

PUBLICATIONS: RESEARCH PAPERS AND BOOKS

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ABSTRACT. Favorite all-time theorems: Siegel's proof that affine curves of genus exceeding 0 have only finitely many integral points; Deligne's proof of the Weil conjectures for K3 surfaces; Connes' Signature Theorem using cyclic cohomology.

1. RESEARCH PAPERS

1.1. Period 1969–79.

1. with R. MacRae, **On the invariance of chains of fields**, *Illinois Journal of Mathematics*, **13** (1969), 165–171.
2. with R. MacRae, **Variables separated curves**, *Math. Ann.* **180** (1969), 220–226.
3. Arithmetical properties of value sets of polynomials, *Acta Arith.* **15** (1969), 91–115.
4. **On a conjecture of Schur**, *Mich. Math. Journal* **17** (1970), 41–55.
5. **On the diophantine equation $f(y) = x$** , *Acta Arith.* **19** (1971), 79–87.
6. **Degeneracy of the Branch Locus in Hurwitz Schemes**, *Proceedings of the 1972 Conference in Number Theory in Boulder, Colorado*, AMS Publication (1973), 8 pages.
7. **Naive (non-abelian) class field theory for local function fields, and Chapter 8 of Riemann's Existence Theorem in Positive Characteristic**, 65 page preprint from 1972.
8. with A. Schinzel, **Reducibility of quadrimomials**, *Serpinski Mem. Acta Arith.* **XXXI** (1972), 153–171.
9. with J. Smith, **Primitive Groups, Moore Graphs, and Rational Curves**, *Michigan Math Journal* **19** (1972), 341–347.
10. **Field of definition of function fields and a problem in the reducibility of polynomials in two variables**, *Illinois J. of Math.* **17**, (1973), 128–146.
11. **A theorem of Ritt and related diophantine problems**, *Crelles J.* **264**, (1973), 40–55.
12. **On Hilbert's irreducibility theorem**, *J. of No. Theory* **6** (1974), 211–232.
13. **On a theorem of MacCluer**, *Acta Arith.* **XXV** (1974), 122–127.

14. **Arithmetical properties of function fields (II); generalized Schur problem**, *Acta Arith.* **XXV** (1974), 225–258.
15. with G. Sacerdote, **Solving diophantine problems over all residue classes of a number field**, *Annals Math.* **104** (1976), 203–233:mysite/paplist-ff.
16. with M. Jarden, **Stable extensions and Fields with Global Density Property**, *Canad. J. Math.* **4** (1976), 774–787.
17. **Fields of Definition of Function Fields and Hurwitz Families and; Groups as Galois Groups**, *Communications in Algebra* **5** (1977), 17–82.
18. **Galois groups and Complex Multiplication**, *Trans.A.M.S.* **235** (1978), 141–162.
19. with M. Jarden, **Diophantine Properties of Subfields of \mathbb{Q}** , *Amer. J. Math.* **100** (1978), 653–666.
20. **Poncelet Correspondences: Finite Correspondences; Ritt’s Theorem; and the Griffiths-Harris Configuration for Quadrics**, *Journal of Algebra* **55** (1978), 1–27.
21. **Toward a General Theory of Diophantine Problems with Application to p -adic Fields and Fields of Finite Co-Rank**, 108 page preprint, 1978.

1.2. Period 1980–Fall 1987.

22. **Exposition on an Arithmetic-Group Theoretic Connection via Riemann’s Existence Theorem**, *Proceedings of Symposia in Pure Math: Santa Cruz Conference on Finite Groups*, *A.M.S. Publications* **37** (1980), 571–601.
23. **On automorphism groups of algebraic number fields**, *PAMS* **80** (1980), 386–388.
24. with Y. Ershov, **Frattini covers and projective groups without the extension property**, *Math Ann.* **253** (1980), 233–239.
25. with R. Biggers, **Moduli Spaces of Covers of \mathbb{P}^1 and Representations of the Hurwitz Monodromy Group**, *J. für die reine und angew. Math.* **335** (1982), 87–121.
26. **On Principal Ideals and Smooth Curves**, *J. of Alg.* **74** (1982), 124–139.
27. with D. Harran and M. Jarden, **Galois Stratifications over Frobenius Fields**, *Advances in Mathematics* **51** (1984), 1–35.
28. with J. Smith, **Irreducible discriminant components of coefficient spaces**, *Acta Arith.* **XLIV** (1984), 59–72.
29. **The Nonregular Analogue of Tchebotarev’s Theorem**, *PJM* **112** (1984), 303–311.
30. **Constructions arising from Neron’s high rank curves**, *TAMS* **281** (1984), 615–631.
31. **On the Sprindžuk-Weissauer approach to universal Hilbert subsets**, *Israel Journal of Mathematics* **51** (1985), 347–363.
32. **On reduction of the inverse Galois group problem to simple groups**, *Proceedings of Rutgers Group theory, 1983-84*, ed. D. Gorenstein, R. Lyons, M. O’Nan, C. Sims, M. Aschbacher and W. Feit, *Cambridge Univ. Press* (1985) 289–301.
33. with S. Friedland, **Discriminant criteria for reducibility of a polynomial**, *Israel Journ.* **54** (1986), 25–32.
34. with H. Farkas, **The $g-1$ -support cover over the canonical locus**, *Journ. d’Anal.* **91** (1986), 62–31.

35. with R. Biggers, **Irreducibility of moduli spaces of cyclic unramified covers of genus g curves**, *TAMS* **295** (1986), 1–12.
36. with R. Lidl, **On Dickson polynomials and Redei functions**, *Proceedings of May 1986 conference in Salzburg*, **5** (1987), 1–12.

1.3. Period Fall 1987–1994.

37. **Irreducibility results for separated variables equations**, *Journal of Pure and Applied Algebra* **48** (1987), 9–22.
38. **Combinatorial computation of moduli dimension of Nielsen classes of covers**, *Contemporary Mathematics* **89** (1989), 61–79.
39. with H. Völklein, **Unramified abelian extensions of Galois covers**, *Proceedings of Symposia in Pure Mathematics, Part 1* **49** (1989), 675–693.
40. **Arithmetic of 3 and 4 branch point covers: a bridge provided by non-congruence subgroups of $SL_2(\mathbb{Z})$** , *Prog. in Math. Birkhauser* **81** (1990), 77–117.
41. with P. Debes, **Rigidity and real residue class fields**, *Acta Arith* **56** (1990), 13–45: [mysite/paplist-cov](#).
42. with P. Debes, **Arithmetic variation of fibers in families: Hurwitz monodromy criteria for rational points on all members of the family**, *Crelles J.* **409** (1990), 106–137: [mysite/paplist-cov](#).
43. with H. Völklein, **The inverse Galois problem and rational points on moduli spaces**, *Math. Annalen* **290** (1991), 771–800: [mysite/paplist-cov](#).
44. with H. Völklein, **The embedding problem over an Hilbertian-PAC field**, *Annals of Math* **135** (1992), 469–481: [mysite/paplist-cov](#).
45. with P. Debes, **Nonrigid situations in constructive Galois theory**, *Pacific Journal* **163 #1** (1994), 81–122: [mysite/paplist-cov](#).
46. with R. Guralnick and J. Saxl, **Schur Covers and Carlitz’s Conjecture**, *Israel J. Thompson Volume* **82** (1993), 157–225: [mysite/paplist-ff.html](#).
47. with D. Haran and H. Völklein, **Absolute Galois group of the totally real numbers**, *C.R. Acad. Sci. Paris, t.* **317** (1993), 95–99.
48. with M. Jarden and D. Haran, **Counting points on definable sets over finite fields**, *Israel J. Math.* **85** (1994), 103–133.
49. with H. Völklein, **The absolute Galois group of a Pseudo-Real Closed Field**, *Israel J. Math.* **85** (1994), 85–101.
50. with D. Haran and H. Völklein, **Real Hilbertianity and the field of totally real numbers**, *Cont. Math., proceedings of Arizona conf. in Arith. Geom.* **174** (1994), 1–34.
51. **Global construction of general exceptional covers, with motivation for applications to coding**, *G.L. Mullen an P.J. Shiue, Finite Fields: Theory, applications and algorithms*, *Cont. Math.* **168** (1994), 69–100.

1.4. Period Fall 1995–Present.

52. with S. Cohen, **The Carlitz-Lenstra-Wan conjecture on Expectional Polynomials: An Elementary Version**, *Finite Fields and their applications, Carlitz volume 1* (1995), 372–375.

53. **Contributions of the classification of finite simple groups to technology**, *Report of the National Research Council* (1995).
54. **Extension of Constants, Rigidity, and the Chowla-Zassenhaus Conjecture**, *Finite Fields and their applications, Carlitz volume 1* (1995), 326–359: [mysite/paplist-cov](#).
55. **Enhanced review of J.P. Serre’s Topics in Galois Theory, with examples illustrating braid rigidity see #2 in Reviews.**: [mysite/paplist-cov](#).
Recent Developments in the Galois Problem, *Cont. Math., proceedings of AMS-NSF Summer Conference, Seattle* **186** (1995), 15–32.
56. Introduction to Modular Towers: Generalizing dihedral group–modular curve connections, **Recent Developments in the Inverse Galois Problem**, *Cont. Math., proceedings of AMS-NSF Summer Conference 1994, Seattle* **186** (1995), 111–171: [mysite/paplist-mt](#).
57. with Y. Kopeliovic, **Applying Modular Towers to the inverse Galois problem**, *Geometric Galois Actions II Dessins d’Enfants, Mapping Class Groups and Moduli* **243**, London Mathematical Society Lecture Note series, (1997) 172–197: [mysite/paplist-mt](#).
58. with M. Jarden, **Σ -Hilbertian fields**, *PJM* **185** (1998) 307–313.
59. with P. Debes, **Integral specializations of families of rational functions**, *PJM* **190**, 1999, 45–85: [mysite/paplist-cov](#).
60. **Variables Separated Polynomials and Moduli Spaces**, No. Th. in Progress, eds. K.Gyory, H.Iwaniec, J.Urbanowicz, proceedings of the Schinzel Festschrift, Summer 1997 Zakopane, Walter de Gruyter, Berlin-New York (Feb. 1999), 169–228: [mysite/paplist-cov](#).
61. **Curves over finite fields**, *Cont. Math., proceedings of AMS-NSF Summer Conf. 1997, Editor M. Fried, Seattle* **245** (1999), ix–xxxiii: [mysite/paplist-ff](#).
62. with E. Klassen and Y. Kopeliovic, **Alternating groups as monodromy groups of genus one covers**, *PAMS* **129** (2000), 111–119: [mysite/paplist-cov](#).
63. Prelude: Arithmetic fundamental groups and noncommutative algebra, Proceedings of Symposia in Pure Mathematics, **70** (2002) editors M. Fried and Y. Ihara, 1999 von Neumann Conference on Arithmetic Fundamental Groups and Noncommutative Algebra, August 16–27, 1999 MSRI, vii–xxx: [mysite/paplist-mt](#).
64. with P. Bailey, **Hurwitz monodromy, spin separation and higher levels of a Modular Tower**, Proceedings Symposia in Pure Mathematics **70** (2002) editors M. Fried and Y. Ihara, 1999 Arithmetic Fundamental Groups and Noncommutative Algebra at MSRI, 79–221: [mysite/paplist-mt](#).
65. with Arianne Mézard, **Configuration spaces for wildly ramified covers**, in Proceedings of Symposia in Pure Mathematics **70** (2002) editors M. Fried and Y. Ihara, 1999 Symposium on Arithmetic Fundamental Groups and Noncommutative Algebra, August 16–27, 1999 MSRI, 353–376: [mysite/paplist-cov](#).
66. **Moduli of relatively nilpotent extensions**, *Inst. of Math. Sci. Analysis* 1267, June 2002, Communications in Arithmetic Fundamental Groups, 70–94: [mysite/paplist-mt](#).
67. with W. Aitken and L. Holt, **Davenport Pairs over finite fields**, *PJM* **216**, No. 1 (2004), 1–38: [mysite/paplist-ff](#).

68. **Relating two genus 0 problems of John Thompson**, Volume for John Thompson's 70th birthday, in *Progress in Galois Theory*, H. Voelklein and T. Shaska editors 2005 Springer Science, 51–85: [mysite/paplist-cov](#).
69. **The place of exceptional covers among all diophantine relations**, *J. Finite Fields* **11** (2005) 367–433: [mysite/paplist-ff](#).
70. **The Main Conjecture of Modular Towers and its higher rank generalization**, in *Groupes de Galois arithmetiques et differentiels* (Luminy 2004; eds. D. Bertrand and P. Dèbes), *Sem. et Congres*, Vol. **13** (2006), 165–233: [mysite/paplist-mt](#).
71. **Regular realizations of p -projective quotients and modular curve-like towers**, Oberwolfach report #25, on the conference on pro- p groups, April (2006), 64–67: [mysite/paplist-mt](#) and <http://www.mfo.de/cgi-bin/path?cgi-bin/tagungsdb?type=21&tnr=0621>.
72. with Ram Valluri (West. Ont. U.), **Chebychev Derived Spindown Parameters for Gravitational Wave Signals from Pulsars**, *Can. J. Phys.* Vol. **86** 2008. 597–600. 2008: [mysite/paplist-po](#).
73. **Alternating groups and moduli space lifting invariants**, *Israel J. Math.* (2009), 1–68: [mysite/paplist-cov](#).
74. **Algebraic Equations and Finite Simple Groups: What I learned from graduate school at the University of Michigan, 1964–1967**, *Continuum* 2008, UMich. Alumni Publication, 17–18. [mysite/paplist-mt](#).
75. **Connectedness of families of sphere covers of An-Type**, [mysite/paplist-mt](#). As of 10/01/09, out for refereeing, [mysite/paplist-mt](#).
76. **Variables Separated Equations and Finite Simple Groups**, As of 10/01/09, out for refereeing, [mysite/paplist-mt](#).

2. RESEARCH MONOGRAPHS, MAJOR REVIEWS, etc.

2.1. Monographs.

- with Moshe Jarden, **Field Arithmetic**, *Springer Ergebnisse II Vol 11* (1986), 455 pgs.
- review**—**Topics in Galois Theory**, J.-P. Serre, 1992, Bartlett and Jones Publishers, *BAMS* **30** #1 (1994), 124–135. ISBN 0-86720-210-6.
- Coordinating editor of **Recent Developments in the Inverse Galois Problem**, *AMS Cont. Math.* **186**, *proceedings of AMS-NSF Summer Conference, 1993 Seattle* (1995).
- Editor of **Curves over finite fields**, *AMS Cont. Math.* **245**, *proceedings of AMS-NSF Summer Conference, 1997 Seattle* (1999).
- M. Fried, **review** — **Inverse Galois Theory**, Springer Monographs in Math., Gunter Malle and B. Heinrich Matzat, 436 pages, 3-540-62890-8, Springer, Berlin, 1999: *BLMS* **34** (2002), 109–112.
- Editor of **Arithmetic fundamental groups and noncommutative algebra**, *Proceedings of Symposia in Pure Math.*, **70** (2002), 1999 von Neumann Conference on Arithmetic Fundamental Groups and Noncommutative Algebra, August 16–27, 1999 MSRI, 2002

7. with Moshe Jarden, **Field Arithmetic**, *Springer Ergebnisse der Math.* III, **11**, Springer, Heidelberg, 1986; 2nd ed. 2004, 780 pps. ISBN 3-540-22811-x: [mysite/paplist-ff](#).
8. **Should Journals compensate Referees?**, May 2007 Notices of the AMS, Vol. **54** (2007), No.6, p. 585: [mysite/proplist-ams](#).
9. **The Uneasy Relation Between Referees and Editors, Response to a letter of Professor Aczel**, October 2007 Notices of the AMS, Vol. **54** (2007), No. 10. [mysite/proplist-ams](#).

2.2. Preprints.

1. **Brauer groups and Jacobians**, 20 page preprint.
2. **L-series on a Galois stratification**, under revision for *Journal of Number Theory*, 27 page preprint.
3. **Rigidity and applications of the classification of simple groups to monodromy, Part II**: Applications of connectivity, Davenport and Hilbert-Siegel Problem, 55 pgs.
4. with R. Guralnick, **Radicals don't uniformize the generic curve of genus $g > 6$** , 50 pgs.
5. **A_5 Modular Towers**, 30 page preprint.
6. with J. Del Castillo, **Ax's Conjecture for $C_{1,d}$ fields**, 24 pages, preprint.
7. Rational cusps on noncongruence towers of the j -line, 23 page preprint.
8. Explicit deductions on monodromy actions using Dehn twists, 15 page preprint.
8. Rational cusps on noncongruence towers of the j -line, 26 page preprint.
9. **What Gauss told Riemann about Abel's Theorem**, 30 pg. preprint, May 2004.
10. with Darren Semmen, **Modular curve-like Towers and the Inverse Galois Problem**, being rewritten in lieu of revisions in [70] (2006), 1–42, at www.math.uci.edu/~mfried/#mt.

2.3. Monograph in preparation.

1. **Riemann's Existence Theorem**: An elementary approach to moduli, first three chapters available on the web at www.math.uci.edu/~mfried/#ret.

2.4. Teaching related manuscripts.

1. **Retention rates as an incentive for mathematics and physical science curriculum communication**, 25 pages, Spring 1992.
2. **An Interview Project to Locate Factors that Encourage Minority 8th and 9th Graders in the Santa Ana School District to Participate in Math-Science Tracks**, 6 pages.
3. **UCI Summer Mathematics Institute, Mentor Teacher project**. 1st year report, 1984-85, 110 pages.
4. **The Many Lines in the Curriculum, report to the Hebrew University Math-Science Education Faculty**, 8 pages, Oct. 16, 1991.
5. Chaps. 1–4 of the Sloan funded book **Retention of students using electronic portfolios**, Sept. 25, 1997.

6. **Faculty-Student Interaction Using Interactive Technology**, The center for Educational Partnerships, UCI Outreach Forum, Spring 1997, 23–24. 7. **Interactive E-Mail Assessment**, MAA Vol. on Assessment, B. Gold, S.Z. Keith, and W.A. Marion, eds., Assessment in Undergraduate Math., MAA Notes #49, Wash. DC, 1999, 80–84.

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