Tanush Shaska

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Research areas

Algebraic and Arithmetic Geometry, *Computational algebraic geometry, number theory, algebraic curves.*
Cybersecurity and Data Protection, *Elliptic (ECC), Hyperelliptic curve Cryptography (HCC), post-quantum cryptography.*

Education

Doctor of Philosophy, *Mathematics*, The University of Florida, Gainesville, FL. May 2001
Masters of Science, *Mathematics*, The University of Florida, Gainesville, FL. May1998
Bachelor of Science, *Mathematics*, University of Michigan (Highest Distinction). Dec. 1994
Major: Mathematics; **Minor:** Computer Science, **GPA:** 3.95/4.0, Major GPA: 4.0/4.0

Experience

Associate Professor, *Department of Mathematics and Statistics, Oakland University, MI.*. 2008-current
Princeton University, *Sabbatical*, Department of Mathematics. Winter 2015
Visiting Professor, *University of Pristina*, Pristina, Kosova. Summer 2012
Rector, University of Vlora, Albania. Jan.08 -Dec.10
Full Professor, *Department of Computer Science*, University of Vlora, Albania. Jan.08 -Dec.10
Assistant Professor, *Department of Mathematics and Statistics, Oakland University, MI.* Aug.05-Aug.08
Visiting Professor, *Maria Curie-Sklodowska University*, Lublin, Poland. Summer 2007
Assistant Professor, University of Idaho, Moscow, ID. Aug.03-Jun.05
Post-doctorate, *Visiting Assistant Professor, Department of Mathematics, UC–Irvine, CA.*. Aug.01-Jun.03
Universität Erlangen-Nürnberg, *DFG Fellowship*, Erlangen, Germany. Jan.-Aug. 2000
Teaching Assistant, *Department of Mathematics, University of Florida, Gainesville, FL.* . Aug.96-May.01
Programer/Consultant, *Computer Business Solutions Inc.,Farmington Hills, MI.*. Jan.95-Aug.96

Long term visits

Universidad de Cantabria-Santander, *Spain.* Fall 2021
Linkoping University, *Linkoping*, Sweden. June 2013
Universidad de Cantabria-Santander, *Spain.* Oct. 2009
Institut für Experimentelle Mathematik, *Essen*, Germany. Summer 2006
Institute of Mathematics and Applications (IMA), *Quantum Computation*, Minnesota. Aug. 2005
Universidad de Cantabria-Santander, *Spain.* Summer 2903
Institut für Experimentelle Mathematik, *Essen*, Germany. Summer 2003
Institut für Experimentelle Mathematik, *Essen*, Germany. Summer 2001
Mathematical Sciences Research Institute, *Arithmetic Geometry.* Dec. 2000
Mathematical Sciences Research Institute, *Berkeley*, CA. Fall 1999
Institute for Advanced Study/Park City Institute, *Arithmetic Geometry*, Park City, Utah. June 1999
IWR, *University of Heidelberg*, Heidelberg, Germany. Summer 1998

Awards and Grants

Nato Advanced Study Institute, *Hyperelliptic Curve Cryptography*, ISEG. EAP.ASI 984724. 2014
National Security Agency, *Conference Grant*, NSA # H982301210275. 2012

National Science Foundation, *REU*, Oakland University, Co-PI. 2007-10

Nato Advanced Study Institute, *New challenges in digital communications*, ICS.EAP.ASI 982903. 2008

National Science Foundation, *Applications of Computer Algebra*, Oakland University. 2007

National Security Agency, *Computational Aspects of Algebraic Curves, Univ. of Idaho.* 2005

National Science Foundation, *NSF-Epscor S0-511*, University of Idaho, NSF. 2004

Deutsche Forschungsgemeinschaft, *Friedrich-Alexander-Universität Erlangen-Nürnberg.* 2000

Threadgill Dissertation Award, *Department of Mathematics*, University of Florida, Gainesville, FL. 2001

Graduated with Highest Distinction, *University of Michigan.* Dec. 1994

Editorial

Founding Editor and Editor in Chief, *Albanian Journal of Mathematics.* 2007-present

Co-editor, *Abelian varieties and number theory*, Cont. Math., Gerhard Frey's 75th birthday, Jarden/Shaska (Eds.). 2021

Co-editor, *Integrable systems and Algebraic Geometry*, Vol 1, Cambridge University Press, Donagi/Shaska (Eds.). 2020

Co-editor, *Integrable systems and Algebraic Geometry*, Vol. II, Cambridge University Press, Donagi/Shaska (Eds.). 2020

Co-editor, *Algebraic curves and their applications*, Cont. Math. Volume: 724; 19; 344 pp;, Beshaj/Shaska (Eds.). 2019

Co-editor, *Higher Genus Curves in Mathematical Physics and Arithmetic Geometry*, Cont. Math. (703), 18. vii+222 pp., Malmendier/Shaska (Eds.). 2018

Co-editor, *Advances on superelliptic curves and their applications*, NATO Science for Peace and Security Series - D: Information and Communication Security, Vol 41. 15, Beshaj/Shaska/Zhupa (Eds.). 2015

Editor, *Algebraic Aspects of Digital Communications*, NATO Science for Peace and Security Series, D: Information and Communication Security, Vol. 24. 09. viii+285 pp. 2009

Co-editor, *Advances in coding theory and cryptology*, Series: Coding Theory and Cryptography, Vol. 3, World Scientific Publishing,, Huffman/Joyner/Shaska/Ustimenko (Eds). 2007

Editor, *Computational aspects of algebraic curves*, Lecture Notes in Comp., World Scientific, vol. 13, (05), 288pp. 2005

Co-editor, *Progress in Galois Theory*, John Thompson's 70-th birthday, Dev. Math. Vol. 12, Völklein/Shaska (Eds.). 2005

Guest Editor, *Computational algebraic geometry and applications*, Appl. Algebra Eng. Comm. Comput., **24**, 2013. 2013

Guest Editor, *Computational Algebraic Geometry*, J. Symbolic Comp., Vol. 57, 2013, 1-78.. 2013

Guest Editor, *Coding theory and cryptography*, Serdica J. Comput., Vol. I, No. 2, 07. 2007

Papers

Submitted or in preparation

4. Data analysis of Calabi-Yau hypersurfaces via weighted heights, (in progress)
3. GIT heights and weighted heights, (in progress)
2. Arithmetic inflection of superelliptic curves, *Michigan Math.* E. Cotterill, I. Darago, C. Garay López, C. Han, T. Shaska (submitted)
1. Local and global heights on weighted projective varieties and Vojta's conjecture, S. Salami and T. Shaska, *J. Number Theory* (submitted)

Selected journal articles

34. A. Clingher, A. Malmendier, T. Shaska; On isogenies among certain Abelian varieties, *Mich. Math. J.*, 71, No. 2, 227-269 (2022).
33. A. Clingher, A. Malmendier, T. Shaska; Geometry of Prym varieties for special bielliptic curves of genus three and five, Pure Appl. Math. Q. 17, No. 5, 1739-1784 (2021).
32. A. Obus, T. Shaska; Superelliptic curves with many automorphisms and CM Jacobians, *Math. Comp.*, **90**, (2021), 332, 2951–2975.
31. A. Elezi, T. Shaska; Reduction of binary forms via the hyperbolic centroid, *Lobachevskii J. Math.* **42**, (2021), 1, 84–95.
30. L. Beshaj, A. Elezi, T. Shaska; Isogenous components of Jacobian surfaces, *Eur. J. Math.* **6**, (2020), no. 4, 1276–1302.
29. L. Beshaj, J. Gutierrez, T. Shaska; Weighted greatest common divisors and weighted heights, *J. Number Theory*, 213 (2020), 319-346.
28. A. Clingher, A. Malmendier, T. Shaska; Six line configurations and string dualities, *Commun. Math. Phys.*, (2019) 371, 159-196.
27. A. Malmendier, T. Shaska; From hyperelliptic to superelliptic curves, Albanian J. Math., **13**, (2019), No. 1,107-200.
26. Shuichi Otake, Tony Shaska; Some remarks on the non-real roots of polynomials, Cubo, **20**, (2018) no. 2, 67-93.
25. A. Malmendier, T. Shaska; A universal pair of genus-two curves from Siegel modular forms, SIGMA. Symmetry, Integrability and Geometry. Methods and Applications 13, (2017), 089, 17 pages
24. A. Malmendier, T. Shaska; The Satake sextic in F-theory, Journal of Geometry and Physics vol. 120, (2017), 290-305

23. T. Shaska, C. Shor 2-Weierstrass points of genus 3 hyperelliptic curves with extra automorphisms, Comm. in Algebra 45 (2017), no. 5, 1879 - 1892.
22. T. Shaska; Genus two curves with many elliptic subcovers, Comm. in Algebra 44 (2016), Nr. 10, 4450-4466
21. T. Shaska, C. Shor Theta functions and complete weight enumerators for codes over imaginary quadratic fields, Des. Codes Cryptogr. vol 76, 2015, 217-235
20. T. Shaska, F. Thompson Bielliptic curves of genus 3 in the hyperelliptic moduli, Appl. Algebra Engrg. Comm. Comput. Volume 24, 2013, 387-412
19. T. Shaska; Some remarks on the hyperelliptic moduli of genus 3, Communications in Algebra 42 (9), 2014, 4110–4130
18. A. Elezi, T. Shaska; Quantum codes from superelliptic curves Albanian J. Math. Vol. 5. Nr. 4, 2011, pg. 175–191
17. L. Beshaj, V. Hoxhaj, T. Shaska; On superelliptic curves of level n and their quotientsAlbanian J. Math., Vol. 5. Nr. 3, pg. 115-138, 2011
16. T. Shaska, C. Shor, G. Wijesiri Codes over rings of size p^2 and lattices over imaginary quadratic fields, Finite Fields Appl. 16 (2010), no. 2, 75–87
15. K. Magaard, T. Shaska, H. Voelklein Genus 2 curves that admit a degree 5 map to an elliptic curve, Forum Math. 21, (2009), no. 3, 547–566
14. T. Shaska, V. Ustimenko On the homogeneous algebraic graphs of large girth and their applications, Linear Algebra Appl. 430 (2009), no. 7, 1826–1837
13. T. Shaska, V. Ustimenko On some applications of graphs to cryptography and turbocoding, Albanian J. Math.,Vol 2, Nr. 3, 2008, 249 – 255.
12. T. Shaska; Quantum codes from algebraic curves with automorphisms, Condensed Matter Physics Vol. 11, 2008, No 2 (54), 383-396.
11. T. Shaska, R. Sanjeewa Determining equations of families of cyclic curves, Albanian J. Math. Vol 2, Nr. 3, 2008, 199-213
10. T. Shaska, G. Wijesiri Codes over rings of size four, Hermitian lattices, and corresponding theta functions, Proc. Amer.Math. Soc. 136 (2008), no.3, 849-857
9. E. Previato, T. Shaska, G. WijesiriThetanulls of cyclic curves of small genus, Albanian J. Math. vol. 1, Nr. 4, 2007, 253-270
8. T. Shaska, Q. Wang; Automorphism groups of AG-codes based on C_{ab} curves, *Serdica J. Comp.*, Vol.1 (2007), 193-206
7. T. Shaska; Hyperelliptic curves with reduced automorphism group A_5, Appl. Algebra Engrg. Comm. Comput. vol. 18, Nr. 1-2, 2007, pg. 3-20
6. T. Shaska, Subvarieties of hyperelliptic moduli determined by group actions, *Serdica Math. Jour.* **4** (2006), 355-374
5. J. Gutierrez, T. Shaska; Hyperelliptic curves with extra involutions, LMS J. of Comp. Math. 8, (2005), 102-115.
4. T. Shaska;Some special families of hyperelliptic curves, J. Algebra Appl. 3 (2004), no. 1, 75–89
3. T. Shaska; Genus 2 fields with degree 3 elliptic subfields, Forum Math. 16 (2004), no. 2, 263–280
2. K. Magaard, T. Shaska, S. Shpectorov, H. Völklein; The locus of curves with prescribed automorphism group, Sūrikaisekikenkyūsho Kōkyūroku No. 1267 (2002), 112–141
1. T. Shaska; Curves of Genus 2 with (n, n)-decomposable Jacobians, Jour. Symb. Comp. vol.31 (2001), No.5, 603-617.

Reviewed Conference Proceedings

26. T. Shaska; Reduction of superelliptic Riemann surfaces Automorphisms of Riemann surfaces, subgroups of mapping class groups and related topics, 227 – 247, Contemp. Math., 776, Amer. Math. Soc., (2022).
25. G. Frey and T. Shaska; Curves, Jacobians, and Cryptography Contemporary Math. vol. 724, 19, pg. 279-345.
24. A. Broughton, A. Wootton, T. Shaska; On automorphisms of algebraic curves Contemporary Math. vol. 724, 19, pg. 175-212.
23. Shuichi Otake and Tony Shaska; Bezoutians and the discriminant of a certain quadrinomials Contemporary Math. vol. 724, 19, pg. 55-72.
22. J. Mandili and T. Shaska; Heights on weighted projective spaces Contemporary Math. vol. 724, 19, pg. 149-160.
21. R. Hidalgo and T. Shaska; On the field of moduli of superelliptic curves Contemporary Math. vol. 703, 18, 49-64
20. L. Beshaj, R. Hidalgo, A. Malmendier, S. Kruk, S. Quispe, T. Shaska; Rational points on the moduli space of genus two Contemporary Math. vol. 703, 18, 87-120
19. D. Joyner, T. Shaska; Self-inversive polynomials, curves, and codes Contemporary Math. vol. 703, 18, 197 - 218
18. L. Beshaj, A. Elezi, T. Shaska; Theta functions of superelliptic curves Information security, coding theory and related combinatorics NATO Sci. Peace Secur. Ser. D Inf. Commun. Secur., 29, IOS, 15, 47–69
17. A. Elezi, T. Shaska; Weight distributions, zeta functions and Riemann hypothesis for linear and algebraic geometry codes Information security, coding theory and related combinatorics NATO Sci. Peace Secur. Ser. D Inf. Commun. Secur., 29, IOS, 15, 259–298
16. M. Izquierdo, T. Shaska; Cyclic curves over the reals Information security, coding theory and related combinatorics, 59–98 NATO Sci. Peace Secur. Ser. D Inf. Commun. Secur., 39, IOS, Amsterdam, 15.
15. L. Beshaj and T. Shaska; Heights on algebraic curves Information security, coding theory and related combinatorics, 159–198 NATO Sci. Peace Secur. Ser. D Inf. Commun. Secur., 29, IOS, Amsterdam, 11.
14. L. Beshaj and T. Shaska; Decomposition of some Jacobian varieties of dimension 3 Artificial Intelligence and Symbolic Computation LNCS vol. 8884, 193-204
13. L. Beshaj, T. Shaska, C. Shor On Jacobians of curves with superelliptic components Contemp. Math. vol. 29, 14, 1–14
12. L. Beshaj and T. Shaska; The arithmetic of genus 2 curves Information security, coding theory and related combinatorics 59–98, NATO Sci. Peace Secur. Ser. D Inf. Commun. Secur., 29, IOS, Amsterdam, 2011.
11. T. Shaska and G. Wijesiri Theta functions and algebraic curves with automorphisms Algebraic aspects of digital communications, NATO Sci. Peace Secur. Ser. D Inf. Commun. Secur., 24 IOS, Amsterdam, 2009, 193 – 237

10. T. Shaska and C. Shor Codes over F_{p^2} and $F_p \times F_p$, lattices, and theta functions Advances in Coding Theory and Cryptology vol 3. (2007), pg. 70-80
9. A. Bialostocki and T. Shaska; Galois groups of prime degree polynomials with nonreal roots Lect. Notes in Computing 13, 2005, 243–255
8. J. Gutierrez, T. Shaska, D. Sevilla Hyperelliptic curves of genus 3 with prescribed automorphism groups Lect. Notes Comp. vol 13. (2005), 109–123
7. V. Krishnamoorthy, T. Shaska, H. Voelklein Invariants of binary forms Dev. in Math. vol 12, pg.101-122, Springer, 05
6. T. Shaska; Genus 2 curves covering elliptic curves: a computational approach Lect. Notes in Comp. vol 13. (2005), 205-231
5. T. Shaska; Computational Aspects of Hyperelliptic Curves Computer Mathematics Lecture Notes Ser. Comput. 10, 248–257, World Sci. Publishing, River Edge, NJ.
4. T. Shaska and J. Thompson; On the generic curve of genus 3 Contemporary Math. vol. 369, pg. 233-244, (American Math. Soc.), 2005
3. T. Shaska and H. Voelklein; Elliptic subfields and automorphisms of genus 2 function fields Algebra, arithmetic and geometry with applications Springer, 04, 703–723
2. T. Shaska; Determining the automorphism group of a hyperelliptic curve International Symposium on Symbolic and Algebraic Computation ISSAC 03, New York, 03, 248–254
1. T. Shaska; Genus 2 curves with (3, 3)-split Jacobian and large automorphism group, Algorithmic number theory (Sydney, 2002) Lecture Notes in Comput. Sci., 2369, 205–218

Conferences Organized

Excursions in Arithmetic Geometry, *Special session*, Joint Mathematics Meetings, Boston. Jan. 2023

Recent trends in algebra, geometry, and arithmetic, Vlora, Albania (with Elira Curri). June 2022

Algebraic and Arithmetic Geometry, *Joint Mathematics Meetings*, Washington, DC. Jan. 2021

Cyber defense and cryptography in undergraduate education, *AMS Meeting*, Charlottesville, VA. . Mar. 2020

Curves, Jacobians, and Abelian Varieties, *AMS Meeting*, University of Virginia, Charlottesville, VA.. Mar. 2020

From hyperelliptic to superelliptic curves, *AMS Meeting*, University of Michigan, Ann Arbor, MI.. Oct. 2018

Algebraic Curves, Integrable Systems, Cryptography, *Kiev, Ukraine*, (with J. Bernatska and V. Enolski). Aug. 2018

Arithmetic of Algebraic Curves, *AMS Meeting*, Columbus, OH., with A. Elezi and M. Polak. Mar. 2018

Minimal integral models of algebraic curves, *AMS Joint Meeting*, Atlanta, GA.. Jan. 2017

Varieties, their fibrations and automorphisms in mathematical physics and arithmetic geometry, *AMS Sectional Meeting*, Raleigh, NC. . Nov. 2016

Higher Genus Curves and Fibrations of Higher Genus Curves in Mathematical Physics and Arithmetic Geometry, „ Joint Mathematics Meetings AMS & MAA, Seattle, WA. Jan. 2016

Arithmetic of Hyperelliptic Curves, *Special Session*, AMS Meeting, East Lansing, MI. . Mar. 2015

Nato Advanced Study Institute, *Arithmetic of Hyperelliptic Curves*, Ohrid, Macedonia, with E. Zhupa). Aug. 2014

Applications of Computer Algebra, *Fordham University*, New York, with R. H. Lewis. July 2014

Moduli spaces and arithmetic dynamics, *Applications of Computer Algebra*, Fordham, New York. July 2014

Arithmetic of algebraic curves, *Applications of Computer Algebra*, Malaga, Spain.. July 2013

Michigan Computational Algebraic Geometry, *Rochester, MI.* , with Dan Erman, Charles Wampler. June 2012

East Coast Computer Algebra Day, *Oakland University*, Rochester, MI.. June 2012

Computational Algebraic Geometry, *AMS Sectional Meeting*, Tampa, FL. . Mar. 12

Computational Algebraic and Analytic, Geometry for Low-Dimensional Varieties., *AMS Annual Meeting*, New Orleans. Jan. 2011

Applications of Computer Algebra, *Vlora*, Albania. June 2010

Computational Algebraic and Analytic, Geometry for Low-Dimensional Varieties, *AMS Annual Meeting*, Washington DC. . Jan. 2009

Nato Advanced Study Institute, *New challenges in digital communications*, Vlora, Albania.. May 2008

Applications of Computer Algebra, *Rochester, MI.* . July 2007

Coding theory and cryptography, *Applications of Computer Algebra*, Special session, Rochester, MI.. July 2007

Computational Algebraic and Analytic, Geometry for Low-Dimensional Varieties, AMS Annual Meeting, New Orleans. Jan. 2007

Coding theory and cryptography, *Special Session*, ACA 06: Applications of Computer Algebra, Varna, Bulgaria. June 2006

Computational aspects of algebraic curves, *University of Idaho*, Moscow, Idaho. May 2005

Algorithmic Algebraic and Analytic Geometry, *Special Session*, AMS Annual Meeting, Atlanta, GA. . Jan. 2005

Computational aspects of algebraic curves, Applications of Computer Algebra, Beaumont, TX.. July 2004

Computational aspects of algebraic curves, Applications of Computer Algebra, NC State, Raleigh, NC.. July 2003

Progress in Galois Theory, *John Thompson's 70th birthday*, University of Florida, Gainesville, FL. Sep. 2001

Selected talks

Computation on moduli spaces: an introduction to weighted moduli heights, *AMS Meeting*, Moduli of Curves, Hilbert Schemes, and Tropical Geometry, Medford, MA.. Mar. 20

Heights on weighted projective varieties, *Department of Mathematics Colloquium, University of Sarajevo.*. Dec. 2019

Addition on Jacobian varieties from a geometric viewpoint, *National University of Greece, Athens.* . Oct. 2019

Abelian varieties with complex multiplication, *Explicit Methods on Abelian and Calabi-Yau varieties, Logan.* Apr. 2019

Isogenies of 2-dimensional Jacobians, *Mathematical Cryptology, AMS Meeting, Hartford, CT.*. Apr. 2019

Curves, automorphisms, and their Jacobians, *Algebra seminar, College of Charleston, Charleston, SC.* . Mar. 2019

Superelliptic curves with complex multiplication, *Annual Meeting of Spanish Math. Society*, Santander. Feb. 2019

Heights on weighted projective spaces, *Algebra Seminar, Wayne State University, Detroit, MI.*. Nov. 2018

Heights on weighted projective spaces, *AMS Session: From hyperelliptic to superelliptic curves, Ann Arbor.*. Oct. 2018

Abelian Varieties and Cryptography, *Algebraic Curves, Integrable Systems, and Cryptography, National University of Kyiv-Mohyla Academy, Kiev, Ukraine.* Aug. 2018

The group law for the Jacobi variety of a hyperelliptic curves, *Utah State, Logan, UT* . Apr. 2018

Riemann surfaces with extra automorphisms and endomorphism rings of their Jacobians, *Automorphisms of Riemann Surfaces and Related Topics, AMS Meeting, Portland, OR.* . Apr. 2018

Isogenies of Abelian varieties, *Algebraic curves and their applications, AMS Meeting, Columbus, OH.* . Mar. 2018

From hyperelliptic to superelliptic curves, *Algebraic curves and applications, AMS Meeting, Orlando, FL.*. Sep. 2017

From hyperelliptic to superelliptic curves, *Department of Mathematics, US Naval Academy.*. Apr. 2017

A pair of universal curves of genus 2, *AMS Joint Meeting in Atlanta, GA.*. Jan. 2016

Theta functions and symmetric weight enumerators for codes over imaginary quadratic fields, *AMS Session on Coding Theory and Its Applications, Chicago.*. Oct. 15

Julia quadratic of superelliptic Riemann surfaces, *AMS Meeting, Chicago.*. Oct. 2015

Integral minimal models for binary forms, *Mathematics Colloquium, Gainesville.*. Jun. 2015

Binary forms of minimal height, *AMS Sectional Meeting, East Lansing.* Mar. 2015

Heights on algebraic curves, *NATO Advanced Study Institute, Ohrid.*. Jul. 2014

Minimal models for curves over their minimal field of definition, *Applications of Computer Algebra, 2014, NY.*. Jul. 2014

Minimal equations of curves over their minimal field of definition, *AMS Meeting, Knoxville, TN.*. Mar. 2014

Decomposition of Jacobians of superelliptic curves, *Riemann and Klein Surfaces, Symmetries and Moduli Spaces*, Linkoping, Sweden. Jun. 2013

Automorphisms of curves and their Jacobians, *Computational Advances on Special Functions and Tropical Geometry*, AMS Meeting, Iowa State. Apr. 2013

Stratifications on moduli spaces of curves and superelliptic loci, *MCAG 13*, Western Michigan University. May 2013

Genus 3 hyperelliptic curves with split Jacobians, *Math. Colloquium, Georgia Southern.* Mar. 2013

Some remarks on binary octavics, *Mathematics Colloquium*, Michigan Tech. University. Nov. 2012

Some remarks on binary octavics, *Mathematics Colloquium*, Cleveland State University. Nov. 2012

An introduction to the invariant theory of binary forms, *Mathematics Colloquium*, Duquesne University. Oct. 2012

Theta functions, (plenary talk), *Conference on Applications of Algebra*, Yildiz University, Istanbul.. Jun. 2012

Thetanulls of curves and applications, *AMS Session: Computational Algebraic Geometry, Tampa.*. Mar. 2012

Interesting families of algebraic curves, *Mathematics of Computation, AMS Meeting, Boston.* Jan 2012

Half-integer theta-nulls of superelliptic curves, *Computational and Algorithmic Algebraic Geometry, AMS Meeting, Salt Lake, UT.* Jan. 2012

Theta Functions of algebraic curves, *SIAM National Conference, Raleigh, NC.*. Oct. 2011

Computational aspects of low genus curves, *Laurier Centennial Conference: AMMCS-11, Waterloo.* Jul. 2011

Theta-nulls of algebraic curves, *10th Panhellenic Geometry Conference, Patras, Greece.* May 2011

Hybrid Methodologies for Symbolic-Numeric Computation, *MSRI, Berkeley.* Nov. 2010

Automorphism groups of superelliptic curves, *Workshop on Mathematical Cryptology, Santander, Spain.* Oct. 2009

Theta functions in coding theory, *Mathematics Colloquium, University of Delaware.* Mar. 2008

Genus 2 curves covering elliptic curves, *Mathematics Colloquium, Simon Fraser University, Vancouver.* Oct. 2007

Equations of curves with automorphisms, *AMS Meeting: Numerical and Symbolic Techniques in Algebraic Geometry and Its Applications, DePaul University.* Oct. 2007

Remarks on some old problems of algebraic geometry, *Mathematics Colloquium, Michigan Tech..* Sep. 2007

Codes over rings of size four, lattices, and their theta functions, *Mathematics Colloquium, Lublin, Poland.* Aug. 2006

Theta functions and automorphism groups of curves, *Institut für Experimentelle Mathematik, Essen, Germany.* May 2006

Theta functions and application to coding theory, *Applications of Computer Algebra, Varna, Bulgaria.* Jun. 2006

Hyperelliptic curves with reduced automorphism group A_5, *AMS Western Section, Santa Barbara.* Apr. 2005

Genus 2 curves that admit a degree 5 map to an elliptic curve, *Joint AMS Meeting, Atlanta.* Jan. 2005

Genus 2 curves with (5, 5) split Jacobian, *Institute for Experimental Mathematics, Essen, Germany.* Dec. 2004

Field of moduli of curves, a computational approach, *Workshop Computational Arithmetic Geometry, PIMS Simon Fraiser University..* Jul. 2004

Genus 2 curves with degree 5 elliptic subcovers, *AMS Meeting, Chapel Hill.* Oct. 2003

Determining the automorphism group of algebraic curves, *ISSAC 03, Drexler University, Philadelphia.* Aug. 2003

Computational aspects of hyperelliptic curves, *ACA 03, Raleigh, NC.* Jul. 2003

The monodromy group of a generic curve covering $\mathbb{P}^1$, *Joint Meeting of AMS and RSME, Seville, Spain.* Jun. 2003

Computational aspects of hyperelliptic curves, *University of Cantabria, Santander, Spain.* Jun. 2003

Hyperelliptic curves with non-hyperelliptic involutions, *AMS Joint Meeting, Baltimore.* Jan. 2003

Hyperelliptic curves with extra automorphisms, *Galois Theory Conference, John Thompson's 70th birthday, Gainesville, FL..* Sep. 2002

Genus 2 curves with (3,3)-split Jacobian and large automorphism group, *ANTS V, International Symposium in Algorithmic Number Theory, Sydney, Australia.* Jul. 2002

Elliptic subfields of genus 2 fields, *AMS Meeting*, Groups and Covering Spaces in Algebraic Geometry, Irvine. Nov. 2001

The automorphism group of a Riemann surface, *Math. Colloquium, Gainesville, Florida.* Sep. 2001

Elliptic subfields and automorphisms of genus 2 curves, *University of Erlangen, Germany.* Jun. 2001

Locus of genus 2 fields with degree 2 or 3 elliptic subfields, *Institute for Experimental Math., Essen..* May 2001

Computational Aspects of Genus 2 Curves, *Number Theory Conference, Univ. of Illinois, Urbana-Champaign.* May 2001

Genus 2 curves covering elliptic curves, *Workshop on Arithmetic Geometry, MSRI, Berkeley, CA.* Dec. 2000

Ph.D. students

Former students

L. Beshaj, Oakland University, Thesis: Integral binary forms with minimal height. 2016

R. Sanjeeva, Oakland University, Thesis: Automorphism Groups of Cyclic Algebraic Curves. 2009

G. Wijesiri, Oakland University, Thesis: Theta Functions of Algebraic Curves with Automorphisms. 2008

References

Ron Donagi, *Prof. of Mathematics*, University of Pennsylvania.
Email: donagi@math.upenn.edu

David Harbater, *Prof. of Mathematics*, University of Pennsylvania.
Email: harbater@math.upenn.edu

Fioralba Cakoni, *Prof. of Mathematics*, Rutgers University.
Email: fc292@math.rutgers.edu

Andreas Malmendier, *Prof. of Mathematics*, University of Connecticut.
Email: andreas.malmendier@usu.edu

Andrew Obus, *Prof. of Mathematics*, Baruch College.
Email: andrewobus@gmail.com

Jordan Ellenberg, *Prof. of Mathematics*, University of Wisconsin.
Email: ellenber@math.wisc.edu