxiv:1808.02243](https://arxiv.org/abs/1808.02243)

Tobias Johnson, Moumanti Podder, **Fiona Skerman**. Random tree recursions: which fixed points correspond to tangible sets of trees?. *Random Structures & Algorithms* 56, 3 (2020) 796-837.

[View pdf on arxiv:1808.03019](https://arxiv.org/abs/1808.03019)

Nicholas Wilkins. A construction of the quantum Steenrod squares and their algebraic relations. *Geometry & Topology* 24, 2 (2020) 885-970. [View pdf on arxiv:1805.02438](#)

Kitty Meeks, **Fiona Skerman.** The parameterised complexity of computing the maximum modularity of a graph. *Algorithmica* 82 (2020) 174-2199.
[View pdf on doi:10.1007/s00453-019-00649-7](#)

Georg Loho, **Ben Smith.** Matching fields and lattice points of simplices. *Advances in Mathematics* 370 (2020). [View pdf on arxiv:1804.01595](#)

** **James Williams.** On the regular power structure of p-groups and applications (2020).
[View pdf on arxiv:2004.04610](#)

Gunnar Traustason, **James Williams.** Powerfully nilpotent groups of rank 2 or small order. *Journal of Group Theory* (2020). [View pdf on arxiv:2002.02694](#)

** **Gavin Brown,** Enrico Fatighenti. Hodge numbers and deformations of Fano 3-folds. *Documenta Mathematica* 25 (2020) 267-307. [View pdf on doi:10.25537/dm.2020v25.267-307](#)

** Sevag Gharibian, **Stephen Piddock,** Justin Yirka. Oracle complexity classes and local measurements on physical Hamiltonians. *Proceedings of 37th International Symposium on Theoretical Aspects of Computer Science (STACS2020)*. [View pdf on arxiv:1909.05981](#)

** **Andrew Booker,** Min Lee, Andreas Strömbergsson. Twist-minimal trace formulas and the Selberg eigenvalue conjecture. *Journal of the London Mathematical Society* 2, 102 (2020) 1067-1134. [View pdf on arxiv:1803.06016](#)

** Sanhan Khasraw, **Justin McInroy,** Sergey Shpectorov. On the structure of axial algebras. *Transactions of the American Mathematical Society* 373 (2020) 2135-2156.
[View pdf on arxiv:1809.10132](#)

Nikolay Moshchevitin, **Brendan Murphy,** Ilya Shkredov. Popular products and continued fractions. *Israel Journal of Mathematics* 238 (2020) 807-835. [View pdf on arxiv:1808.05845](#)

Catherine Hsu. Higher congruences between newforms and Eisenstein series of squarefree level. *Journal de Théorie des Nombres de Bordeaux* 31, 2 (2020). [View pdf on arxiv:1706.05589](#)

2019

Kyu-Hwang Lee, Dongwen Liu, **Thomas Oliver**. Character expansion of Kac-Moody correction factors (2019). [View pdf on arxiv:1911.09770](#)

** **Gene Kopp**. Indefinite zeta functions (2019). [View pdf on arxiv:1912.12364](#)

Robert Kurinczuk, Nadir Matringe. Characterization of the poles of the l -modular Asai L-factor (2019) *Bulletin de la Société Mathématique de France*. [View pdf on arxiv:1903.02427](#)

Ben Clark, **Kevin Grace**, James Oxley, Stefan van Zwam. On the highly connected dyadic, near-regular, and sixth-root-of-unity matroids (2019). [View pdf on arxiv:1903.04910](#)

Brian Cook, **Kevin Hughes**. Bounds for lacunary maximal functions given by Birch--Magyar averages (2019). [View pdf on arxiv:1905.09189](#)

Kevin Hughes. ℓ_p -improving for discrete spherical averages (2019). [View pdf on arxiv:1804.09260](#)

Kieran Calvert. Compact Schur-Weyl duality and the affine type B/C Brauer algebras (2019). [View pdf on arxiv:1909.11428](#)

Demi Allen, Balázs Bárány. Hausdorff measures of shrinking targets on self-conformal sets (2019). [View pdf on arxiv:1911.03410](#)

Stephanie Seiermann, **Christopher Doris**, Misa Ogura, Amit Kumar Jaiswal, Sydney Vertigan, Qingfen Yu. Machine learning for protein folding (2019). Data Study Group Network Final Report - Woolfson Laboratory. *Output of the Alan Turing Institute Data Study Group* (non-journal). [View pdf on doi:10.5281/zenodo.3877119](#)

Calum Spicer. Higher dimensional foliated Mori theory (2019). [View pdf on arxiv:1709.06850](#)

** Theresa Anderson, **Kevin Hughes**, Joris Roos, Andreas Seeger. L_p to L_q bounds for spherical maximal operators (2019). [View pdf on arXiv:1909.05389](#)

** **Kevin Hughes**, Trevor Wooley. Discrete restriction for (x, x^3) and related topics (2019). [View pdf on arxiv:1911.12262](#)

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** Georg Loho, **Ben Smith**. Face posets of tropical polyhedra and monomial ideals (2019). [View pdf on arxiv:1909.01236](#)

- ** Robert Hancock, Adam Kabela, Daniel Kral, Taisa Martins, Roberto Parente, **Fiona Skerman**, Jan Volec. No additional tournaments are quasirandom-forcing (2019).
[View pdf on arxiv:1912.04243](#)
- ** **Calum Spicer**, Roberto Svaldi. Local and global applications of the Minimal Model Program for co-rank one foliations on threefolds (2019). [View pdf on arxiv:1908.05037](#)
- James Williams**. Quasi-powerful p -groups (2019). [View pdf on arxiv:1912.08906](#)
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- Andrew Booker**, M. Krishnamurthy, Min Lee. Test vectors for Rankin-Selberg L-functions (2019). [View pdf on arXiv:1903.03458](#)
- ** Stephen Coughlan, **Tom Ducat**. Constructing Fano 3-folds from cluster varieties of rank 2 (2019). [View pdf on arxiv:1811.10926](#)
- ** **Dan Fretwell**, Lynne Walling. Hecke operators of Hilbert-Siegel theta series (2019).
[View pdf on arxiv:1909.01852](#)
- ** Ruben Verresen, Ryan Thorngren, **Nick Jones**, Frank Pollmann. Gapless topological phases and symmetry-enriched quantum criticality (2019). [View pdf on arxiv:1905.06969](#)
- ** **Alexander Kasprzyk**, Ludmil Katzarkov, Victor Przyjalkowski, Dmitrijs Sakovics. Projecting Fanos in the mirror (2019). [View pdf on arxiv:1904.02194](#)
- Victor Batyrev, **Alexander Kasprzyk**, Karin Schaller. On the Fine interior of three-dimensional canonical Fano polytopes (2019). [View pdf on arxiv:1911.12048](#)
- ** **Peter Latham**, Monica Nevins. Typical representations via fixed point sets in the Bruhat—Tits building (2019). [View pdf on arxiv:1909.05895](#)
- ** Raphaël Clifford, Paweł Gawrychowski, Tomasz Kociumaka, **Daniel Martin**, Przemysław Uznański. RLE edit distance in near optimal time (2019). [View pdf on arxiv:1905.01254](#)
- ** Leonhard Hochfilzer, **Thomas Oliver**. Ratios of Artin L-functions (2019).
[View pdf on arXiv:1910:02821](#)
- ** Jürgen Herzog, Fatemeth Mohammadi, **Janet Page**. Measuring the non-Gorenstein locus of Hibi rings and normal affine semigroup rings. *Journal of Algebra* 540 (2019) 78-99.
[View pdf on arxiv:1903.05847](#)

Johannes Bausch, Sathyawageeswar Subramanian, **Stephen Piddock**. A quantum search decoder for natural language processing (2019). [View pdf on arXiv:1909.05023](#)

Ian Gallagher, Anna Bertiger, Carey Priebe, **Patrick Rubin-Delanchy**. Spectral clustering in the weighted stochastic block model (2019). [View pdf on arxiv:1910.05534](#)

** Christopher Birkbeck, Ben Heuer, **Chris Williams**. Overconvergent Hilbert modular forms via perfectoid modular varieties (2019). [View pdf on arxiv:1902.03985](#)

Andrew Booker, Stephen Cohen, Nicole Sutherland, Tim Trudgian. Primitive values of quadratic polynomials in a finite field. *Mathematics of Computation* 88 (2019) 1903-1912. [View pdf on arxiv:1803:01435](#)

Andrew Booker, Micah Milinovich, Nathan Ng. Quantitative estimates for simple zeros of L-functions. *Mathematika* 65 (2019) 375-399. [View pdf on arxiv:1806.01959](#)

Edward Crane, **Sean Ledger**, Balint Toth. Diffusion and superdiffusion in lattice models of colliding particles with stored momentum. *Journal of Statistical Physics* 177 (2019) 1240–1262. [View pdf on arxiv:1809.03257](#)

** Jennifer Balakrishnan, **Netan Dogra**. An effective Chabauty-Kim theorem. *Compositio Mathematica* 155 (2019) 1057-1075. [View pdf on arxiv:1803.10102](#)

Alonso Castillo-Ramirez, **Justin McInroy**. Code algebras which are axial algebras and their Z_2 -gradings. *Israel Journal of Mathematics* 233, 1 (2019) 401-438. [View pdf on arxiv:1802.03342](#)

** **Brendan Murphy**, Misha Rudnev, Ilya Shkredov, Yurii Shteinikov. On the few products, many sums problem. *Journal de Théorie des Nombres de Bordeaux* 31, 3 (2019) 573-602. [View pdf on arxiv:1712:00410](#)

** **Nick Jones**, Ruben Verresen. Asymptotic correlations in gapped and critical topological phases of 1D quantum systems. *Journal of Statistical Physics* 175, 6 (2019) 1164-1213. [View pdf on arxiv:1805.06904](#)

** Daniel Barrera Salazar, **Chris Williams**. L-invariants and exceptional zeros of Bianchi modular forms. *Transactions of the American Mathematical Society* 372 (2019) 1-34. [View pdf on arxiv:1707.04049](#)

** **Andrew Booker**. A converse theorem without root numbers. *Mathematika* 65, 4 (2019) 862-873. [View pdf on arxiv:1703.01834](#)

Maha Bakoben, Tony Bellotti, **Niall Adams**. Identification of credit risk based on cluster analysis of account behaviours. *Journal of the Operational Research Society* 71, 5 (2019) 775-783. [View pdf on arxiv:1706.07466](#)

Edward Crane. Preface to Chapter 4 (on Polynomials) of the 50th anniversary update of Research Problems in Function Theory (2019). Edited by Walter Hayman and Eleanor Lingham. [View pdf on arxiv:1809.07200](#)

2018

Thomas Bloom, Olof Sisask. Logarithmic bounds for Roth's theorem via almost-periodicity. *Discrete Analysis* 4 (2018). [View pdf on arxiv:1810.12791](#)

**** Edward Crane,** Balazs Rath, Dominic Yeo. Age evolution in the mean field forest fire model via multitype branching processes (2018). [View pdf on arxiv:1811.07981](#)

Gunnar Traustason, **James Williams.** Powerfully nilpotent groups (2018). [View pdf on arxiv:1811.00962](#)

Sanhan Khasraw, **Justin McInroy,** Sergey Shpectorov. Enumerating 3-generated axial algebras of Monster type (2018). [View pdf on arxiv:1809.10657](#)

**** Gene Kopp.** SIC-POVMs and the Stark conjectures (2018). [View pdf on arxiv:1807.05877](#)

Tom Ducat. Mori flips, cluster algebras and diptych varieties without unprojection (2018). [View pdf](#)

Alexander Kasprzyk, Ben Wormleighton. Quasi-period collapse for duals to Fano polygons: an explanation arising from algebraic geometry (2018). [View pdf on arxiv:1810.12472](#)

U.K Anandavardhanan, **Robert Kurinczuk,** Nadir Matringe, Vincent Sécherre, Shaun Stevens. Galois self-dual cuspidal types and Asai local factors (2018). [View pdf on arxiv:1807.07755](#)

Stephen Piddock, Ashley Montanaro. Universal qudit Hamiltonians (2018). [View pdf on arxiv:1802.07130](#)

**** Matthew Aldridge.** Individual testing is optimal for nonadaptive group testing in the linear regime. *IEEE Transaction on Information Theory* 65, 4 (2018) 2058-2061. [View pdf on arxiv:1801.08590](#)

Oliver Johnson, **Matthew Aldridge,** Jonathan Scarlett. Performance of group testing algorithms with near-constant tests-per-item. *IEEE Transactions on Information Theory* 65, 2 (2018) 707-723. [View pdf on arxiv:1612.07122](#)

Ben Barber. The namer-claimer game (2018). [View pdf on arxiv:1808.10800](#)

Michael Neururer, **Thomas Oliver**. Weil's converse theorem for Maass forms and cancellation of zeros (2018). [View pdf on arxiv:1809.06586](#)

** **Thomas Bloom**, Aled Walker. GCD sums and sum-product estimates (2018).
[View pdf on arxiv:1806.07849](#)

Andrew Booker, Peter Cho, Myoungil Kim. Simple zeros of automorphic L-functions (2018).
[View pdf on arxiv:1802.01764](#)

Andrew Booker, Muthu Krishnamurthy, Min Lee. New integral representations for Rankin-Selberg L-functions (2018). [View pdf on arxiv:1804.07721](#)

Justin Dean, Ayalvadi Ganesh, **Edward Crane**. Functional large deviations for Cox processes and Cox/G/infinity queues, with a biological application (2018). [View pdf on arxiv:1808.04347](#)

** **Edward Crane**. Steady state clusters and the Rath-Toth mean field forest fire model (2018).
[View pdf on arxiv:1809.03462](#)

** **Tom Fisher**. Explicit moduli spaces for congruences of elliptic curves (2018).
[View pdf on arxiv:1804.10195](#)

** **Neil Gillespie**. A Classification of a family of maximum sets of equiangular lines in Euclidean space (2018). [View pdf on arxiv:1809.05739](#)

Neil Gillespie, Daniel R. Hawtin, Cheryl E. Praeger. 2-neighbour transitive codes with small blocks of imprimitivity (2018). [View pdf on arxiv:1806.10514](#)

Neil Gillespie, Pádraig Ó Catháin, Cheryl Praeger. Construction of the outer automorphism of S_6 via a complex Hadamard matrix (2018). [View pdf on arxiv:1805.01273](#)

Elana Kalashnikov. Four dimensional Fano quiver flag zero loci (2018) (with an appendix by T. Coates, E. Kalashnikov, and **A. Kasprzyk**). [View pdf on arxiv:1808.00311](#)

** **Peter Latham**, Monica Nevins. On the unicity of types for tame toral supercuspidal representations (2018). [View pdf on arxiv:1801.06721](#)

Sean Ledger, Bálint Tóth, Benedek Valkó. Random walk on the randomly-oriented Manhattan lattice (2018). [View pdf on arxiv:1802.01558](#)

** Ben Hambly, **Sean Ledger**, Andreas Sojmark. A McKean–Vlasov equation with positive feedback and blow-ups (2018). [View pdf on arxiv:1801.07703](#)

Nicholas Heard, **Patrick Rubin-Delanchy**. Choosing between methods for combining p-values. *Biometrika* 105,1 (2018) 239-246. [View pdf on arxiv:1707.06897](#)

Chris Parker, **Jason Semeraro**. Fusion systems on maximal class 3-groups of rank two revisited (2018). [View pdf on arxiv:1809.01957](#)

** Radha Kessar, Markus Linckelmann, Justin Lynd, **Jason Semeraro**. Weights conjectures for fusion systems (2018). [View pdf on arxiv:1810.01453](#)

** Alastair Litterick, **Adam Thomas**. Reducible subgroups of exceptional algebraic groups. *Journal of Pure and Applied Algebra* 223, 6 (2018) 2489-2529. [View pdf on arxiv:1801.09266](#)

Jasdeep Kochhar, **Mark Wildon**. A combinatorial proof of the Murnaghan–Nakayama rule (2018). [View pdf on arxiv: 1805.00255](#)

** **Mark Wildon**. The multistep homology of the simplex and representations of symmetric groups (2018). [View pdf on arxiv:1803.00465](#)

** **Ben Barber**, Joshua Erde. Isoperimetry in integer lattices. *Discrete Analysis* 7 (2018). [View pdf on arxiv:1707.04411](#)

Andrew Booker, David Platt. Turing's method for the Selberg zeta-function. *Communications in Mathematical Physics* 365, 1 (2018) 295-328. [View pdf on arxiv:1710.00603](#)

Alexander Bolton, **Nicholas Heard**. Malware family discovery using reversible jump MCMC sampling of regimes. *Journal of the American Statistical Association* 113, 524 (2018). [View pdf on Imperial College](#)

Andrew Booker. Finite connected components of the aliquot graph. *Mathematics of Computation* 87 (2018) 2891-2902. [View pdf on arxiv:1610.07471](#)

Andrew Booker, Holger Then. Rapid computation of L-functions attached to Maass forms. *International Journal of Number Theory* 14 (2018) 1459-1485. [View pdf on arxiv:1703.08863](#)

Sandro Bettin, Jonathan Bober, **Andrew Booker**, Brian Conrey, Min Lee, Giuseppe Molteni, Thomas Oliver, David Platt, Raphael Steiner. A conjectural extension of Hecke's converse theorem. *The Ramanujan Journal* 47 (2018) 659-684. [View pdf on arxiv:1704.02570](#)

Nick Gill, Neil Gillespie, Cheryl Praeger, **Jason Semeraro**. Conway groupoids, regular two-graphs and supersimple designs. *Séminaire Lotharingien de Combinatoire* 79 (2018), article B79b. [View pdf on arxiv:1510.06680](#)

Alastair Litterick, **Adam Thomas**. Complete reducibility in good characteristic. *Transactions of the American Mathematical Society* 370 (2018) 5279-5340. [View pdf on arxiv:1505.00939](#)

2017

Andrew Booker. A note on Maass forms of icosahedral type (2017).

[View pdf on arxiv:1712.06876](#)

** **Adam Thomas**, David Stewart. The Jacobson–Morozov theorem and complete reducibility of Lie subalgebras. *Proceedings of the London Mathematical Society* (2017).

[View pdf on arxiv:1507.06234](#)

** **Patrick Rubin-Delanchy**, Joshua Cape, Minh Tang, Carey Priebe. A statistical interpretation of spectral embedding: the generalised random dot product graph (2017).

[View pdf on arxiv:1709.05506](#)

Monique van Beek, **Tom Fisher**. Computing the Cassels–Tate pairing on 3-isogeny Selmer groups via cubic norm equations (2017). [View pdf on arxiv:1711.02432](#)

Jennifer Balakrishnan, **Netan Dogra**, Jan Steffen Müller, Jan Tuitman, Jan Vonk. Explicit Chabauty–Kim for the split Cartan modular curve of level 13 (2017).

[View pdf on arxiv:1711.05846](#)

** **Alexander Malcolm**. The p -width of the alternating groups (2017).

[View pdf on arxiv:1710.04972](#)

Justin Lynd, **Jason Semeraro**. Weights in a Benson–Solomon block (2017).

[View pdf on arxiv:1712.02826](#)

Matthew Aldridge. On the optimality of some group testing algorithms (2017).

[View pdf on arxiv:1705.02708](#)

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** **Jonathan Bober**, Dan Fretwell, Greg Martin, Trevor Wooley. Smooth values of polynomials (2017). [View pdf on arxiv:1710.01970](#)

** Dean Bodenham, **Niall Adams**. Continuous monitoring for changepoints in data streams using adaptive estimation. *Statistics and Computing* 27 (2017) 1257–1270.

[View pdf on Imperial College](#)

Andrew Booker, Micah Milinovich, Nathan Ng. Subconvexity for modular form L -functions in the t aspect (2017). [View pdf on arxiv:1707.01576](#)

** **Shaun Bullett**, Luna Lomonaco. Dynamics of modular matings (2017).
[View pdf on arxiv:1707.04764](#)

** Jennifer Balakrishnan, **Netan Dogra**. Quadratic Chabauty and rational points II: Generalised height functions on Selmer varieties (2017). [View pdf on arxiv:1705.00401](#)

** Nils Bruin, **Tom Fisher**. Visibility of 4-covers of elliptic curves (2017).
[View pdf on arxiv:1701.07528](#)

Tom Fisher, Lazar Radičević. Some minimisation algorithms in arithmetic invariant theory (2017) [View pdf on arxiv:1703.01940](#)

Tom Fisher. On some algebras associated to genus one curves (2017).
[View pdf on arxiv:1707.08330](#)

Matthew Price-Williams, **Nick Heard**, Melissa Turcotte. Detecting periodic subsequences in cyber security data (2017). [View pdf on arxiv:1707.00640](#)

** Theresa Anderson, Brian Cook, **Kevin Hughes**, Angel Kumchev. On the ergodic Waring–Goldbach problem (2017). [View pdf on arxiv:1703.02713](#)

Theresa Anderson, Brian Cook, **Kevin Hughes**, Angel Kumchev. Improved ℓ_p -boundedness for integral k -spherical maximal functions (2017). [View pdf on arxiv:1707.08667](#)

** **Robert Kurinczuk**, Nadir Matringe. Extension of Whittaker functions and test vectors (2017).
[View pdf on arxiv:1710.04697](#)

Daniel Martin. Dynamic shortest path and transitive closure algorithms: A Survey (2017).
[View pdf on arxiv:1709.00553](#)

Guy Barwell, **Daniel Martin**, Elisabeth Oswald, Martijn Stam. Authenticated encryption in the face of protocol and side channel leakage. *Advances in Cryptology - ASIACRYPT (2017)*: 23rd International Conference on the Theory and Application of Cryptology and Information Security, Hong Kong, China, Proceedings, Part I. Springer, 693-723. [View pdf](#)

** **Daniel Martin**, Ashley Montanaro, , Elisabeth Oswald, Dan Shepherd. Quantum key search with side channel advice. *Selected Area in Cryptography SAC (2017)*. 24th International Conference, Ottawa, Canada. [View pdf](#)

- ** Alonso Castillo-Ramirez, **Justin McInroy**, Felix Rehren. Code algebras, axial algebras and VOAs (2017). [View pdf on arxiv:1707.07992](#)
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- Brenda Murphy**, Giorgis Petridis. Products of differences over arbitrary finite fields (2017). [View pdf on arxiv:1705.06581](#)
- Brendan Murphy**, Oliver Roche-Newton, Ilya Shkredov. Variations on the sum-product problem II (2017). [View pdf on arxiv:1703.09549](#)
- Brendan Murphy**, Giorgis Petridis, Oliver Roche-Newton, Misha Rudnev, Ilya Shkredov. New results on sum-product type growth over fields (2017). [View pdf on arxiv:1702.01003](#)
- Brendan Murphy**, Giorgis Petridis. A second wave of expanders over finite fields (2017). [View pdf on arxiv:1701.01635](#)
- ** **Sean Ledger**, Ben Hambly. A stochastic McKean—Vlasov equation for absorbing diffusions on the half-line. *Annals of Applied Probability* 27, 5 (2017) 2698-2752. [View pdf on arxiv:1605.00669](#)
- ** **Tom Oliver**. Notes on low degree L-data (2017). *Research Institute for Mathematical Sciences (RIMS) Kokyuroko*. [View pdf on arxiv:1601.05009](#)
- ** **Simon Peacock**. Separable equivalence, complexity and representation type. *Journal of Algebra* 490 (2017) 219-240. [View pdf on arxiv:1705.11029](#)
- Patrick Rubin-Delanchy**, Carey Priebe, Minh Tang. Consistency of adjacency spectral embedding for the mixed membership stochastic blockmodel (2017). [View pdf on arxiv:1705.04518](#)
- Juliette Griffié, Leigh Shlomovich, David Williamson, Michael Shannon, Jesse Aaron, Satya Khuon, Garth Burn, Lies Boelen, Ruby Peters, Andrew Cope, Edward Cohen, **Patrick Rubin-Delanchy**, Dylan Owen. 3D Bayesian cluster analysis of super-resolution data reveals LAT recruitment to the T cell synapse. *Scientific Reports*, 7, 4077 (2017). [View pdf on Nature](#)
- ** Vinoth Nandakumar, Daniele Rosso, **Neil Saunders**. Irreducible components of exotic springer fibres II: Robinson-Schensted algorithms (2017). [View pdf on arxiv:1710.08948](#)
- ** Peter Cameron, **Jason Semeraro**. The cycle polynomial of a permutation group (2017). [View pdf on arxiv:1701.06954](#)

Nick Gill, **Neil Gillespie**, **Jason Semeraro**, Cheryl Praeger. Conway's groupoid and its relatives [In honour of John H. Conway]. *Contemporary Mathematics* 694 (2017).

[View pdf on arxiv:1604.04429](#)

** Xing Shi Cai, Cecilia Holmgren, Svante Janson, Tony Johansson, **Fiona Skerman**. Inversions in split trees and conditional Galton–Watson trees (2017). [View pdf on arxiv:1709.00216](#)

** Corinne Blondel, Guy Henniart, **Shaun Stevens**. Jordan blocks of cuspidal representations of symplectic groups (2017). [View pdf on arxiv:1704.03545](#)

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** Melissa Turcotte, **Nicholas Heard**. Adaptive sequential Monte Carlo for multiple changepoint analysis. *Journal of Computational and Graphical Statistics* 26, 2 (2017) 414-423.
[View pdf on arxiv:1509.08442](#)

Matthew Aldridge, Leonardo Baldassini, Karen Gunderson. Almost separable matrices. *Journal of Combinatorial Optimization* 33,1 (2017) 215-236. [View pdf on arxiv:1410.1826](#)

Thomas Oliver. Automorphy and mean-periodicity. *Journal of Mathematical Society of Japan* 69, 1 (2017) 25-51. [View pdf on arxiv:1307.6706v4](#)

David Platt. Isolating some non-trivial zeros of zeta. *Mathematics of Computation* 86 (2017) 2449-2467. [View pdf on doi:10.1090/mcom/3198](#)

Karen Gunderson, **Jason Semeraro**. Tournaments, 4-uniform hypergraphs, and an exact extremal result. *Journal of Combinatorial Theory* 126 (2017), 114-136.

[View pdf on arxiv:1509.03268](#)

2016

Shaun Bullett, Luna Lomonaco. Mating quadratic maps with the modular group II (2016).

[View pdf on arxiv:1611.05257](#)

David Easdown, Michael Hendriksen, **Neil Saunders**. Absorption of direct factors with respect to the minimal faithful permutation degree of a finite group (2016). [View pdf on arxiv:1610.05336](#)

** **Peter Latham**. The unicity of types for depth zero supercuspidal representations (2016).

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Ferhana Ahmad, Ben Hambly, **Sean Ledger**. A stochastic partial differential equation model for mortgage backed securities (2016). [View pdf on Oxford University](#)

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[View pdf on arxiv:1608.00926](#)

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[View pdf on arxiv:1605.03450](#)

Dan Fretwell. Genus 2 paramodular Eisenstein congruences (2016).

[View pdf on arxiv:1603.07088](#)

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[View pdf on arxiv:1612.01164](#)

Joshua Plasse, **Niall Adams**. Handling delayed labels in temporally evolving data streams. *IEEE International Conference on Big Data* (2016). [View pdf on IEEE computer society](#)

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- ** Charlie Beil**. Nonnoetherian homotopy dimer algebras and noncommutative crepant resolutions (2016). [View pdf on arxiv:1609.08112](#)
- Charlie Beil**. Nonnoetherian coordinate rings with multiple positive dimensional points (2016). [View pdf on arxiv:1607.07778](#)
- ** Chris Blake**. A plectic Taniyama group (2016). [View pdf on arxiv:1606.03320](#)
- ** Jonathan Bober**, Ghaith Hiary. New computations of the Riemann zeta function on the critical line. *Experimental Mathematics* 27, 2 (2016) 125-137. [View pdf on arxiv:1607.00709](#)
- ** Stephen Brierley**, Miguel Navascues, Tamas Vertesi. Convex separation from convex optimization for large-scale problems (2016). [View pdf on arxiv:1609.05011](#)
- Bingjie Wang, **Stephen Brierley**. Entanglement detection with fewer measurements based on the geometric criterion (2016). [View pdf on arxiv:1602.02099](#)
- Matthew Aldridge**, Oliver Johnson, Jonathan Scarlett. Improved group testing rates with constant column weight designs. *Proceedings of the International Symposium on Information Theory, ISIT* (2016) 1381-1385. [View pdf on arxiv:1602.03471](#)
- James Ashe, **Edward Crane**, Kenneth Stephenson. Circle packing with generalized branching. *Journal of Analysis* 24, 2 (2016) 251-276, special issue for the retirement conference of David Minda. [View pdf on arxiv:1607.03404](#).
- ** Lassina Dembele, Fred Diamond**, David Roberts. Serre weights and wild ramification in two-dimensional Galois representations (2016). [View pdf on arxiv:1603.07708](#)
- ** Thomas House, Ashley Ford**, Shiwei Lan, Samuel Bilson, Elizabeth Buckingham-Jeffery, Mark Girolami. Bayesian uncertainty quantification for transmissibility of influenza, norovirus and Ebola using information geometry. *Journal of the Royal Society Interface* 13, 121 (2016). [View pdf on doi:10.1098/rsif.2016.0279](#)
- Neil Gillespie**, Daniel Hawtin. Alphabet almost simple 2-neighbour transitive codes (2016). [View pdf on arxiv:1609.01886](#)
- Nick Heard**, Konstantina Palla, Maria Skoularidou. Topic modelling of authentication events in an enterprise computer network. *Proceedings of IEEE Intelligence and Security Informatics Conference, ISI* (2016), Cybersecurity and Big Data. [View pdf on Imperial College](#)

Nick Heard, **Patrick Rubin-Delanchy**. Network-wide anomaly detection via the Dirichlet process. *Proceeding of the IEEE Big Data Analytics for Cybersecurity Computing (2016)*.

[View pdf on Imperial College](#)

Silvia Metelli, **Nicholas Heard**. Model-based clustering and new edge modelling in large computer networks. *Proceedings of the IEEE Intelligence and Security Informatics Conference (2016)*, Cybersecurity and Big Data. [View pdf on Imperial College](#)

Patrick Rubin-Delanchy, Nial Adams, Nick Heard. Disassortativity of computer networks. *Proceedings of the IEEE Big Data Analytics for Cybersecurity Computing (2016)*.

[View pdf on Imperial College](#)

Melissa Turcotte, Juston Moore, **Nick Heard**, Aaron McPhall. Poisson factorization for peer-based anomaly detection. *Proceedings of the IEEE Intelligence and Security Informatics Conference (2016)*, Cybersecurity and Big Data. [View pdf on Imperial College](#)

** Kevin Henriot, **Kevin Hughes**. Discrete restriction estimates of epsilon-removal type for kth-powers and k-paraboloids (2016). [View pdf on arxiv:1610.03984](#)

Kevin Henriot, **Kevin Hughes**. On restriction estimates for discrete quadratic surfaces (2016). [View pdf on arxiv:1611.00720](#)

Kevin Hughes. The Pointillist principle for variation operators and jump functions (2016). [View pdf on arxiv:610:00322](#)

** **Robert Kurinczuk**, Daniel Skodlerack, Shaun Stevens. Endo-classes for p-adic classical groups (2016). [View pdf on arxiv:1611.02667](#)

Sean Ledger. Skorokhod's M1 topology for tempered-distribution-valued processes. *Electronic Communications in Probability* 21, 34 (2016) 1-11. [View pdf on arxiv:1509.02855](#)

** **Owen Patashnick**. Rational mixed Tate motivic Graphs (2016). Susama Agarwala, [View pdf on arxiv:1602.01478](#)

** Juliette Griffié, Michael Shannon, Claire Bromley, Lies Boelen, Garth Burn, David Williamson, Nicholas Heard, Andrew Cope, Dylan Owen, **Patrick Rubin-Delanchy**. A Bayesian cluster analysis method for single-molecule localization microscopy data. *Nature Protocols* 11 (2016) 2499-2514. [View pdf on nature](#)

Jason Semeraro, Chris Parker. Fusion systems over a Sylow p-subgroup of $G_2(p)$ (2016). [View pdf on arxiv:1608.08399](#)

** **Jason Semeraro**, David Craven, Bob Oliver. Reduced fusion systems over p -groups with abelian subgroup of index p : II (2016). [View pdf on arxiv:1606.05133](#)

Ross Atkins, Puck Rombach, **Fiona Skerman**. Guessing numbers of odd cycles (2016).
[View pdf on arxiv:1602.03586](#)

** Peter Clark, **James Stankewicz**. Hasse principle violations for Atkin-Lehner twists of Shimura curves (2016). [View pdf on arxiv:1612.01440](#)

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[View pdf on arxiv:1608.05103](#)

Adam Thomas. Finite subgroups of simple algebraic groups with irreducible centralizers (2016).
[View pdf on arxiv:1606.03064](#)

Dean Bodenham, **Niall Adams**. A comparison of efficient approximations for a weighted sum of chi-squared random variables. *Statistics and Computing* 26 (2016) 917-928.
[View pdf on doi:10.1007/s11222.015.9583.4](#)

Maha Bakoben, Tony Bellotti, **Niall Adams**. Improving clustering performance by incorporating uncertainty. *Pattern Recognition Letters* 77 (2016) 28-34. [View pdf on Imperial College](#)

Niall Adams, Nick Heard (editors). Dynamics graphs and network cyber-security (2016). World Scientific: Singapore. [View pdf on doi:10.1142/q0022](#)

Charlie Beil. Nonnoetherian geometry. *Journal of Algebra and Its Applications* 15, 9 (2016).
[View pdf on arxiv:1109.4601](#)

Christopher Lazda. Incarnations of Berthelot's conjecture. *Journal of Number Theory* 166 (2016) 137-157. [View pdf on arxiv:1508.06787](#)

** **Christopher Lazda**, Ambrus Pál. Rigid cohomology over Laurent series fields - Part of the Algebra and Applications book series (2016). [View pdf on doi:10.1007/978-3-319-30951-4](#)

** **James McKee**, Pavlo Yatsyna. Salem numbers of trace -2 , and a conjecture of Estes and Guralnick. *Journal of Number Theory* 160 (2016) 409-417.
[View pdf on doi:10.1016/j.jnt.2015.09.019](#)

Thomas Oliver. Zeta integrals on arithmetic surfaces. *Algebra i Analiz. St. Petersburg Mathematical Journal* 27 (2016) 1003-1028 [View pdf on arxiv:1311.6964v3](#)

** **Justin McInroy**. Vahlen groups defined over commutative rings. *Mathematische Zeitschrift* 284, 3 (2016) 901-917. [View pdf on arxiv:1506.05624](#)

David Platt, Timothy Trudgian. Zeroes of partial sums of the zeta-function. *LMS Journal of Computation and Mathematics* 19, 1 (2016). [View pdf on doi:10.1112/S1461157015000340](https://doi.org/10.1112/S1461157015000340)

David Platt, Tim Trudgian. Diophantine quintuples containing triples of the third kind. *Periodica Mathematica Hungarica* 72 (2016) 235-242. [View pdf on arxiv:1501.04399](https://arxiv.org/abs/1501.04399)

** **David Platt**, Oliver Ramare. Explicit estimates: from $\Lambda(n)$ in arithmetic progressions to $\Lambda(n)/n$. *Experimental Mathematics* 26,1 (2016) 77-92. [View pdf on University of Bristol](https://arxiv.org/abs/1501.04399)

Patrick Rubin-Delanchy, Daniel Lawson, Nicholas Heard. Anomaly detection for cyber-security applications (Book Chapter). *Dynamic Networks and Cyber-Security* (2016) 137-156. World Scientific publishing Co. [View abstract on doi:10.1142/9781786340757_0006](https://doi.org/10.1142/9781786340757_0006)

** Vinoth Nandakumar, Daniele Rosso, **Neil Saunders**. Irreducible components of exotic springer fibres (2016). [View pdf on arxiv:1611.05844](https://arxiv.org/abs/1611.05844)

** Karen Gunderson, Natasha Morrison, **Jason Semeraro**. Bounding the number of hyperedges in friendship r -hypergraphs. *European Journal of Combinatorics* 51 (2016) 125-134. [View pdf on arxiv:1412.5822](https://arxiv.org/abs/1412.5822)

** Brendan McKay, **Fiona Skerman**. Degree sequences of random digraphs and bipartite graphs. *Journal of Combinatorics* 7, 1 (2016). [View pdf on arxiv:1302.2446](https://arxiv.org/abs/1302.2446)

Adam Thomas. Irreducible A_1 subgroups of exceptional algebraic groups. *Journal of Algebra* 447 (2016) 240-296. [View pdf on arxiv:1501.04858](https://arxiv.org/abs/1501.04858)

** **Jimmy Tseng**. Simultaneous dense and nondense orbits for toral diffeomorphisms. *Ergodic Theory and Dynamical Systems* 37, 4 (2016) 1308-1322. [View pdf on arxiv:1406.1970](https://arxiv.org/abs/1406.1970)

Jimmy Tseng. Nondense orbits for Anosov diffeomorphisms of the 2-torus. *Real Analysis Exchange* 41, 2 (2016) 307-314. [View pdf on arxiv:1503.02273](https://arxiv.org/abs/1503.02273)

Jayadev Athreya, Andrew Parrish, **Jimmy Tseng**. Ergodic Theory and Diophantine approximation for translation surfaces and linear forms. *Nonlinearity* 29 (2016) 2173-2190. [View pdf on arxiv:1401.4148](https://arxiv.org/abs/1401.4148)

2015

Patrick Rubin-Delanchy, Nicholas Heard, Daniel Lawson. Meta-analysis of mid-p-values: some new results based on the convex order (2015). [View pdf on arxiv:1505.05068](#)

Ellen Henke, **Jason Semeraro**. Centralizers of normal subgroups and the Z^* -theorem. *Journal of Algebra* 439 (2015) 511-514. [View pdf on arxiv:1411.1932](#)

Justin McInroy, Sergey Shpectorov. On Sidki's presentation for orthogonal groups. *Journal of Algebra* 434 (2015) 227-248. [View pdf on doi:10.1016/j.jalgebra.2015.02.031](#)

** **Alexander Kasprzyk**, Benjamin Nill, Thomas Prince. Minimality and mutation-equivalence of polygons (2015). [View pdf on arxiv:1501.05335](#)

Joe Kramer-Miller. p -adic L -functions on Hida families (2015). [View pdf on arxiv:1507.01814](#)

Peter Latham. On the unicity of types in special linear groups (2015). [View pdf on arxiv:1511.00642](#)

Lewis Evans, **Niall Adams**, Christoforos Anagnostopoulos. Estimating optimal active learning via model retraining improvement (2015). [View pdf on arxiv:1502.01664](#)

** **Matthew Aldridge**. The capacity of nonadaptive group testing (2015). [View pdf on arxiv:1511.05201](#)

** **Edward Crane**, Nic Freeman, Bálint Tóth. Cluster growth in the dynamical Erdős-Rényi process with forest fires. *Electronic Journal of Probability* 20, 101 (2015) 1-33. [View pdf](#)

** Marzieh Akbari, **Neil Gillespie**, Cheryl Praeger. Increasing the minimum distance of codes by twisting (2015). [View pdf on arxiv:1511.07154](#)

** David Weston, Richard Russell, Elizabeth Batty, Kirsten Jensen, David Stephens, **Niall Adam**, Paul Freemont. New quantitative approaches reveal the spatial preference of nuclear compartments in mammalian fibroblasts. *Journal of Royal Society Interface* (2015). [View pdf on doi:10.1098/rsif.2014.0894](#)

** **Ben Barber**, Daniela Kühn, Allan Lo, Richard Montgomery, Deryk Osthus. Fractional clique decompositions of dense graphs and hypergraphs (2015). [View pdf on arxiv:1507.04985](#)

Charlie Beil. Morita equivalences and Azumaya loci from Higgsing dimer algebras (2015). [View pdf on arxiv:1301.7059](#)

Charlie Beil. On the spacetime geometry of quantum nonlocality (2015).

[View pdf on arxiv:1511.05205.](#)

** **Thomas Bloom,** Anita Liebenau. Ramsey equivalence of K_n and K_n+K_{n-1} (2015).

[View pdf on arxiv:1508.03866](#)

** **Stephen Brierley,** Adrian Kosowski, Marcin Markiewicz, Tomasz Paterek, Anna Przysieszna. Non-classicality of temporal correlations (2015). [View pdf on arxiv 1501.03505](#)

Stephen Brierley. Efficient implementation of quantum circuits with limited qubit interactions (2015). [View pdf on arxiv:1507.04263](#)

** **Lee Butler.** A Diophantine approach to the three and four exponentials conjectures. *The Ramanujan Journal* 42 (2015) 199-221. [View pdf on University of Bristol](#)

Neil Gillespie, Cheryl Praeger. New characterisations of the Nordstrom-Robinson codes (2015).

[View pdf on arxiv:1205.3878](#)

** **Robert Kurinczuk,** Nadir Matringe. Test vectors for local cuspidal Rankin-Selberg integrals of $GL(n)$, and reduction modulo ℓ (2015). [View pdf on arxiv:1501.07587](#)

Robert Kurinczuk, Shaun Stevens. Cuspidal ℓ -modular representations of p -adic classical groups (2015). [View pdf on arxiv:1509.02212](#)

Patrick Rubin-Delanchy, Garth Burn, Garth, Juliette Griffié, Nicholas Heard, Andrew Cope, Dylan Owen. Bayesian cluster identification in single-molecule localisation microscopy data. *Nature Methods* 12 (2015) 1072-1076. [View pdf on University of Bristol](#)

Ronggang Shi, **Jimmy Tseng.** Simultaneous dense and nondense orbits and the space of lattices. *International Mathematics Research Notices* 21 (2015) 11276-11288.

[View pdf on View pdf on arxiv:1408.3572](#)

** **James Stankewicz.** On the non-commutative endomorphism rings of abelian surfaces (2015).

[View pdf on arxiv:1511.02518](#)

Jayadev Athreya, Anish Ghosh, **Jimmy Tseng.** Spiraling of approximations and spherical averages of Siegel transforms. *Journal of the London Mathematical Society* 91 (2015) 383-404.

[View pdf on arxiv:1305.0296](#)

Andrzej Grzesik, Mirjana Mikalački, Zoltán Lóránt Nagy, Alon Naor, Balázs Patkós, **Fiona Skerman.** Avoider-Enforcer star games. *Discrete Mathematics & Theoretical Computer Science* 17, 1 (2015) 145-160. [View pdf on arxiv:1302.2555.](#)

2014

** **Charlie Beil**. Nonlocality and the central geometry of dimer algebras (2014).

[View pdf on arxiv:1412.1750](#)

Neil Gillespie, Michael Giudici, Daniel Hawtin, Cheryl Praeger. Entry faithful 2-neighbour transitive codes. *Designs, Codes and Cryptography* (2014). [View pdf on arxiv:1412.7290](#)

Nick Gill, **Neil Gillespie**, **Jason Semeraro**. Conway groupoids and completely transitive codes (2014). [View pdf on arxiv:1410.4785](#)

Robert Kurinczuk, Nadir Matringe. Rankin-Selberg local factors modulo ℓ (2014).

[View pdf on arxiv:1408.5252](#)

Abbey Bourdon, Pete Clark, **James Stankewicz**. Torsion points on CM elliptic curves over real number fields (2014). [View pdf on arxiv:1411.2742](#)

Patrick Rubin-Delanchy, Daniel Lawson. Posterior predictive p-values and the convex order (2014). [View pdf on arxiv:1412.3442](#)

Patrick Rubin-Delanchy, Nicholas Heard. A test for dependence between two point processes on the real line (2014). [View pdf on arxiv:1408.3845](#)

Lewis Evans, **Niall Adams**, Christoforos Anagnostopoulos. Targeting optimal active learning via example quality (2014). [View pdf on arxiv:1407.8042](#)

Charlie Beil. The Bell states in noncommutative algebraic geometry. *International Journal of Quantum Information* 12, 5 (2014). [View pdf on doi:10.1142/S0219749914500336](#)

Jonathan Bober. Averages of character sums (2014). [View pdf on arxiv:1409.1840](#)

** **Jonathan Bober**, Leo Goldmakher, Andrew Granville, Dimitris Koukoulopoulos. The frequency and the structure of large character sums (2014). [View pdf on arxiv:1410.8189](#)

** Horst Alzer, **Robin Chapman**. On Boole's formula for factorials. *Australasian Journal of Combinatorics* 59, 2 (2014) 333-336. [View pdf on AJC Maths](#)

Justin McInroy. An amalgam uniqueness result for recognising $q_6:SU_3(q)$, $G_2(q)$, or $3'M_{10}$ using biaffine polar spaces. *Journal of Algebra* 400 (2014) 105-122.

[View pdf on doi:10.1016/j.jalgebra.2013.10.028](#)

Jayadev Athreya, Anish Ghosh, **Jimmy Tseng**. Spherical averages of Siegel transforms for higher rank diagonal actions and applications (2014). [View pdf on arxiv:1407.3573](#)