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Refereed Publications

- (1) (with Luca) *On factorials expressible as sums of at most three Fibonacci numbers*, 14 pages, Proceedings of the Edinburgh Mathematical Society, to appear.
- (2) (with Stoll) *On a problem of Hajdu and Tengely*, pages 316–330 of *Algorithmic Number Theory*, Proceedings of the 9th International Symposium, Nancy, France, July 19–23, 2010, editors Guillaume Hanrot, François Morain and Emmanuel Thomé, LNCS **6197**, Springer–Verlag.
- (3) (with Abu Muriefah, Luca and Tengely) *On the Diophantine equation $x^2 + C = 2y^n$* , International Journal of Number Theory **5** (2009), 1117–1128.
- (4) *Diophantine equations after Fermat’s Last Theorem*, Journal de Théorie des Nombres de Bordeaux, **21** (2009), no. 2, 425–436.
- (5) (with Bugeaud and Reutenauer) *A Sturmian sequence related to the uniqueness conjecture for Markoff numbers*, Theoretical Computer Science **410** (2009), 2864–2869.
- (6) *Chabauty for symmetric powers of curves*, Algebra & Number Theory **3** (2009), No. 2, 209–236.
- (7) (with Chen) *Perfect powers expressible as sums of two cubes*, Journal of Algebra **322** (2009), 638–656.
- (8) (with Bugeaud, Mignotte, Stoll and Tengely) *Integral points on hyperelliptic curves*, Algebra & Number Theory **2** (2008), No. 8, 859–885.
- (9) (with Bugeaud, Luca and Mignotte) *Almost powers in the Lucas sequence*, Journal de Théorie des Nombres de Bordeaux **20** (2008), 555–600.
- (10) (with Bright) *Functions, reciprocity and the obstruction to divisors on curves*, Journal of the London Mathematical Society, **77** (2008), 789–807.
- (11) (with Bugeaud and Mignotte) *A multi-Frey approach to some multi-parameter families of Diophantine equations*, Canadian Journal of Mathematics **60** (2008), 491–519.
- (12) (with Bugeaud, Luca and Mignotte) *Fibonacci Numbers at most one away from a perfect power*, Elemente der Mathematik **63** (2008), No. 2, 65–75.
- (13) (with Bugeaud, Luca and Mignotte) *Perfect powers from products of terms in Lucas sequences*, Journal für die reine und angewandte Mathematik **611** (2007), 109–129.
- (14) (with Bugeaud and Mignotte) *Classical and modular approaches to exponential Diophantine equations I. Fibonacci and Lucas perfect powers*, Annals of Mathematics **163** (2006), 969–1018.
- (15) (with Bugeaud and Mignotte) *Classical and modular approaches to exponential Diophantine equations II. The Lebesgue-Nagell equation*, Compositio Mathematica **142** (2006), 31–62
- (16) (with Cremona and Prickett) *Height difference bounds for elliptic curves over number fields*, Journal of Number Theory **116** (2006), 42–68.
- (17) (with Cremona) *Computing a Lower Bound for the Canonical Height on Elliptic Curves over \mathbb{Q}* , in **Algorithmic Number Theory**, 7th International Symposium, ANTS-VII, pages 275–286, Springer-Verlag, LNCS 4076, July 2006.
- (18) (with Bugeaud, Luca and Mignotte) *On perfect powers in Lucas sequences*, The International Journal of Number Theory **1** (2005), no. 3, 309–332.
- (19) (with Bugeaud, Luca and Mignotte) *On Fibonacci numbers with few prime divisors*, Proceedings of the Japan Academy Ser. A **81**, (2005), No. 2, 17–20.
- (20) *On standardized models of isogenous elliptic curves*, Mathematics of Computation **74** (2005), no. 250, 949–951.

- (21) *The Brauer-Manin obstruction for curves having split Jacobian*, Journal de Théorie des Nombres de Bordeaux **16** (2004), no. 3, 773–777.
- (22) (with Bugeaud and Mignotte) *Sur les nombres de Fibonacci de la forme $q^k y^p$* , C. R. Acad. Sci. Paris, Ser. I **339** (2004), 327–330.
- (23) (with El-Sedy) *Points of non-differentiability of convex functions*, Applied Mathematics and Computation **148** (2004), no. 3, 725–728.
- (24) (with Cremona) *On the Diophantine equation $x^2 + 7 = y^m$* , Acta Arithmetica **109.2** (2003), 143–149.
- (25) (with Skorobogatov) *On a Shimura curve that is a counterexample to the Hasse principle*, Bulletin of the London Mathematical Society **35** (2003), no. 3, 409–414.
- (26) *On the Diophantine equation $x^2 = y^p + 2^k z^p$* , Journal de Théorie des Nombres de Bordeaux **15** (2003), no. 3, 839–846.
- (27) (with El-Sedy) *On the irrationality of certain rapidly convergent series*, International Mathematical Journal **3** (2003), 1193–1195.
- (28) *Descent on Picard groups using functions on curves*, Bulletin of the Australian Mathematical Society **66** (2002), no. 1, 119–124.
- (29) *Sieving for rational points on hyperelliptic curves*, Mathematics of Computation **70** (2001), no. 236, 1661–1674.
- (30) (with El-Sedy) *On happy numbers*, Rocky Mountain Journal of Mathematics **30** (2000), 565–570.
- (31) *4-descent*, pages 418–422, appendix A to “Beyond the Manin obstruction” by A. N. Skorobogatov, Inventiones Mathematicae **135** (1999), 399–424.
- (32) *The height pairing on an elliptic curve with complex multiplication*, Arab Journal of Mathematical Sciences **5** (1999), 43–48.
- (33) (with N. Smart) *A fast Diffie-Hellman protocol in genus 2*, Journal of Cryptology **12** (1999), 67–73.
- (34) (with N. Smart) *On the complexity of computing the 2-Selmer group of an elliptic curve*, Glasgow Mathematical Journal **39** (1997), 251–258.
- (35) (with J. Merriman and N. Smart) *Explicit 4-descents on an elliptic curve*, Acta Arithmetica **LXXVII.4** (1996), 358–404.
- (36) *Infinite descent on elliptic curves*, Rocky Mountain Journal of Mathematics **25** (1995), 1501–1538.

Conference Papers: Not Refereed

- (1) *Chabauty for symmetric powers of curves*, in “Explicit Methods in Number Theory”, Mathematisches Forschungsinstitut Oberwolfach, report no. 34, 2007.
- (2) (with Martin Bright) *Functions, reciprocity and the obstruction to divisors on curves*, in “Explicit Methods in Number Theory”, Mathematisches Forschungsinstitut Oberwolfach, report no. 32, 2005.
- (3) *Giving Baker’s Theory a Modular Helping Hand*, in “Algorithms and Number Theory”, Dagstuhl, report no. 04211, 2004.

Chapters in Books

- (1) *The modular approach to Diophantine equations*, appendix to “Number Theory. Volume II: Analytic and Modern Tools” by Henri Cohen, Graduate Texts in Mathematics **240**, Springer-Verlag, 2007.
- (2) *Level lowering and Diophantine equations*, in “Explicit Methods in Number Theory”, edited by Karim Belabas, Panoramas et Synthèses, Société Mathématique de France, to appear.

Papers Submitted for Publication

- (1) *Explicit Chabauty over number fields*, 19 pages, submitted to Algebra & Number Theory.
- (2) (with Hargreaves) *Cycles and fixed points of happy functions*, 13 pages, submitted to the Journal of Combinatorics and Number Theory.
- (3) *Primitive representations of integers by $x^3 + y^3 + 2z^3$* , 3 pages, submitted to the Journal of Number Theory.
- (4) (with Deajim) *On the \mathbb{Q} -linear independence of the sums $\sum_{n=1}^{\infty} \sigma_k(n)/n!$* , 5 pages, submitted to the Journal of Number Theory.

Papers in Preparation

- (1) *Minimally sized sets of generators for rational points on cubic surfaces are arbitrarily large.*
- (2) (with Dahmen) *Images of inertia for elliptic curves with isomorphic mod p Galois representations.*
- (3) (with Dahmen) *Computing Belyi Covers.*
- (4) (with Stoll) *Partial Descent on Hyperelliptic Curves.*
- (5) (with Dahmen) *On the generalized Fermat equations $x^5 + y^5 = z^7$ and $x^7 + y^7 = z^5$.*
- (6) (with Dembélé) *Fermat's Last Theorem over some real quadratic fields.*
- (7) (with van Luijk) *On the number of rational points on a surface with injective Albanese map.*
- (8) (with Hart) *The obstruction to divisors on hyperelliptic curves.*
- (9) (with Hart) *The obstruction to rational points on plane cubic curves.*
- (10) *A bound for odd perfect numbers of a special form.*

PhD Thesis

Descents on Curves of Genus One, University of Exeter, 1995.